**The Effect of Airbnb Announcements on its Competitors’ Stock Prices**

# Abstract

The sharing economy model that was developed in the last decade has had a significant effect on many different aspect of life. The purpose of this research is to test the effect of a sharing economy product on its competitors. Specifically, this study uses the event study approach to examine how Airbnb announcements affected hotel stock prices. The data were collected from the Airbnb site (announcements), and the stock prices were collected from Yahoofinance.com and Investing.com. A total of 180 announcements and 1,114 related stocks were examined. The results show that general Airbnb announcements have a negative effect on hotel stock prices. In addition, the effect of announcements is stronger closer to the announcement date.

Keywords

Event study approach; Airbnb; Hotel companies; Market efficiency; Announcements

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**JEL Classifications:** G10, G14, G30

# Introduction

Technological progress and socioeconomic conditions have led to the development of a new business model called the sharing economy (Belk, 2014; Botsman & Rogers, 2010). This model gives customers a potential way to save money, and offer ways of earning money to those (Lamberton & Rose, 2012). The most significant example in the tourism industry is Airbnb (Gansky, 2010; Sundararajan, 2013). Airbnb uses digital marketplaces to connect people offering vacant accommodation with people looking for temporary accommodation (specifically tourists) (Botsman & Rogers, 2011; Zervas, Proserpio, & Byers, 2017). The company was founded in 2008 by Brian Chesky and Joe Gebbia, offers 5.6 million listings in 100,000 cities and 220 countries and earned $3.4 billion in revenues in 2020 (Airbnb, n.d.).

The effect of Airbnb has been extensively researched from a range of different perspectives, such as hotel company revenues, occupancy and prices (Pairolero, 2016; Zervas et al., 2017; Guttentag and Smith, 2017; Neeser, 2015) as well as employment. It has an effect on the real estate market, rental prices and local communities.

Because Airbnb offers a wider variety of accommodation and considerably lower prices, it has the potential to generate an increase in the number of tourists and greater economic activity. In addition, tourists who use Airbnb spend twice as much on their vacations as conventional tourists. On the other hand, Airbnb generates competition with the hospitality industry. The combined effects of Airbnb (expanded economic activities and new sources of income for locals on the one hand and lowered hospitality income, disruptions for the local community and negative social effects on the other) have motivated governments and local municipalities to give serious consideration to the issue of Airbnb. In order to make educated decisions, these government bodies need a better understanding of the effects of Airbnb.

In this study, we adopt an unusual perspective to test how Airbnb affects the market value of hotel companies around the world. We seek to test how a sharing economy product affects its competitors by examining the effect of official Airbnb announcements during the period from 2017 through 2019. The research sample includes 180 Airbnb announcements and 1,114 related stocks. Each announcement is relevant to several hotel companies around the world. The practical purpose of this research is to provide hotel company owners and government and municipal agencies an updated picture of how Airbnb announcements affect the stock market.

The following section includes a review of the literature, section 3 includes materials and methods, section 4 is the results and section 5 is the conclusion.

# Literature Review

A great deal of research has focused on different aspects of the effect of Airbnb, and many papers have been written on the use of the event study approach. Yet the current paper is one of the first to use the event study approach to measure the effect of Airbnb. The literature review covers a variety of research in each of these areas.

## 2.1 The Effects of Airbnb

Due to the growing importance of the sharing economy in general and of Airbnb in particular, a great deal of research has focused on the economic effects of accommodation services based on the sharing economy.

Pairolero (2016) and Zervas et al. (2017) focused on the impact of Airbnb on incumbent firms. They assumed that because Airbnb served over 50 million guests since it was founded in 2008 and exhibited market capitalization eclipsing $30 billion, Airbnb would have a measurable and quantifiable impact on hotel revenues in selected areas. They estimated that the entry of Airbnb into the Texas market has had a quantifiable negative impact on local hotel room revenues. The substitution patterns they found strongly suggest that Airbnb provides a viable, but imperfect, alternative for certain traditional types of overnight accommodation. The fact that Airbnb is a substitute for hotel accommodation was supported by Guttentag and Smith (2017), who found that nearly two-thirds of Airbnb users used this platform as a hotel substitute.

Neeser, Peitz, and Stuhler (2015) measured the impact of Airbnb on the hotel industry in Norway, Finland and Sweden. They found that on average Airbnb did not significantly affect hotel revenues per available room, but its presence did contribute to reducing the average price of a room. They also found that Airbnb was more appealing to international tourists than to locals. On the other hand, Choi, Jung, Ryu, Kim, and Yoon (2015) did not find Airbnb listings to be related to hotel revenues. However, the data they used were up to 2013, a period during which Airbnb was less active in South Korea.

## 2.3 Event Studies and the Hospitality Industry

Many studies have applied the event studies approach to test differential effects on hotel stocks. For instance, Nicolau (2002) tested the effect of new hotel openings on share prices using event studies. The results indicate geographical factors are important. Specifically, Mediterranean countries, urban Europe and Latin America have excess returns over the base alternative—Asia. Nicolau (2020) tested the effect of quality certification on market value, finding that quality certificates had a positive effect on the stock value. The event study approached was used by Bloom and Jackson (2016) to test the effect of announcements regarding changes in the Chief Executive Officer (CEO) of hospitality companies on their stock values. The result indicated significant negative abnormal returns during the periods before and after the announcement of a CEO transition.

Focusing on the effect of Airbnb announcement on hotel stock prices, Yan (2017) used articles from April 2014 through December 2016 and weekly data for seven hotel company stocks (Hilton, La Quinta, Choice Hotel International, Wyndham Hotel Corporation, Hyatt Hotel Corporation and Intercontinental Hotel Group). Yan built an index of hotel stocks and compared it to the performance of S&P 500. The research indicated that when an article about Airbnb was published the stock prices decline, but the tone of the message and the number of articles had no effect. Taking a different angle and focusing on the restaurant industry, Kim et al (2020) used the event study methodology to test the effect of firm characteristics on firms’ value during epidemics and disease outbreaks.

The uniqueness of this study is in our use of the event study approach to test the effect of Airbnb announcements on the prices of hotel company stocks. Our hypothesis is that Airbnb announcements have a negative effect on hotels stock prices.

# Materials and Methods

## 3.1 Data

The data collected covers the period from 2017 until 2019, and includes all the events posted on the Airbnb website. The stock prices were collected from Yahoofinance.com and Investing.com. In this research, we assume that Airbnb announcements effect the hospitality industry in the areas it exists. Consequently, trade data on hotel companies in the area were collected for each announcement on the Airbnb site. In total, there were 180 announcements and 1,114 hotel stocks.

The total number of announcements increased over the years. In 2017 there was an average of 1.5 announcements per month. In 2018 this number increased to 10, and in 2019 it reached 14 announcements per month.

## ***3.2*** Methodology

In the current study, we test the way information available through official channels influences the financial markets, and whether it is possible for investors to achieve abnormal returns. Specifically, we examine the efficiency of the stock market’s response to announcements on Airbnb. It is assumed that Airbnb announcements influence the tourism industry in general and the hospitality industry in particular. We therefore collected trade data for all the hotel companies in the area for each announcement from the Airbnb site.

In this paper, we use event study methodology, also known as residual analysis, to study the effect of Airbnb announcements on stock prices. This method uses information on stock returns before an event (estimation window) to examine the stock returns around the event (event window). For each announcement, the first day of trade is defined as the event day. In the current study, the estimation window begins 331 days before the announcement and ends 31 days before the day of the announcement (day of the event). The event window is defined as the period starting 30 days before the event and ending 30 days after the event, in accordance with the Market Model (MM).

# Results

In this section, we use event studies to test the influence of announcements from the Airbnb site on the stock market. The test is based on 1,114 events following 180 announcements on the Airbnb site.

Exhibits 1 and 2 describe the CAAR-30,+30 for the 61 days surrounding the announcement, beginning on day -30 before the announcement and ending on day 30 after the announcement.

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| Exhibit 1: The influence of Airbnb announcements on hotel stock prices |
| The following exhibits describes the effect of Airbnb announcements on abnormal return for the entire sample. Cumulative average abnormal return (CAAR), median cumulative abnormal return (CAR), percentage of positive abnormal returns, t-statistics and number of observations are reported for the event windows |
|
|   | (-30, -2) | (-1) | (0) | (+1,+2 ) | (+3, +30) |
|  |  |  |  |  |  |
| CAAR | 0.24% | -0.11%\* | -0.13%\*\* | -0.18%\*\* | -0.05% |
| Median CAR | 0.13% | -0.09% | -0.10% | -0.16% | -0.21% |
| Percent Positive | 51.55% | 48.97% | 49.89% | 45.17% | 44.22% |
| t-statistics | 0.68 | -1.71 | -2.02 | -1.94 | -0.16 |
| N | 1114 | 1114 | 1114 | 1114 | 1114 |

\*\*\* 99% significance level; \*\* 95% significance level; \* 90% significance level

Exhibits 2: The influence of Airbnb announcements on the hotel stock prices for the entire sample



The dataset shows that during the first 29 days, the CAAR-30,-2 does not differ significantly from zero. On the following day prior to the Airbnb announcement, AAR-1 is significantly lower, by ‑0.11% (t = -1.71). During this period, the median AR-1 equaled -0.09%, and 48.97% of the companies had a positive AR. This result shows that investors can achieve abnormal returns using internal information from Airbnb announcements. Abnormal returns also continue to decline on the day of the event, with AAR0 decreasing on this day to -0.13% (t = -2.02), where the median AR0 equaled -0.1% and 49.89% of the companies had a positive AR. This indicates that announcements generally bring new informative information to investors.

During the next two days (+1, +2) following the event, the CAAR+1,+2 continues to decrease by -0.18% (t = -1.94). In the following interval (+3, +30), announcements did not have a statistically significant impact on stock returns. This indicates that investors may establish an average profit strategy by shorting the stocks at the time of the announcement and closing the position at the end of the two days after the announcement. The results accord with a previous study (Yan 2017) that found that hotel stock prices declined when an article about Airbnb was published.

In conclusion, it can be assumed that announcements related to Airbnb affect stock returns during four days, beginning one day prior the announcement and lasting up to two days following the announcement. The decrease in the CAAR for hotel companies led to a decrease in the market value of the firms, potentially affecting company cash flow and lowering the feasibility that potential investors will invest in the companies.

Exhibits 3 shows the percentage of daily change in CAAR-3,+2 from three days before the announcement (day -3) to two days after the announcement (day 2).

Exhibits 3: Daily change in CAAR



Exhibits 3 implies that the decreased abnormal return is effective three days prior to the event, with a -0.01% decrease in AAR. Such a decrease may be justified by the fact that Airbnb announcement-related information reaches the control core of website owners, who may invest and earn abnormal returns even prior to Airbnb’s publication of the announcement online. As the day of the announcement approaches, more investors who are closely associated with the website are exposed to the information, leading to a decreased abnormal return. Two days prior to the event, AAR decreases by -0.03%, and on the day preceding the event, AAR further decreases by -0.11%, for a total decrease of -0.15% during the interval preceding the event. On the day Airbnb publishes the announcement on the website and reveals the information to all investors, AAR further decreases by -0.13%. AAR further decreases by -0.1% on the first day following the event and by -0.08% on the second day following the event. Therefore, investors can usually establish a strategy for earning abnormal profits from an Airbnb announcement event. For example, for general announcements, investors can react by short selling hotel company stocks on the day of the announcement and close their position on the second day after the announcement, yielding a profit of 0.23% after deducting transaction costs.

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# Conclusion

Technological development and changing socioeconomic conditions in the world have led to the development of a new business model known as the “sharing economy.” Airbnb is a prime example of the sharing economy, and strongly effects the hospitality industry. In this research, we apply the event study method to test the influence of Airbnb announcements on hotel stock prices. Data were collected from the Airbnb site (announcements), from Yahoofinance.com and Investing.com. The number of announcements included was 180. Each announcement influenced a different number of stocks. We tested the effect of announcements on hotel stock returns.

Examination of the effect of general Airbnb announcements on hotel stock prices for the 61 days surrounding the announcement indicated that during the first 29 days (day -30 to day -2), CAAR does not significantly differ from zero. On the day prior to the Airbnb announcement, CAAR-1 is significantly lower. This finding indicates that investors can achieve abnormal returns using internal information in Airbnb announcements. In addition, the effect is stronger when the date of the announcements is closer.

The decrease in the CAAR of hotel companies led to a decrease in the firms’ market value, potentially affecting company cash flow and lowering the feasibility that potential investors will invest in these companies. These findings are in line with those of Nicolau (2002) and Nicolau and Sellers (2010), who found that news announcements have a significant effect on the stock market.

This included only announcements from the Airbnb site. This is a reliable source of information, but it limits the size and objectivity of the sample. In the future research should focus on information from other sources regarding Airbnb. Moreover, it is important to see how Airbnb affects the stock market in the ear after COVID-19.

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