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Airbnb: Exciting innovation or passing fad?

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ABSTRACT

In this paper we investigate the Airbnb phenomenon from the dual perspective of their customers and competitors. We use two different methods to collect data: an online survey administered to customers of Airbnb and traditional hotels, and in-depth interviews with hotel executives. Our survey findings suggest that there are significant differences between the type and motivation of customers that book Airbnb compared to those that book traditional hotels. Further, the interviews with hotel executives indicate that Airbnb is not considered to be a significant disruptor and/or competitor by the major players in the hospitality industry, though the smaller and mid-range hotels are contemplating adjustments and interventions in anticipation of increased competition from Airbnb. We discuss these findings as well as implications for practice and policy and offer suggestions for future research.

1. Introduction

Over the past few years, rapid advances in technology have enabled several service-industry businesses to develop innovative ways to reach and serve potential customers, as well as to expand their customer base. For example, the advent of services such as Airbnb, the largest hotel chain in the world, and Uber, the largest fleet of cars for hire in the world (Tucker, 2014) has fundamentally changed the way in which people access transportation and lodging services. Customers now have more choices, as well as different, and often more efficient, ways of booking these services. According to Bailetti (2012), the rapid global growth of technology startups, such as Airbnb, can be attributed to three factors: (1) the problems they addressed were globally pervasive, (2) they enabled customers to act entrepreneurially, and (3) they provided innovative web-based services, and adopted and deployed innovative web-based processes to allow them to innovate continuously and efficiently. As an example, Airbnb enables rental hosts to act in an entrepreneurial manner, whereby rental hosts list their available accommodations on Airbnb and earn profits by renting them, usually at rates cheaper than comparable hotels, leading to savings for travelers.

The exponential growth of both Uber and Airbnb around the globe is clear evidence that traditional ways of doing business are giving way to newer and innovative models. A look at Airbnb's figures, for example, is enough to make businesses take notice. Founded in 2008, Airbnb has become the largest lodging company and brand all over the world, with over 1 million properties in over 34,000 cities and 192 countries, with a valuation reported to be from $10 billion to $13 billion (Austin, 2014; Spector, MacMillan, & Rusli, 2014), to $24 billion (*Newcomer*, 2015). Not surprisingly, Fred Wilson of Union Square Ventures has expressed his regret at passing on Airbnb, which was, obviously, a great opportunity.

Overall, it is clear that Airbnb offers an interesting and innovative alternative to the traditional hotel stay. Relatedly, some initial research is beginning to emerge (see, e.g., Edelman & Luca, 2014; McNamara, 2015; Sundararajan, 2014), though it is not clear yet how Airbnb is affecting the hotel industry, and how the hotel industry is gearing up to face this challenge. Furthermore, the nature, tendencies, attitudes, perceptions, commonalities and choice differences of those who are using Airbnb as a hotel or boarding service and those who are not using Airbnb are not well known.

The evolution of services such as Uber and Airbnb is clear evidence of the strength of the entrepreneurial model. However, as Kerr, Nanda, and Rhodes-Kropf (2014) note, entrepreneurship is basically about experimentation, since it is almost impossible to know or predict which ideas will ultimately succeed. And for entrepreneurs, having an idea is not enough, since they can hardly know which specific technology, product, or business model will be successful until someone is willing to invest in their idea(s). Nonetheless, the current trends, in several industries including transportation and hotel, point to one major change—end users will increasingly have more power than systems operators have due to the choices available to them (Row, 2013).

Given the tremendous growth of Airbnb over the last few years, one way to approach the investigation of the phenomenon is through the "lens of the disruptive innovation theory" (Christensen, Raynor, &

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McDonald, 2015) which posits that a new product (or service) that challenges established ways of doing business will initially have limited appeal, but could later experience explosive growth, as it moves from the sidelines to becoming an accepted, every day, product/service (Guttentag, 2015). Accordingly, we designed the present study to examine factors that impact lodging preferences and choices, and examined the reactions of the hotel industry, through a comprehensive survey and a series of one-on-one interviews. Our analyses, primarily using descriptive statistics, as in Wu and Chen (2015), are supplemented with a discussion of the potential implications, followed by recommendations, and suggestions for future research. Before we present our study and its results, in the next section, we present a review of the extant literature and press coverage.

2. Literature and press coverage review

The coverage of Airbnb in the popular press appears to follow the same rapid-growth trajectory as the number of listings available for booking on the site itself. Indeed, as Brian Chesky, founder and CEO of Airbnb, tweeted (Chesky, 2014), the company reached the one-million-listing milestone as early as December 7, 2014. The main themes emerging from the plethora of articles in the popular press revolve around regulation and taxation issues faced by Airbnb hosts and customers around the world. One of the most prominent cases is the investigation by the New York attorney general (Schneiderman, n.d.), which used four years of anonymized Airbnb user-data and found that up to 72% of the transactions were illegal under existing law (Forbes, October, 2014). The findings are consistent with the general attitude of “forgiveness-not-permission” adopted by many of the sharing-economy companies. Not surprisingly, the potential for negative impact on local economies due to loss of tax revenue has been repeatedly highlighted in the popular press (see, e.g., The Guardian, May, 2014). The popular press has also shown keen interest in discussing the negative experiences of both Airbnb hosts and users, including property damage, email scams (The Guardian, May 2015), and accidents (The New York Times, April, 2015b). Of course, Airbnb has also generated positive publicity—by adding, for example, exotic locations such as Cuba (Airbnb PR, 2015a, 2015b), allowing Cubans to be entrepreneurial within the confines of the transitioning communist economic system. Similarly, Airbnb also partnered with the Rio 2016 Olympic Games to become its official alternative accommodations service (Airbnb PR, 2015a, 2015b).

Given the tremendous growth of Airbnb, scholars have begun to examine the relationship between the traditional players in the hospitality industry and the sharing economy, epitomized by Airbnb. For example, Zervas, Proserpio, and Byers (2016) collected information on all Airbnb listings in Texas, and found that the growth of Airbnb negatively affects the revenue of local hotels. More specifically, in Texas, a 1% increase of Airbnb listings led to a 0.05% loss of quarterly hotel revenue. However, the authors found that the impact of Airbnb on hotels was somewhat uneven, with the impact felt much more by lower-end hotels, than by high-end, business, and luxury hotels. They also reported that since Airbnb properties provided fewer services and facilities compared to business and high-end hotels, they were not really competing for the same customers, as business and leisure travelers prefer to stay at properties that offer comprehensive services. Interestingly, these authors concluded that neither regulations disallowing the rental of non-shared accommodations nor regulations limiting rental hosts to only one listing can hope to eliminate or even mitigate the impact of Airbnb on hotel revenues.

Overall, the current view seems to be that the impact on traditional players is almost negligible, and many hotel executives view Airbnb as a niche player (Fast Company, 2014, The New York Times, May, 2015a). However, several analysts and investors predict significant disruptions ahead, particularly for the millenial generation (Fortune, April, 2015).

2.1. Customer choices and decision making

From the point of view of customers, booking a hotel room is seen as selecting from a combination of several attributes (Jannach, Gedikli, Karakaya, & Juwig, 2012), and customers make trade-off decisions—choosing some attributes over others to finalize their selection (Goldberg, Green, & Wind, 1984). In this connection, the hospitality literature (see, e.g., Oh, 1999) has emphasized the importance of ‘customer value’ in understanding hospitality customers' decisions-making processes. Here, customer value is defined as “the customer's overall assessment of the utility of a product based on perceptions of what is received and what is given” (Zeithaml, 1988). In other words, hospitality customers treat their transaction as an exchange, and evaluate the value and fairness of the exchange based on the services received in exchange for the price paid. So, for example, while some tourists may value factors such as availability of a restaurant (Saleh & Ryan, 1992), others may value the reputation of the hotel chain. In this connection, Murphy and Chen (2014) argue that several key attributes, including extrinsic attributes such as review ratings, review frequencies, and review variations, and intrinsic attributes such as star-ratings and price, have significant impact on people's hotel selection, with review related extrinsic attributes often seen as more important than star-ratings and price. In other words, price is not the only determinant when customers choose hotels – instead, customers tend to select hotels with higher review ratings, higher review frequencies, and less review variations. Ironically, most hotels tend to adopt a price-reduction strategy to maintain desired room occupancy rates, but cutting price might actually harm a hotel's reputation and fail to maintain customers in the long run, mainly because most customers hold the belief that a hotel's price represents its value, and they expect to receive better services with higher prices (Chan & Wong, 2006). Indeed, these authors further assert that beyond price, location and service are the most important factors that determine a customer's final choice. Accordingly, they recommend that hotels located in so-called “bad areas” should consider providing transportation services to and from airports and shopping centers at a discounted price, or even for free. In addition, to improve hotel service, hoteliers should provide additional services during peak seasons as well as recruit professional staff that are capable of providing appropriate services.

Another perspective on hotel choice is presented by Lockyer (2005) who found that people's selections of hotels depend on two broad factors: “Trigger Point” and “Must Haves.” “Trigger Point” can be defined as the set of reasons for an individual to select an accommodation—so, for example, trigger points are different for people who need to visit the hospital to see a family member who has suddenly taken ill, versus people who have an upcoming vacation that they have been planning for months. “Must haves” can be considered key factors that influence the selection of any accommodation, such as location, price, facilities and cleanliness. In this connection, some studies have reported that when it comes to choosing hotel rooms, males and repeat customers tend to emphasize the hotel's product and prior experience more than women and first-time users. Also, leisure travelers and travelers with lower levels of education are more likely to base their decisions on the recommendations of their friends, relatives and travel agents, while business travelers rely more on their previous experience, hotel services, and the recommendations of their companies (see, e.g., Chan & Wong, 2006; Chu & Choi, 2000). Interestingly, travelers with higher levels of education conduct their own research before booking. Finally, travelers from Asia are more likely to rely on their previous experience and hotel advertisements on TV and travel magazines, as compared to travelers from the Americas and Europe.

When it comes to Airbnb, however, users may rely more on social media and other customers' reviews posted on social media (Sparks & Browning, 2011), thus relying on user-generated branding—that is, “the strategic and operative management of brand related user-generated content to achieve brand goals” (Burmann & Arnhold, 2009, p.

66)—and Airbnb is a prominent example of a user-generated brand (UGBs). According to Yannopoulou, Moufahim, and Bian (2013), social media plays a significant role in the development and growth of Airbnb. In other words, Airbnb owes its existence to social media and through social media it provides users with useful information, such as videos, photographs, and reviews, and guarantees the reliability of both parties and increases the trust between two parties. In general, UGBs are characterized by exchange, authenticity, access, and human contact. Thus, compared to hotels, Airbnb users can better experience the city by living in a local house and exploring the city as a local resident. In this context, multisided platforms (MSPs) play a critical role. MSPs are technologies, products, or services that enable two or more customers to interact directly, creating value through the process (Hagiu, 2014). As such, Airbnb would qualify as a typical example of an MSP as it enables interactions between dwelling hosts and renters. Since successful MSPs can reduce search costs or/and transaction costs and thus generate huge value, they tend to occupy a rather unique position in their industries. For example, Airbnb reduces search costs by providing various search functionalities and features.

It should be noted that the adoption and diffusion of Airbnb is likely to replicate, and in some respects does appear to be replicating, patterns and rates of other innovative products and services. Here, principal factors that affect not only the diffusion, but the speed/rate of it, include relative advantage of the product/service to other offerings in the marketplace; its compatibility with extant and preferred mechanisms, systems and behaviors of the user; complexity (can one understand it); trialability (whether one can use/experience the product/service on a limited basis) and observability, that is, whether one receives immediate and/or positive feedback regarding product/service usage from one's own experience and also from one's normative group (Rogers, 2010). As suggested above, Airbnb clearly has been adopted by and is diffusing rapidly through the market.

What should be equally clear is that Airbnb enthusiasts tend to be, at the very least, technologically and financially savvy—they can use the internet, they have disposable income, and possess financial literacy and associated instruments, such as computers and credit cards (see also Choi, Kim, & Lee, 2010). Further, they must be familiar, comfortable, and keen to be engaged, with technical, financial, social and related networks. In other words, we are describing here a group of customers who are knowledgeable of such complex networks and can communicate in the lexicon of them. For these customers, the value proposition must be clear – the extent to which one does find value, likely depends on one's expectations for service, whether one is a customer or a proprietor, and whether one stands to gain or lose customers and market share, not only via direct services (e.g., rooms in homes vs. hotels), but also ancillary or support services (e.g., shuttles, taxis, clubs, restaurants, rewards-programs, etc.).

At first glance, Airbnb appears to be a fairly straightforward concept—individuals looking to rent a room can connect with those who are interested in renting out their properties for a short period. However, a closer look at the mechanics behind the model reveals a complexity well worth studying and understanding better—given that Airbnb draws on multiple systems, intersecting across technologies, cultures, languages, consumer preferences, extant and start-up operations of various size and scope, and legal and political dynamics. Such systemic complexity and the myriad stakeholders, some of whom have conflicting interests, further suggest the need for more intensive and nuanced understanding beyond a seemingly reliable predictor captured in traditional models of innovation diffusion (Easley & Kleinberg, 2010; McCullen, 2013). Indeed, what is unclear, to this point, is the nature, tendencies, attitudes, perceptions, commonalities and differences of those who have chosen to use and are consistently using Airbnb as a hotel or boarding service—and implicitly, those who have not. As we noted earlier, this study was designed to shed light on the dynamic issues related to Airbnb, discussed above. We next list the research questions that were developed for this study, pursuant to our review of the literature. This is followed by a brief overview of the methods and detailed discussion of the research findings.

2.2. Research questions

As we noted above, the focus of our study was to collect and analyze experience with, and reactions to, Airbnb from two perspectives—users and competitors. Accordingly, drawing from the relevant literature, we developed two sets of questions. In Part I, we present the questions we developed for our online survey, distributed to both users and non-users of Airbnb. In Part II, we list our research questions presented to hotel executives to get the competitor perspective.

2.2.1. Part I—survey questions

i. What factors do travelers (tourists and business-travelers) use in their decision-making when selecting a lodging facility (e.g., price; recommendations of friends/relatives, etc.?)
ii. For those that have used Airbnb, what has been their experience with the service (e.g., quality of service; probability of repeat use, etc)?
iii. For those that have not previously used Airbnb, what is their level of familiarity with the platform, and what opinions have they formed of Airbnb (e.g., suitability of Airbnb for their particular needs; probability of future use, etc.)?

2.2.2. Part II—interview questions

1. Executives' opinions on change in the hotel industry attributable to Airbnb.
2. Hotel industry's reactions to the changes caused by Airbnb.
3. How is the hotel industry preparing to meet the challenge posed by Airbnb?
4. What strategies is the hotel industry employing to retain customers?
5. Hotel executives' overall opinion of Airbnb—exciting innovation or passing fad?

3. Methods and results

Data for this study were collected using two methods. First, we developed a comprehensive survey, based on salient issues revealed in the literature discussed above, and we administered this survey to 347 participants. In addition to administering this survey, we conducted in-depth interviews with 12 hotel executives, to understand their perspectives on the growth of websites such as Airbnb and other matters deemed salient by the executives. These interviews were administered via telephone. Below, we share the results of both these efforts.

3.1. Survey design

The survey questions were designed to ask participants about their travel habits, and the factors that guided their decision about lodging choices, as well as their awareness of, and opinions, about websites such as Airbnb. Initial pilot testing was used to help refine the survey so as to be ensure that the instructions as well as the questions were easily understood by the participants. In addition, the pilot study revealed that participants were able to complete the survey in 15 to 20 min, which was considered to be reasonable. Once the survey was finalized, we loaded it on surveymonkey.com. Given the exploratory nature of our study, we started by approaching our personal contacts with a request to participate in our study by completing the survey. We then requested these participants to forward the survey link to their contacts, with a request to participate in this study. Through this snowball sampling method, we were able to reach 401 potential participants. To begin with, these 401 potential participants were asked a screening question—whether or not they had experience booking

Table 1
Sample characteristics.

Age	
0–25	41
26–35	113
36–45	119
46–55	58
56–65	10
>65	6
Gender	
Male	167
Female	180
Education	
Completed secondary/high school	9
College/University diploma or degree	190
Postgraduate or PhD degree	148
Income range	
$0–$24,999	69
$25,000–$49,999	65
$50,000–$74,999	62
$75,000–$99,999	41
$100,000+	110
Country of residence	
United States	202
Other	145

accommodations online. Of the 401 potential participants, 347 (86.5%) met the screening criteria (online booking experience) and only their responses were included in further analyses. These 347 participants were further asked whether they had experience using Airbnb, and we learned that 79 (22.7%) had used Airbnb (please see Table 1 for sample characteristics).

The questions included in our survey instrument were developed and/or drawn from the relevant literature, and were pre-tested and confirmed by four academic experts prior to the survey being launched. The questionnaire consisted of three sections—the first section (results summarized in Tables 2a, 2b, and 2c) was given to all 347 participants and it was comprised of questions related to the factors that determined type of lodging selected during the previous 12 months, as well as the travel habits of the study participants. The second section (results summarized in Table 3) was administered only to the participants who had prior experience with Airbnb as customers (22.7%), and consisted of questions about their experiences with Airbnb. The third section (results summarized in Table 4) of the questionnaire was administered to participants who did not have prior experience with Airbnb as customers (77.3%) and it comprised questions about participants' opinions and travel habits.

In addition to these sections, we also included demographic questions, such as participants' age, gender, etc. (please see Table 1). The gender breakdown shows that 51.9% of the survey participants were female, and 48.1% were male. Regarding age, 11.8% of our study participants were 25 years of age or younger, 32.6% belonged to the age group 26–35, 34.3% were between 36 and 44 years of age, 16.7% were between 46 and 55 years of age, 2.9% belonged to the age group 56–64, and finally 1.75% were older than 65. In terms of education level, only 2.6% reported less than a college degree, while 54.8% reported having a college degree and 42.7% reported having a graduate degree, or a PhD. In terms of income profile, 20% reported an annual income of less than $25,000, while 48.1% made between $25,000 and $99,000, and 31.7% reported an annual income greater than $100,000. Finally, 58.3% of our participants live in the US while 41.7% live in other countries. In the sections below, we present key findings from our survey results.

Table 2a
Factors for selection of a lodging facility.

Importance of factor (1–5, with 1 = lowest, 5 = highest)	Mean	SD
1. Price	4.05	0.755
2. Image/Reputation	3.81	0.768
3. Reviews	3.95	0.811
4. Quality of the web site of the lodging facilities	3.42	0.790
5. Availability of lodging on web sources (tripadvisor.com, booking.com, travelocity.com, etc.)	3.65	0.955
6. Advertising (commercials, travel magazines)	2.07	0.875
7. Recommendation of friends	3.72	0.957
8. Recommendations of relatives	3.48	1.019
9. Recommendation of my company	3.09	1.075
10. Recommendation of travel agents	2.57	1.069
11. Security	3.63	1.005
12. Service quality	4.05	0.728
13. Staff Behavior	3.87	0.870
14. Housekeeping/cleaning	4.04	0.854
15. Appearance and exterior of the building	3.58	0.842
16. Location	4.47	0.579
17. Access to transportation	4.06	0.792
18. Availability of parking	3.13	1.132
19. Availability of kitchen	2.28	0.960
20. Additional amenities (pool, gym, restaurants)	3.04	1.025
21. Past experience	4.17	0.839
22. Participating in loyalty program	2.63	1.224

Table 2b
Factors for selection of a lodging facility.
(Broken by participants that have previously used Airbnb vs participants that have not used Airbnb).

	Booked Airbnb	Mean	Std. Deviation	Std. Error Mean
1. Price	No	4.04	0.894	0.059
	Yes	4.10	0.772	0.143
2. Image/reputation	No	3.83	0.911	0.061
	Yes	3.72	0.841	0.156
3. Reviews	No	3.94	0.944	0.063
	Yes	4.03	0.944	0.175
4. Quality of the web site of the lodging facilities	No	3.44	0.948	0.065
	Yes	3.28	0.882	0.164
5. Availability of the lodging on the web sources	No	3.67	1.135	0.076
	Yes	3.43	0.997	0.188
6. Advertising (commercials, travel magazines)	No	2.11	1.063	0.072
	Yes	1.79	0.738	0.140
7. Recommendation of friends	No	3.71	1.134	0.076
	Yes	3.83	1.037	0.193
8. Recommendation of relatives	No	3.47	1.192	0.079
	Yes	3.52	1.214	0.225
9. Recommendation of my company	No	3.06	1.255	0.084
	Yes	3.28	1.306	0.243
10. Recommendation of travel agents	No	2.59	1.265	0.085
	Yes	2.34	1.203	0.223
11. **Security**	**No**	**3.70**	**1.148**	**0.076**
	Yes	**3.07**	**1.223**	**0.227**
12. Service quality	No	4.07	0.856	0.057
	Yes	3.90	0.772	0.143
13. Staff behavior	No	3.88	1.036	0.069
	Yes	3.86	0.875	0.163
14. **Housekeeping/cleaning**	**No**	**4.09**	**0.992**	**0.066**
	Yes	**3.69**	**1.004**	**0.186**
15. Appearance and exterior of the building	No	3.61	0.967	0.064
	Yes	3.39	1.133	0.214
16. Location	No	4.45	0.691	0.046
	Yes	4.62	0.494	0.092
17. Access to transportation	No	4.06	0.945	0.063
	Yes	4.07	0.799	0.148
18. Availability of parking	No	3.12	1.355	0.090
	Yes	3.17	1.071	0.199
19. Availability of kitchen	No	2.30	1.124	0.075
	Yes	2.14	1.125	0.209
20. Additional facilities (pool, gym, restaurants)	No	3.01	1.220	0.081
	Yes	3.24	0.988	0.183
21. Past experience	No	4.14	1.010	0.068
	Yes	4.38	0.775	0.144
22. **Participating in loyalty program**	**No**	**2.53**	**1.426**	**0.096**
	Yes	**3.45**	**1.298**	**0.241**

Table 2c
ANOVA test.

ANOVA						
	Sum of Squares	df	Mean Square	F	Sig.	
1. Price	Between Groups	0.105	1	0.105	0.135	0.714
2. Image/reputation	Between Groups	0.262	1	0.262	0.321	0.572
3. Reviews	Between Groups	0.215	1	0.215	0.242	0.623
4. Quality of the web site of the lodging facilities	Between Groups	0.727	1	0.727	0.821	0.366
5. Availability of the lodging on the web sources	Between Groups	1.500	1	1.500	1.194	0.275
6. Advertising (commercials, travel magazines)	Between Groups	2.597	1	2.597	2.438	0.120
7. Recommendation of friends	Between Groups	0.384	1	0.384	0.304	0.582
8. Recommendation of relatives	Between Groups	0.055	1	0.055	0.038	0.845
9. Recommendation of my company	Between Groups	1.169	1	1.169	0.735	0.392
10. Recommendation of travel agents	Between Groups	1.600	1	1.600	1.011	0.316
11. **Security**	**Between Groups**	**10.254**	**1**	**10.254**	**7.672**	**0.006**
12. Service quality	Between Groups	0.818	1	0.818	1.139	0.287
13. Staff behavior	Between Groups	0.005	1	0.005	0.004	0.947
14. **Housekeeping/cleaning**	**Between Groups**	**4.095**	**1**	**4.095**	**4.153**	**0.043**
15. Appearance and exterior of the building	Between Groups	1.162	1	1.162	1.194	0.276
16. Location	Between Groups	0.773	1	0.773	1.711	0.192
17. Access to transportation	Between Groups	0.001	1	0.001	0.001	0.972
18. Availability of parking	Between Groups	0.049	1	0.049	0.028	0.868
19. Availability of kitchen	Between Groups	0.656	1	0.656	0.519	0.472
20. Additional facilities (pool, gym, restaurants)	Between Groups	1.337	1	1.337	0.934	0.335
21. Past experience	Between Groups	1.418	1	1.418	1.458	0.228
22. **Participating in loyalty program**	**Between Groups**	**21.769**	**1**	**21.769**	**10.917**	**0.001**

3.2. Factors for selection of a lodging facility—1st section (Tables 2a, 2b, and 2c)

This section contained 22 questions, presented on a 5-point scale, related to the factors used by the participants in selecting a lodging facility (see Tables 2a, 2b, and 2c for detailed results). Consistent with previous studies and our expectations, our participants listed the following factors as important in their decision-making—price, image/reputation, reviews, availability of the facilities on the web, recommendation of friends, security, service quality, staff behavior, cleaning, appearance, location, access to transportation, and past experience. It is interesting to note that factors such as recommendations of travel agents, advertising,

Table 3
Experience with Airbnb.
(Questions answered by participants that have previously used Airbnb).

Strength of opinion (1–5, with 1 = Strongly Disagree, 5 = Strongly Agree)		
Statement	Mean	SD
1. I consider myself as a loyal customer to Airbnb	2.81	0.613
2. I prefer to stay at small hotels rather than at large hotels.	3.04	0.536
3. I prefer facilities offered through Airbnb to hotels.	3.04	0.536
4. Airbnb is suitable for younger people.	3.92	0.498
5. Airbnb is suitable for families.	3.50	0.617
6. Airbnb is suitable for people with low income.	3.58	0.552
7. Airbnb is suitable for longer stays at destinations.	3.81	0.592
8. Airbnb is more suitable than hotels for city trips.	3.27	0.538
9. Airbnb is more suitable than hotels for business trips.	2.12	0.508
10. If I have to choose between a hotel and facilities offered through Airbnb, I would prefer Airbnb.	2.92	0.523
11. Facilities offered through Airbnb provide more amenities than hotels do.	2.88	0.598
12. Airbnb reduces my search costs.	2.92	0.631
13. Airbnb accommodation is more expensive than hotels.	2.16	0.409
14. Airbnb facilities do not provide the same quality of service as hotels.	3.52	0.477
15. Airbnb provides me with more options for finding an accommodation than booking engines (travel web based sources).	3.04	0.487
16. Airbnb provides me with more options for finding an accommodation than hotel web sites.	3.20	0.524
17. I find Airbnb a safe (secure) option for travel.	3.48	0.527
18. Airbnb is a “value for money” option.	3.68	0.439
19. Airbnb will significantly influence future development of the hotel industry.	3.76	0.531
20. Airbnb will grow faster than hotel accommodations in the future.	3.36	0.567
21. Thanks to Airbnb, travelling is more affordable than before.	3.80	0.500
22. Thanks to Airbnb, travelling is easier than before.	3.36	0.522
23. I do not have any concern about the legal status of facility renters who offer services through Airbnb.	2.72	0.581
24. I am going to use Airbnb more frequently in the future.	3.36	0.471

Table 4
Familiarity with and opinions about Airbnb.
(Questions answered by participants that have previously not used Airbnb).

.Strength of opinion (1–5, with 1 = Strongly Disagree, 5 = Strongly Agree)		
Statement	Mean	SD
1. I am not familiar with Airbnb.	3.46	1.397
2. Airbnb is not a perfect substitute for a hotel stay.	3.01	0.732
3. I consider myself as a loyal customer to the hotels.	2.86	0.930
4. I consider myself as a loyal customer to the online travel companies (Expedia, Booking.com, Travelocity, etc).	2.92	1.020
5. I am satisfied with the currently available hotel options – I always find what I want.	3.62	0.771
6. Hotels are more affordable than facilities offered through Airbnb.	2.88	0.464
7. Hotels provide me with a variety of services.	3.78	0.618
8. I prefer standardized and professional hotel services while I travel.	3.53	0.796
9. Hotels provide me with a consistent experience.	3.49	0.737
10. Hotels are more reliable than facility renters who offer the services through Airbnb.	3.18	0.583
11. I do not trust Airbnb.	2.82	0.596
12. Airbnb is not a safe (secure) option for travel.	2.81	0.574
13. Airbnb is not suitable for the type of travel I prefer.	2.96	0.723
14. My company does not allow me to use Airbnb.	2.95	0.876
15. Hotels provide more amenities than facilities offered through Airbnb.	3.30	0.638
16. Facilities offered through Airbnb do not provide the same quality of service as hotels.	3.18	0.534
17. Other booking engines (travel web based sources) provide me with more information options for finding accommodation than Airbnb.	3.09	0.561
18. Airbnb is not a “value for money” option.	2.85	0.482
19. I have some concern about the legal status of facility renters who offer services through Airbnb.	3.11	0.610
20. I prefer to book transportation and hotels at the same time.	2.91	1.025
21. I will be using Airbnb in the future.	3.10	0.690

and certain amenities, were not listed as playing an important role in the selection of lodging facility.

To examine for differences between those who had used Airbnb and those who had not, we conducted ANOVA—results revealed significant differences between these two groups related to the following factors—security at the lodging ($F = 7.672$; $p < 0.00$), housekeeping/cleaning ($F = 4.153$; $p < 0.05$) and participation in loyalty programs ($F = 10.917$; $p < 0.00$) (please see Fig. 1 for a visual depiction). As can be seen, the factors in the intersection of the two ovals are equally important (or equally unimportant) to both groups, whereas the factors in the non-intersecting parts of the ovals were more important to the group illustrated by the oval. A summary of the key findings is presented below (note: AP—all participants; UA—Airbnb users; NA—non-users of Airbnb).

i. The most important factors for selection of lodging facilities are price (AP 4.05, NA 4.04, UA 4.10), service quality (AP 4.05, NA 4.07, UA 3.90), location (AP 4.47, NA 4.45, UA 4.62), and past experience (AP 4.17, NA 4.14, UA 4.38).
ii. Other important factors for selection of lodging facilities are image/reputation (AP 3.81, NA 3.83, UA 3.72), user reviews (AP 3.95, NA 3.93, UA 4.03), website (AP 3.42, NA 3.44, UA 3.28), availability of web sources (AP 3.65, NA 3.67, UA 3.43), recommendations of friends (AP 3.72, NA 3.71, UA 3.83), recommendations of relatives (AP 3.48, NA 3.47, UA 3.52), staff behavior (AP 3.87, NA 3.88, UA 3.86), and exterior (AP 3.58, NA 3.61, UA 3.39).
iii. Other relevant factors for selection of lodging facilities include availability of parking (AP 3.13, NA 3.12, UA 3.17), recommendations of their companies (AP 3.09, NA 3.06, UA 3.29), and amenities such as pool, gym or restaurant (AP 3.04, NA 3.01, UA 3.24).
iv. Low-relevance factors for selection of lodging facilities are advertising (AP 2.07, NA 2.11, UA 1.79), availability of kitchen (AP 2.28, NA 2.30, UA 2.14), and recommendations of travel agents (AP 2.57, NA 2.59, UA 2.34).
v. Security as a factor in the selection of a lodging facility, while considered important (AP 3.63), was much more relevant for non-Airbnb users (NA 3.70) than for Airbnb users (3.07)
vi. Housekeeping as a factor in the selection of a lodging facility, while considered important (AP 4.04), was more relevant for non-Airbnb users (NA 4.09) than for Airbnb users (3.90)
vii. Participation in loyalty programs as a factor in the selection of lodging facility was not considered very important in the overall sample (AP 2.63) and among non-Airbnb users (NA 2.53). However, Airbnb users found it quite important (AP 3.45). This suggests higher propensity for seeking a “good deal” among Airbnb users and also confirms the plausibility of the idea of an Airbnb-run loyalty program.

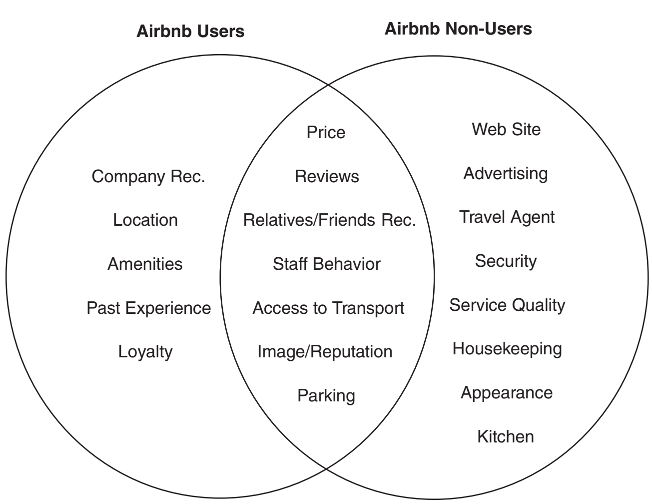

Fig. 1. A pictorial representation of factors for selection of a lodging facility.

3.3. Experience with Airbnb—2nd section (Table 3)

This section contained 24 questions that were presented on a 5-point scale to survey participants who reported having previously used Airbnb. The questions in this section pertained to their experience with Airbnb (please see Table 3). Overall, we found a relatively high-level of satisfaction with the Airbnb experience, especially related to price-related factors. For example, there was a high level of agreement that Airbnb is a “value for money” option, less expensive than hotels, making travelling more affordable than before, and a suitable option for people with low income. In addition, Airbnb is viewed especially suitable for younger people, and for those wanting accommodations for relatively longer stays, as well as a feasible option for safe and secure stay, suitable for families. On the other hand, Airbnb users do not seem to think of it as a particularly suitable option for business trips. Also, Airbnb users seem to have some questions about the legal status of facility renters who offer services through Airbnb. Interestingly, a significant majority of Airbnb users think that Airbnb will significantly influence future development of the hotel industry and grow faster than hotel accommodations. Many also find that Airbnb has made traveling easier than before and anticipate using Airbnb more frequently in future.

A summary of the key findings from this section analyzing answers by *Airbnb users* is presented here:

i. Airbnb users are not very loyal to Airbnb (2.81), but they will use it more in the future (3.36).
ii. Airbnb is not viewed as a perfect substitute to the hotels, since travelers do not seem to have a significant preference for one over the other—Airbnb (3.04) or hotels (2.92).
iii. Airbnb is considered as a more suitable option for younger people (3.92), families (3.50) and people with lower income (3.58).
iv. If travelers look for longer stays at their destinations, Airbnb seems to be preferred over hotels, but this does not hold true in case of business travel.
v. Airbnb is perceived as less expensive compared to hotels.
vi. Airbnb provides fewer services and lower quality of services, and is seen as overall less comfortable than hotels.
vii. Airbnb users find it as a safe/secure option (3.48).
viii. A strength of Airbnb is that it provides a relatively more personal atmosphere than hotels, and allows for easier communication with the property owners, when necessary.
ix. Airbnb allows users to experience the neighborhoods better than hotels.
x. Airbnb is perceived as a “value for money” option by those who use it.
xi. Airbnb has made travelling more affordable (3.80) and easier (3.36) than before.
xii. Airbnb will influence the future development of tourism industry (3.76).
xiii. Airbnb users have some concerns about its legality.

3.4. Familiarity with and opinions about Airbnb—3rd section (Table 4)

This section contained 21 questions that were presented on a 5-point scale to the survey participants that reported not having used Airbnb (please see Table 4). Interestingly, a significant majority of this group of participants reported not having heard of, or being familiar with, Airbnb. At the same time, they reported being quite satisfied with the available hotel options, the variety of services provided by hotels, and seem to prefer a consistent experience and a variety of standardized and professional hotel services while they travel. They also find hotels more reliable than Airbnb, and believe that hotels have better amenities and facilities of higher quality than Airbnb. They also seem to have some concern about the legal status of facility renters who offer services through Airbnb. Interestingly though, in spite of these concerns, the majority of participants in this section did note that they intended to use Airbnb in the future. A summary of key findings from this section is presented below:

i. Many non-Airbnb users are not familiar with Airbnb (3.46)
ii. There is a high level of satisfaction with the variety of services (3.78) and the consistent experience (3.49) offered by hotels.
iii. There is a preference for standardized and professional hotel services while traveling (3.53).
iv. Hotels are perceived as more reliable than Airbnb (3.18).
v. Airbnb provides fewer services and lower quality of services, and is seen as overall less comfortable than hotels (3.18).
vi. The concern about safety and security of Airbnb as an option for travel is not very high (2.81) and the concern about trusting Airbnb is also not very high (2.82).
vii. The concern about Airbnb not being a "value for money" is not very high (2.85)
viii. Non-Airbnb users have some concerns about its legality (3.11).
ix. Non-Airbnb users anticipate using Airbnb in future (3.10)

3.5. Factor analysis—dimension reduction

The 22 items used to analyze the factors for selection of lodging (shown in Tables 2a, 2b, and 2c) were also subjected to exploratory factor analysis (EFA) in order to reduce them to a smaller set of underlying constructs (dimensions). Bartlett's test of Sphericity was significant ($p < 0.00$) and the Kaiser-Meyer-Olkin (KMO) value of 0.809 was found to be greater than the cut-off value of 0.6 (Hair, Black, Babin, Anderson, & Tatham, 2006), suggesting that the data were suitable for factor analysis. A Principal Component Analysis (PCA) with Varimax rotation was used to explore attributes important for selection of a lodging facility (see Tables 5 and 6). Several cut-off criteria were used to determine the number of factors (percent dimensions) derived such as eigenvalues, percentage of variance, item communalities and factor loadings (Hair et al., 2006). The Kaiser-Guttman rule (i.e., retaining only factors with eigenvalues greater or equal to 1.0) was used for factor inclusion, and a factor loading of 0.6 was used as a criterion for including items in each factor. Original variables with factor loadings lower than 0.6 and with cross-loadings on more than one factor were eliminated, and the analysis was re-run with the remaining items.

A two-factor solution, with six variables retained, was derived, representing approximately 77.2% of the total variance. The two factors were named (i) Recommendations, and (ii) Service delivery, based on their core attributes. Also, all six variables showed acceptable to high standardized factor loadings (e.g. higher than the recommended minimum value of 0.5). The convergent validity of constructs was assessed by calculating the composite reliability estimates (Cronbach's alpha coefficients). Both dimensions met the accepted cut-off value of 0.7 for Cronbach's alpha, indicating high internal consistency among variables within each factor.

Table 5
Rotated component matrix[a].

	Component	
	1	2
Recommendation of friends	**0.894**	0.126
Recommendation of relatives	**0.927**	0.114
Recommendation of my company	**0.773**	0.164
Service quality	0.177	**0.859**
Staff behavior	0.125	**0.897**
Housekeeping/cleaning	0.109	**0.846**

Table 6
Factor analysis results.

Factors and items	Factor loadings	Cronbach Alpha
Recommendations		**0.845**
Recommendation of friends	0.894	
Recommendation of relatives	0.927	
Recommendation of my company	0.773	
Service delivery		**0.848**
Service quality	0.859	
Staff behavior	0.897	
Housekeeping/cleaning	0.846	

3.6. Interviews design and results

In addition to the online survey, we also conducted depth interviews (McCracken, 1988) with 12 hotel executives in order to get insights into their perspectives on the growth of companies like Airbnb. We selected the executives from different types of hotels/hotel corporations and markets in the US, and the interviews were conducted by one or more of the authors. Each interview took approximately 30 min, and the interviewees were assured of complete anonymity and confidentiality. The interview protocol was developed from a review of the literature, and the questions were designed to better understand how the hotel industry is responding to the advent of services such as Airbnb (please see Appendix A for the interview protocol). A total of 12 hotel executives were interviewed, with 6 representing luxury hotels at the higher end, and the other 6 representing low to mid-range hotels. The executives represented companies with hotels in metropolitan US areas (e.g. Chicago, San Francisco, New York City) and hotels spread across a variety of urban/suburban/rural locations in different US regions (e.g. West Coast, Midwest, South).

1. The first question in our interview asked participants about their general opinion(s) about the ways in which businesses such as Airbnb had impacted the hotel industry
   The overall sentiment seems to be that Airbnb has not had a huge impact on the hotel business. A common explanation for the perceived lack of impact was that Airbnb deals with apartments and other types of lodging which are seen as rather different from hotels. The participants were of the opinion that Airbnb was more suitable for tourists specifically looking for apartments, rather than hotel rooms. In essence, the respondents believe that Airbnb and the hotel industry operate in different segments. Furthermore, they also noted that Airbnb does not always work out as a cheaper-than-hotel option, though it might be preferred by the younger traveler who is looking for adventure, while travelers concerned with safety and security would always pick hotels over Airbnb facilities. Some participants compared Airbnb to low cost options in other industries, noting that just like in other industries, Airbnb serves a different segment of the population, and thus is not in direct competition with large hotels and large hotel chains.

Another participant noted that Airbnb is experiencing a lot of success by identifying previously unidentified problems and providing a solution—in other words, Airbnb found an untapped market and provided solutions that hotels were not providing. So, for example, Airbnb is able to offer individual travelers more flexibility in their lodging accommodations, as well as control over their booking experience, which has helped attract individual travelers. Next, it was also noted that in some cities, Airbnb was filling a void, by offering rooms in particular districts, where there are few hotels, if any at all. Overall, the consensus seems to be that, to this point, Airbnb has had almost zero impact on the higher end of the scale (i.e., luxury hotels), and some impact on the other end of the scale (low to mid-range hotels).

2. The next set of questions asked participants about the extent to which they were familiar with and/or used third-party-booking sites, and their opinion of the impact of these booking sites on the hotel industry

Our participants noted that they were quite familiar with platforms such as booking.com, Orbitz, and Expedia. The consensus seemed to be that these third-party sites were seen both as partners and competitors. As one participant noted, "*We have cooperated a lot with Booking.com, though we are not happy with some of the changes they have introduced recently*." This participant went on to note that Booking.com had gone on to became a global player, and now has the power to influence all facilities that want to promote themselves through it. As s/he noted, *"the primary goal of Booking.com used to be to promote hotels, but now they promote hostels, apartments and other types of lodging at the same place which increases the level of competition."*

Other participants noted that their initial experiences with third-party sites were positive, since they helped re-direct business towards their facilities. However, their recent experience(s) with these sites was not as positive, as these sites seemed to be re-directing their potential customers to their cheaper competitors, such as hostels and boarding houses. Furthermore, it was also noted that many of these sites charged very steep fees to be listed on the sites, yet they kept manipulating the search results and rankings, forcing the hotels that did use these sites to constantly monitor the sites, resulting in an increase in costs. Interestingly, a different perspective on these third-party-sites was offered by a couple of participants, who noted that these sites often help keep the customers in the city when rooms are not available or the rates are very high, thereby leaving a good impression of the city, and ensuring that the customers come back to the city. Also, it was noted that the impact was perhaps more on the leisure side, in particular with younger travelers that are *"willing to take the risk"* so to speak, and try out lodgings with no particular brand attached. Finally, it was noted that third-party sites have allowed the potential customer base to expand by allowing customers in other parts of the world, to be able to book hotels through these sites, leading to a better overall occupancy rate for hotels, in general.

3. The next question posed to our participants inquired about the steps being taken by the hotel industry to combat the increasing use of Airbnb

There was a clear difference in responses, depending on whether the participant was from one of the upper-scale hotel chains, or the low to mid-range hotels. It was pointed out that the big hotel chains had established reputations and loyal customers, and did not need to invest a lot of time and money into trying and drumming up business through non-affiliated online sources. On the other hand, the smaller hotels *"have to fight"* for every guest and therefore have to use a variety of online tools, and they are in direct competition with sites like Airbnb. Further, the large hotels have huge advertising budgets and corporate contracts, and do not so heavily depend on business from individual travelers, as the smaller hotels do. While the big hotel chains seem to be adopting a wait-and-watch approach, the smaller hotels seem to be the most concerned, and have recognized the need to employ appropriate interventions to compete with Airbnb. As one of the participants noted, the small hotel chains have always been unique in offering the personal touch for tourists, something that Airbnb can also offer, to some extent. However, they would need to come up with newer and unique ideas to continue to compete. Some of the interventions being considered include (i) offering more amenities, (ii) better deals, (iii) promotions, such as offering discounts if a customer stays for a specified minimum number of nights, (iv) instituting/strengthening loyalty programs, (v) expanding offers of free internet, (vi) updating the décor of their properties, (vii) emphasizing their location and/or stable brand, (viii) establishing partnerships with universities for study abroad programs, and (ix) updating their websites to direct more traffic to them, through Search Engine Optimization (SEO)

Finally, one participant noted that they were adopting a rather unique approach to combatting Airbnb, by lobbying city supervisors to ensure that Airbnb follows the same rules regarding safety, exit, sales tax, etc., to make sure they kept *"the industry honest."*

4. The last question in our interviews related to participants' opinion on whether Airbnb had the potential to fundamentally alter the hotel industry

In response to this question, we received two clear sets of responses—while one group (primarily the upper-end luxury chains) suggested that Airbnb was an interesting innovation, but not a game changer, the other group (lower to mid-range hotels) admitted Airbnb has the potential to fundamentally change the industry, and would most likely have a huge impact on tourism in the future. As one participant noted, *"Based on the speed at which Airbnb is growing, it is unimaginable that this is a passing trend. They have definitely found a problem that needed a solution, and as long as they solve a real problem they are relevant. Eventually, both new and established competitors will try to copy them."*

One of the interviewees raised an important issue in connection with the growth of platforms like Airbnb—the fact that technology always seems to move faster than the laws and the legal landscape. Here, it was suggested that the imminent regulatory catch-up should be something that companies like Airbnb would do well to keep in mind—in other words, once liability scenarios start to emerge that prove to be huge financial burdens for these companies, they will need to proactively find ways to address those. Some general comments were also offered in response to our question regarding the future of services such as Airbnb. One issue raised had to do with the location of the properties in big cities, where safety is often a concern. In this connection, one participant noted that Airbnb would succeed as long as its offerings were seen as being in safe neighborhoods. In conclusion, two comments from the participants summed up their opinions very well. First, as one participant noted, "this really is an issue of demand and supply". As s/he noted, in a city like Dubai, Airbnb would not work as there are just too many hotels available, for all categories of demand. The other comment that really seemed to reflect the notion of acceptance, came from a participant who compared Airbnb to the ride-sharing service Uber, noting that the taxi industry had already begun to fundamentally change. In other words, Airbnb and other such platforms, may initially be seen as disruptive, but they end up carving out a niche for themselves, and force existing models to be revisited. As one participant reluctantly admitted, *"The hotel industry has always been behind the 8-ball. We have been around for a long time, but we need to adapt to and use new technology. We need to innovate and change. In other words, 'innovate or die'."*

4. Conclusions and discussion

Over the last few years, Airbnb has shaken up the lodging industry just as Uber has shaken up the traditional taxi industry. While some might classify these as "disruptive innovations," the authors (Christensen et al., 2015) who coined the term themselves argue that innovations like Uber do not meet the definition. Instead, what is clear is that innovative ideas like Airbnb have the potential to change the very way any industry operates, and the success of Airbnb confirms that once the change is initiated, it is highly unlikely that the industry would revert to the old model. Thus, it is imperative that all stakeholders make efforts to better understand the factors that guide end-users—in this case, leading them to choose Airbnb over traditional hotel rooms.

In this paper, we have presented a study of the Airbnb phenomenon from two perspectives: customers and competitors, by administering a comprehensive online survey, and conducting in-depth interviews. Interestingly, our findings reveal that when it comes to the factors used by customers in their selection of a lodging facility, while there is a lot of similarity between Airbnb users and non-users (e.g. importance of location, past experience, image, reputation), there are also perceptible differences (e.g. importance of security, cleaning, loyalty programs, recommendations). As far as the opinions about Airbnb itself, Airbnb users, in general, find it a safe and convenient option that they intend to continue using in future. Interestingly, non-users of Airbnb seemed to be unaware of the existence of this alternative, for the most part. At the same time, they did express their intentions to use Airbnb services in the future. Finally, and somewhat curiously, there was not much concern in either group about the safety and security of Airbnb lodgings despite considerable attention paid by the popular press to the negative experiences of some customers.

Our in-depth interviews with hotel executives were designed to gauge their perspective and reactions to Airbnb. The overall consensus of the executives was that Airbnb has not yet had a big impact on the hotel industry. Not surprisingly, big hotel chains and smaller hotels differed significantly in their opinions about the future of Airbnb, and their corresponding approaches to prepare for coming changes. While big hotel chains appear content to simply monitor the development of Airbnb, smaller hotels seem to be actively engaged in counteracting the possible threat of loss of business. The actions they are taking range from legislative lobbying for a level playing field—by requiring Airbnb hosts to follow the same rules for safety and taxation—to improving their offerings in terms of overall value, services, and personalization.

Overall, our findings point to the need for the hotel industry to be more proactive, and to shake itself out of its stupor. At the same time, lawmakers will need to move fast to enact legislation to ensure that customers are protected in this tug-of-war between the hotel industry and innovations such as Airbnb.

4.1. Future research directions

As we note above, Airbnb has begun to receive some attention from research scholars, but a lot more critical investigation is required, for us to better understand the antecedents and consequences of this phenomenon. Based on our study, we propose the following research ideas:

1. *Airbnb choice models:* As we discussed above, several factors guide users' choice between hotel accommodations and Airbnb, and it is important to understand these factors, something we did in this study. By the same token, it is important that future research examine the factors that guide users' choice between different Airbnb options.
2. *Impact on hotel industry:* In our study, we conducted a dozen interviews with hotel executives to better understand their opinions of the Airbnb phenomenon, as well as what the hotel industry is doing to address the disruption of the traditional accommodation model. We hope that future research will conduct comprehensive empirical studies, so that we can better generalize the findings.
3. *Loyalty:* Given that Airbnb is a fairly recent phenomenon, it would be important to track user loyalty, at two different levels. First, it would be important to see if users continue to use Airbnb after the initial excitement and novelty wears off. Next, for those who continue using Airbnb, it would be interesting to examine if they use the same facilities repeatedly, or do they keep switching premises.
4. *Non-Airbnb citizen reactions:* In some cities, like Chicago, citizens who do not participate in the Airbnb program seem to have had strong negative reactions to their neighbors renting out their properties to short-term residents under the Airbnb program. As a result, in Chicago, many condominium associations have passed resolutions barring their members from renting out their units on Airbnb. It is critical that we better understand the reactions of the non-Airbnb citizens to understand the long-term sustainability of the model. Just as taxi unions in some countries, like Germany, have successfully blocked ride-sharing platforms like Uber from most German cities, Airbnb might face the same situation, and may need to work with users to ensure minimum disturbance in the neighborhoods where these properties lie.

4.2. Limitations

While our study offers important insight into the Airbnb phenomenon and customer and competitor reactions, it is important to acknowledge certain limitations, so that our findings are understood in context. First, the break-up of Airbnb users and non-users in our sample is somewhat skewed, with non-users representing almost three-quarters of our sample. Future studies should endeavor to use samples that are better balanced between the two groups.

Finally, since we used the snowball sampling method, our sample fails the classic test "every member of the relevant population must have an equal chance of getting into the sample." (Witte & Witte, 2016) Future studies should ensure that both survey participants and interview respondents are more representative of the relevant populations.

Appendix A. Interview Protocol

Thank you for taking the time to speak with me. My colleagues and I are conducting a study to understand how the emergence of alternative models of accommodation is viewed by the hotel industry, and how they might be reacting to these developments. In this connection, we would like to ask you a few questions. Please rest assured that all responses will be reported anonymously, and your name or affiliation will neither be recorded nor published.

Having said that, with your permission, I would like to take notes, for later accurate transcription.

1. In your opinion, how have businesses like Airbnb changed the hotel industry?
2. In addition to Airbnb, what other sites/businesses do you believe offer direct competition to hotels?
3. How have these sites/businesses affected the hotel industry, in general?
4. What impact, if any, has the hotel industry felt, due to these changes?

4a. If there has been an impact on room bookings, where has this been felt the most (e.g., leisure travelers? Business travelers?)

5. How is the hotel industry, in general, reacting to these developments?
6. How are you (or, your hotel) gearing up to meet this so-called challenge?
7. What specific strategies are you planning to implement, in order to hold on to (or re-attract) your customer base?
8. Finally, we would like your overall opinion on this trend – do you believe it is a passing phase, or do you think it will fundamentally alter the hotel industry?
9. Any other comments about this issue? Anything we may have missed?

Note: At the end of the interview, we asked the interviewees if they would like a copy of our findings. If they said yes, we asked for, and recorded, their e-mail address (es).

References

Airbnb PR (2015a). Hospitality, Havana style: Airbnb opens its doors in Cuba, press release. https://www.airbnb.com/press/news/hospitality-havana-style-airbnb-opens-its-doors-in-cuba

Airbnb PR (2015b). Airbnb takes gold with the Rio 2016 Olympic games providing the official alternative accommodations service. https://www.airbnb.com/press/news/airbnb-takes-gold-with-the-rio-2016-olympic-games-providing-the-official-alternative-accommodations-service

Austin, S. (2014). How does Airbnb's $10 billion valuation size up? http://blogs.wsj.com/digits/2014/03/20/how-does-airbnbs-10-billion-valuation-size-up/

Bailetti, T. (2012). What technology startups must get right to globalize early and rapidly. *Technology Innovation Management Review*, *2*(10).

Burmann, C., & Arnhold, U. (2009). *User generated branding: State of the art of research.* Germany: LIT, Munster.

Chan, E. S., & Wong, S. C. (2006). Hotel selection: When price is not the issue. *Journal of Vacation Marketing*, *12*(2), 142–159.

Chesky, B. C. E. O. (Dec 7, 2014). We now have 1 million homes on @airbnb. Adding over 3,000 a day. https://twitter.com/bchesky/status/541655860271783937

Choi, H., Kim, S. -H., & Lee, J. (2010). Role of network structure and network effects in diffusion of innovations. *Industrial Marketing Management*, *39*(1), 170–177.

Christensen, C. M., Raynor, M. E., & McDonald, R. (2015). *What is disruptive innovation?* December: Harvard Business Review, 44–53.

Chu, R. K., & Choi, T. (2000). An importance-performance analysis of hotel selection factors in the Hong Kong hotel industry: A comparison of business and leisure travellers. *Tourism Management*, *21*(4), 363–377.

Easley, D., & Kleinberg, J. (2010). *Networks, crowds and markets: Reasoning about a highly connected world.* Cambridge: Cambridge University Press, 497–531.

Edelman, B. G., & Luca, M. (2014). Digital discrimination: The case of airbnb.com. *Harvard Business School NOM Unit Working Paper* (pp. 14–054).

Fast Company (March 20, 2014). What hotel operators really think of Airbnb. http://www.fastcompany.com/3027976/what-hotel-operators-really-think-of-airbnb

Forbes (October 2014). New York slams Airbnb, says most of its rentals are illegal. http://www.forbes.com/sites/ellenhuet/2014/10/16/new-york-slams-airbnb-says-most-of-its-rentals-are-illegal/

Fortune (April 28, 2015). How Airbnb could spawn an M&A frenzy in the hotel industry. http://fortune.com/2015/04/28/how-airbnb-could-spawn-an-ma-frenzy-in-the-hotel-industry/

Goldberg, S. M., Green, P. E., & Wind, Y. (1984). Conjoint analysis of price premiums for hotel amenities. *Journal of Business*, *57*(1), 111–132.

Guardian (May 27, 2014). Don't buy the 'sharing economy' hype: Airbnb and Uber are facilitating rip-offs. http://www.theguardian.com/commentisfree/2014/may/27/airbnb-uber-taxes-regulation

Guttentag, D. (2015). Airbnb: Disruptive innovation and the rise of an informal tourism accommodation sector. *Current Issues in Tourism*, *18*(12), 1192–1217.

Hagiu, A. (2014). Strategic decisions for multisided platforms. *MIT Sloan Management Review*, *55*(2), 71.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis, Vol. 6*, .

Jannach, D., Gedikli, F., Karakaya, Z., & Juwig, O. (2012). Recommending hotels based on multi-dimensional customer ratings. *eTourism Present and Future Services and Applications: Proceedings of ENTER 2012* (pp. 320–331). Sweden: Helsingborg.

Kerr, W. R., Nanda, R., & Rhodes-Kropf, M. (2014). Entrepreneurship as experimentation. *The Journal of Economic Perspectives*, *28*(3), 25–48.

Lockyer, T. (2005). Understanding the dynamics of the hotel accommodation purchase decision. *International Journal of Contemporary Hospitality Management*, *17*(6), 481–492.

McCracken, G. (1988). *The long interview.* Newbury Park, CA: Sage Publications.

McCullen, N. J. (2013). Multiparameter models of innovation diffusion on complex networks. *SIAM Journal on Applied Dynamical Systems*, *12*(1), 515–532.

McNamara, B. (2015). Airbnb: A not-so-safe resting place. *Journal on Telecommunication & High Technology Letters*, *13*, 149–170.

Murphy, H. C., & Chen, M. M. (2014). The multiple effects of review attributes on hotel choice decisions: A conjoint analysis study. http://agrilife.org/ertr/files/2014/02/enter2014_RN_17.pdf

Newcomer, E. (17 June 2015). Airbnb Is in Talks to Raise Funds at $24 Billion Valuation. *Bloomberg Business* Web.

NYT (May 5, 2015a). Airbnb grows to a million rooms, and hotel rivals are quiet, for now. http://www.nytimes.com/2015/05/12/business/airbnb-grows-to-a-million-rooms-and-hotel-rivals-are-quiet-for-now.html?_r=0

NYT (April 10, 2015b). Questions about Airbnb's responsibility after attack by dog. http://www.nytimes.com/2015/04/11/your-money/questions-about-airbnbs-responsibility-after-vicious-attack-by-dog.html

Oh, H. (1999). Service quality, customer satisfaction, and customer value: A holistic perspective. *International Journal of Hospitality Management*, *18*(1), 67–82.

Rogers, E. (2010). *Diffusion of innovations* (4th edition). New York: Simon & Schuster.

Row, S. (2013). The Future of Transportation. *Institute of Transportation Engineers ITE Journal*, *83*(10), 24.

Saleh, F., & Ryan, C. (1992). Client perceptions of hotels: A multi-attribute approach. *Tourism Management*, *13*(2), 163–168.

Schneiderman, A. G. (d). Releases report documenting widespread illegality across Airbnb's NYC listings; site dominated by commercial users. http://www.ag.ny.gov/press-release/ag-schneiderman-releases-report-documenting-widespread-illegality-across-airbnbs-nyc

Sparks, B. A., & Browning, V. (2011). The impact of online reviews on hotel booking intentions and perception of trust. *Tourism Management*, *32*(6), 1310–1323.

Spector, M., MacMillan, D., & Rusli, E. (2014). TPG-led group closes $450 million investment in Airbnb. *The Wall Street Journal.*

Sundararajan, A. (2014). What Airbnb gets about culture that Uber doesn't. *Harvard Business Review* (Nov 27).

The Guardian (May 2015). When is Airbnb not Airbnb? When it suddenly turns into a scam email. https://www.theguardian.com/money/2015/may/13/when-is-airbnb-not-airbnb-when-it-suddenly-turns-into-a-scam-email

Tucker, P. (2014). Learning without schools: A contrarian future. *Futurist*, *48*(2), 45–48.

Witte, R. S., & Witte, J. S. (2016). *Statistics* (10th Edition). Wiley978-1-119-29916-5.

Wu, S. T., & Chen, Y. S. (2015). The social, economic, and environmental impacts of casino gambling on the residents of Macau and Singapore. *Tourism Management*, *48*, 285–298.

Yannopoulou, N., Moufahim, M., & Bian, X. (2013). User-generated brands and social media: Couchsurfing and Airbnb. *Contemporary Management Research*, *9*(1), 85.

Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: A means-end model and synthesis of evidence. *The Journal of Marketing*, 2–22.

Zervas, G., Proserpio, D., & Byers, J. (2016). The rise of the sharing economy: Estimating the impact of Airbnb on the hotel industry. *Boston U. School of Management Research Paper, 2013–2016.*

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