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Glo1721 Airbnb or "Networked Hospitality Businesses": Between Innovation and Commercialization. A Research Agenda

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Abstract

Airbnb, the largest networked hospitality platform, originated in "social travel" and is still associated with the "Sharing economy" and with altruism. But since 2008, it has evolved from sharing spare rooms and "living like a local" into a very successful business. Now that Airbnb beats the major hotel chains in accommodation offered and in valuation, we can argue many did not realize the extent and the power of the disruptive business model of "networked hospitality". Building upon a previous scenario study about the potential future growth of Airbnb (Oskam & Boswijk, 2016), this paper will analyse the phenomenon in Amsterdam using data collected from the company's website. It will propose a research agenda identifying further knowledge gaps. The study seeks to contribute to the understanding of networked hospitality businesses to inspire strategies in for the hospitality industry and regulatory policies that foster innovation and reduce harmful side-effects.

Keywords: Airbnb, Experience, Innovation, Shared economy, Touristification, Trends

Introduction

While the initial web-driven initiatives in "social travel" revolved around the adventurous and altruistic motivations of offering people a place to stay and sharing experiences, networked hospitality businesses turned the "inviting strangers to your home" concept into a for-profit model. With the anecdotal origin of two recent university graduates converting their home into an "Air Bed & Breakfast" by offering overnight stays on air mattresses during a San Francisco conference in 2007, Airbnb created a commission-based web-platform for room sharers and travellers. A few years later, the offer on the company´s website goes way beyond air mattresses and people´s spare rooms: with Manhattan lofts for $1.000 a night, luxury houses in Paris for multiple times that amount or properties in Barcelona for groups of up to 20 people —to name just a few examples—, Airbnb has become a competitor and a disruptor for the traditional hospitality industry.

The business model has seen a rapid growth in the past decade: Airbnb was valued at $24 billion in May last year and projected $10 billion in revenues for 2020 (Winkler & MacMillian, 2015), with around 2 million global listings by the end of 2015 (O'Neill & Ouyang, 2016). Academic research and publications lag behind this development; their number does not yet reflect the importance the phenomenon has acquired. This means that currently consultancy reports combined with partisan publications —advocating either the suppression of Airbnb and similar companies[1] because of what is deemed as "unfair competition" with traditional hotels, or the altruistic nature of these initiatives by "sharing economy" ideologues— are the main sources of information.

[1] Airbnb is analysed as networked hospitality market leader; the phenomenon includes several other companies as Homeaway, Wimdu or Housetrip.

This conceptual paper builds upon a scenario study published earlier this year (Oskam & Boswijk, 2016) in which insights from academia and other sources were combined with industry input to envision further plausible developments in networked hospitality. This article identified information ownership and multilistings as unresolved topics for debate. We will now further elaborate on the information gaps in order to propose a research agenda for academia.

Concepts defined: Airbnb and "sharing"

The business model and growth dynamics of networked hospitality are best explained by the two sided markets theory (Rochet & Tirole, 2004; 2006). This type of business model connects two groups of clients; their value is derived from ample client bases. This explains that unlike traditional business models, these platforms see increasing returns of scale if their businesses grow, a circumstance leading to an oligopolistic "winner-takes-all" competition (Eisenmann, Parker, & Alstyne, 2006; Oskam & Zandberg, 2016).

Bauwens has underscored the "extractive" nature of platforms as Facebook, Uber and Airbnb. The value is created in these cases by clients or platform users, and subsequently hijacked or extracted in a profit driven business model. These platforms should be distinguished, he argues, from "generative" platforms, which allow users to reinvest the generated value in their communities (Araya, 2015).

This distinction helps us clarify the ill-defined "sharing economy". Initially, this concept was understood as aimed at an efficient use of underutilized assets for social and environmental benefits. This interpretation is illustrated by Botsman's example of the power-drill (2010). It seems however that the similarity of internet-based platforms is the main reason why the "sharing economy" concept now has expanded to two sided businesses as Uber and Airbnb. However, as argued in aforementioned scenario study, residential apartments are not power drills:

- It can be discussed whether housing is an underutilized asset. In any case, in those instances where a resident leaves his house to rent it, we see substitute use rather than additional use;
- The demand for holiday rentals is far more elastic than for the typical power drill;
- Unlike underutilized power drills, the short-stay rental of private homes entered in direct competition with an existing market. (Oskam & Boswijk, 2016, p. 26).

In other words, Airbnb is a platform for economic transactions wrongly categorized as "sharing". Nevertheless, studies of the phenomenon must consider this label as it has become part of the company's image and marketing policy. With the "sharing economy" redefined by Airbnb founder Joe Gebbia as "commerce with the promise of human connection" (2016), the concept has been adapted to cover the company's business proposition.
In future research, this debate on the platform's purposes —social or commercial— will be key. Within this debate, the "human connection" element has been isolated as an element that links Airbnb's proposition to a confused understanding of "sharing". The platform or, more precisely, "two-sided" nature will be important to understand future competitive forces in networked hospitality.

Literature Review

Holistic studies of the causes and impact of the rise of networked hospitality are Guttentag (2013), Zervas, Proserpio and Byers (2014), Oskam and Boswijk (2016) and O'Neill and Ouyang (2016). Other authors have studied specific aspects of the phenomenon. Several studies have advocated its place in the "sharing economy" or "collaborative lifestyle" (Gansky, 2010; Rothkopf, 2014; Ikkala & Lampinen, 2015). This message is contradicted by most studies on consumer motives, in which idealism seems to play a secondary role. For guests, Airbnb is primarily a low-cost option (Guttentag, 2013; Liang, 2015); hosts are also driven in the first place (IPSOS, 2013; Holte & Stene, 2014; Hamari, Sjöklint, & Ukkonen, 2015) or to an important degree (Glind, 2013; Stors & Kagermeier, 2015) by financial motives. As argued before, the "sharing philosophy" is important in Airbnb's marketing strategy, to persuade hosts and guests to join the network (Stern, 2010; Yannopoulou, Moufahim, & Bian, 2013).

Trust is an important issue in e-commerce, even more if besides the commercial transaction it involves personal contact as in Airbnb (Kohda & Masuda, 2013; Gebbia, 2016). Airbnb works with a mutual review system for hosts and guests that on the one hand contributes to the "community" feeling, but on the other hand diminishes the reliability of reviews with an upward effect on their scores (Finley, 2013; Guttentag, 2013; Slee, 2013; Ikkala & Lampinen, 2014; Lehr, 2015; Zervas, Proserpio, & Byers, 2015; Ert, Fleischer, & Magen, 2016). Other studies address the legal grey areas in which Airbnb operates (Kaplan & Nadler, 2015; McNamara, 2015).

The first study to quantify the impact on the hotel industry, was Zervas *et al.* (2014), who estimate a 13% loss of room revenue for Austin and a 0,35% decrease in monthly hotel room revenue for every 10% increase in Airbnb listings for Texas in general. A potentially negative impact on cities and residents —primarily because of "touristification"— has been diagnosed in various publications (Blickhan, Bürk, & Grube, 2014; Füller & Michel, 2014; Arias Sans, 2015; Kagermeier, Köller, & Stors, 2015; Oskam & Boswijk, 2016). A specific problem — though hard to quantify— is the rise of residential housing prices and rents (Zervas *et al.*, 2014; New York State Attorney General, 2014; EY España, 2015; Sabatini, 2015).

O'Neil & Ouyang still see an ongoing growth during the past year (2016), and analysts forecast a further growth: bookings are projected to grow to 100 million beyond 2016; with a 40% to 50% growth in listings per year, Airbnb could make up 3,6% to 4,3% of accommodation inventory by 2020 (Huston, 2015). Whereas initially Zervas *et al.* only saw an effect on lower end hotels (2014), the platform has started to compete also with luxury accommodation (Les Echos, 2015). Airbnb successfully entering the business market would further shake up the hospitality industry (Kurtz, 2014; Takhur, 2015).

The future scenarios for the development of Airbnb (Oskam & Boswijk, 2016) are not presented as predictions of the company's future but as plausible outcomes of current and future developments. These outcomes diverge depending on the type of tourist market —stable or growing— and the strictness of regulatory policies: more relaxed regulations may step up incentives to innovate, while popular destinations may see a stronger impact. The most unsettling scenario is the combination in which Airbnb is loosely regulated and booming tourism attracts investors: the resulting commercialization of neighbourhoods may lead to a displacement of residents by tourists.

Key issues: data ownership

An important issue that local governments as well as researchers face is a lack of available data. Airbnb possesses these data but, unlike for traditional hotels, no obligation is imposed to disclose these. This makes it impossible to enforce regulations —such as taxation or rental limitations— but also limits insight in visitor streams. Agreements between cities and Airbnb, such as the one in Amsterdam, rely on information provided and on self-regulation adopted by the company. Both Amsterdam and the UK Office for National Statistics recently announced new monitoring methods to breach Airbnb's data monopoly (Kraniotis, 2016; Ward, 2016); but success in such a data 'arms race' seems not guaranteed.

The purpose of withholding visitor data is not just to dodge regulatory measures; they are an obvious source of competitive advantage in areas as revenue optimization or customer satisfaction (McAfee, Brynjolfsson, Davenport, Patil, & Barton, 2012; Norton, 2015; Xiang, Schwartz, Gerdes, & Uysal, 2015; Turnbull & Heinz, 2015). It will be interesting for future research to monitor to what extent platform based businesses as Airbnb and OTAs will outperform traditional hotel companies in this area.

Although the data themselves are not disclosed, Airbnb has developed an active policy of publishing impact reports produced by renowned consultants and based on their secret data. Not surprisingly, these reports underscore the economic impact of Airbnb visitors, the spreading of tourism to peripheral neighbourhoods and the contribution to the livelihood of lower income or non-traditionally employed residents. These findings, however, cannot be corroborated by independent studies. Other outcomes make little sense, as long as we do not know what questions have been asked, such as the claim that almost all guests (93% in Amsterdam and Paris, 96% in Barcelona) want to "live like a local". The presentation of findings may also obfuscate the nature of the business. In particular, it may be true that the vast majority of Airbnb hosts (e.g. 87% for Amsterdam, 90% for New York) are non-commercial sharers of their primary residences; what is under debate however is not the percentage of hosts —where those with one single property naturally form a numerical majority— but the percentage of properties offered commercially (Airbnb, 2012; 2013a; 2013b; 2013c; 2013d; 2013e; 2014a; 2014b; 2014c; 2015).

This means that, besides hindering regulation and achieving competitive advantage, the lack of transparency serves a third purpose: a marketing and lobbying strategy to attract guests and hosts and to convince city authorities to adopt benevolent policies. To support this message, strong lobbying investments have been reported for companies as Airbnb as well as Uber (Guttentag, 2013; Sottek, 2014; Lehr, 2015; Vekshin, 2015). Apparently the goal is to seek agreements such as with San Francisco, Portland, Amsterdam and Paris (Davies & Mishkin, 2014; France 24, 2015), which allow for further expansion in exchange for certain self-regulatory measures and the payment of tourist tax — the amount of which seems to be established by Airbnb itself.

Key issues: commercialization

This carefully cultivated image —put simply, hipsters with a spare room— is contradicted, however, by the reality of commercial providers on the Airbnb platform. We can safely assume that Airbnb activity is commercial if hosts offer more than just their primary residence: in this case, we see residential housing turned into tourist accommodation rather than an intensified use of available assets. Different studies have estimated the commercial share of Airbnb listings between 25 and 60% of Airbnb accommodation (New York State Attorney General, 2014; Arias Sans, 2015; Cox, 2015; Oskam & Boswijk, 2016; O'Neill & Ouyang, 2016).

These so-called 'multilisters' operate in a shady area for which reliable data are hardly available. Big multilisters in fact operate illegal hotels, but these are hard to detect especially if housing market regulations prevent commercial exploitation. In Barcelona, with a mainly private housing market, 2,5% of hosts control 30% of entire apartment rentals (Arias Sans, 2015). In the United States, commercial Airbnb activity seems alarming, especially if we consider that large institutional investors may prepare to enter this market once current uncertainties are removed (Realty Shares, 2016). In the case of Amsterdam, multilisters with tens or hundreds of properties are not owners but intermediaries, although we cannot exclude that these are used to conceal the identities of private or institutional investors.

Equally interesting is the contingent of multilisters who offer less than 10 properties. These represent almost 23% of the offer in Amsterdam. In the case of hosts with 2 offers, one can imagine explanations other than a fully commercial operation: houses with 2 spare rooms, duplicate listings for one property, family situations. A sample of triple-listers shows a prevalence of small investors, who apparently prefer tourist accommodation as a more secure and more profitable option than stocks or saving accounts.

Regardless of the size or motivation of multilisters, the effect of these operations is a conversion of residential housing into vacation rentals. An unavoidable consequence will be that rents and housing prices will go up, as well as tourism weariness. In extreme scenarios, residents become obliged to commercially "share" their houses with tourists to compensate for rent inflation. A quantification of these effects is needed, even though they are hard to separate from other causes.

Key issues: experience innovation

Airbnb has introduced or accentuated experiential aspects as "living like a local", surprise and community building. These aspects are strongly marketed and they are mentioned as an important, albeit not the primary, motivation for guests (Guttentag, 2013; Liang, 2015). Similar innovations have been adopted by companies as CitizenM, Zoku or Yays. Emerging cooperations between hotels and vacation rentals (such as the acquisition of Onefinestay by Accor) or emulations as suggested by Richard & Cleveland (2016) show the importance of further research into the experiential innovations driven by networked hospitality.

Our intuitive profile of the Airbnb user —the adventurous young urban professional— is based on brand image and impressions from the early stages of the company. Its growth makes it improbable that this limited profile is still accurate, but we need to study the new market segments Airbnb has incorporated: the proposition seems more attractive to families and large parties than hotels, and we may also expect a more general, less off-the-beaten track public to use Airbnb for city trips. Therefore, guest profiles need to be updated and their share needs to be quantified. This becomes especially relevant in understanding the concept's potential for the business market, where Airbnb claims successes among Silicon Valley companies and for trips requiring team collaboration (Newcomer, 2015; Fuscaldo, 2015).

Once we know who the current Airbnb users are, a more systematic insight into their motivation and satisfaction can be developed. A guest journey analysis will be crucial for the hospitality industry to strategically address market developments promoted or made manifest by networked hospitality platforms. Given that guest satisfaction data are biased because of mutual reviews and community feelings (Fradkin, Grewal, Holtz,, & Pearson, 2015; Ert *et al.*, 2016), further study is required to compare satisfaction with Airbnb experiences with those in hotels.

Approaching the numbers

However, the most important knowledge gap is, in the absence of data provided by the company, the lack of pure numbers. The most accurate approach is scraping these data from listings advertised on the website. Even though Airbnb questions the reliability of this method, it fails to support this criticism with the hypothetical proof that could be found in the data it chooses to withhold. In our estimates for the city of Amsterdam, data for every single property, collected from the Airbnb website on a daily basis for more than one year, were used.[2] Algorithms determine the interpretation of availability data, leading to a 10% bandwidth. Calculations are based on the entire population (3.808.021 records). Whenever possible, findings have been triangulated with information from other sources.

In August 2015, Amsterdam had 436 hotels totalling 29.152 rooms and 64.115 beds (Gemeente Amsterdam, 2015). The total Airbnb listings detected in this period were 18.845, with a legal occupancy cap of 60 rental days per year. Total revenue was close to €110 million. Two thirds (12.365) of these properties were single listings; 1.184 of hosts offer two properties (12,8% of the offer), 464 hosts have more than two but less than 10 listings (9,8%) and 9,9% of total listings were offered by 50 hosts with ten or more properties.

Both for managing visitor streams and for practical purposes as taxation, the number of visitors constitutes key information for all stakeholders at a destination. Amsterdam received 6,8 million hotel guests in one year, of which 5,4 million internationals.[3] In 2015, between 740.178 and 825.497 Airbnb overnight stays were detected in Amsterdam. The average length of stay was 3,8. Data about party size are unavailable; this number is estimated for each property as the average of 2 and the maximum capacity for that property. These data combined give a total visitor number of 490.000 (min.) to 548.000 (max.), an amount that concurs with the NBTC survey based estimate of 550.000. Review samples show that the vast majority of Amsterdam's Airbnb guests are international (97-98%). This means that for international tourists, the market share of Airbnb is now close to 10%.

One of the effects Airbnb claims to achieve is the distribution of tourism from city centres to residential neighbourhoods, thus generating economic benefits for city residents. Such an effect would be welcomed by the city of Amsterdam in order to reduce pressure on tourist hotspots. However, the Airbnb studies fail to specify what they define as "city centres". In Spain, the Ernst & Young study reached the opposite conclusion: 73% of the networked

[2] As in the O'Neill and Ouyang report (2016), data were collected (from October 2014 – January 2016) and provided by Airdna.

[3] Data provided by NBTC Holland Marketing (December 2014 – November 2015).

hospitality is concentrated in tourist areas, versus 42% of hotels (EY España, 2015). Our numbers for Amsterdam confirm this conclusion: 25,5% of properties and 39,3% of Airbnb revenue are found within the narrowest delimitation of the city centre (canal zone); if the adjacent tourist areas (park and museum districts) are included these percentages rise to 70,4% and 79,0%, respectively.

The explosive growth of the phenomenon is clearly reflected in the data available from October 2014 to January 2016. Booked room nights per month increase with 265% in this period, from 32.346 to 118.176, and total monthly revenue with 253%, from 4,8 million to 17 million euros. This growth is less spectacular in the city centre (192-197% and 213-227%), maybe indicating that the eligible housing stock in these areas starts flattening out. ADR is more or less stable, with a slight decrease from €163 to €159.

Discussion

The main limitation of these calculations, and the main difficulty for future research suggested in this paper, is the unavailability of publicly accessible research data. This lack of transparency is key in the commercial strategy of a 25 billion dollar multinational company that tricks its users and city authorities into thinking it practices “sharing”. Nevertheless, commercial information about its listings is unavoidably public and accessible on the platform’s website. We need advanced scraping techniques and interpretative algorithms to use this in research. If hypothetically inaccurate, findings could easily be refuted with the data Airbnb keeps to itself.

The current size and ongoing growth of Airbnb and other networked hospitality makes it urgent for hotel companies, tourist organizations and city residents to understand what is happening. Despite this urgency, the academic interest in these developments is still disappointing. Both the difficulty to obtain and process data and the speed of change may be discouraging for conventional academic research habits and methods. However, researchers should not allow themselves to be intimidated by intransparent and obstructive policies.

In the first place, we need a basic understanding of the size of the phenomenon. How many listings does a city have, where are these located, what is their revenue and what is their growth rate? Destinations must be able to assess how many visitors they receive, and if the numbers generated by Airbnb and other networked hospitality are incremental or merely seize market share from the traditional hospitality sector.

A second urgent question is who operates and benefits from this development. Airbnb neglects zoning plans and turns residential into tourist accommodation. Is it true, as Airbnb claims, that this supports lower income households and young creatives, or is it more plausible that those who can invest more in their property obtain the highest revenue, thus sharpening socioeconomic divides? Multilisters, both big and small, are an important symptom of this commercialization, which will drive up residential housing prices and add to tourism weariness.

A third area to consider is the innovation that becomes visible in networked hospitality. Regardless of abusive practices, Airbnb and similar platforms have created an experience to which guests and hosts attribute value. The pitfall for the traditional hospitality industry would be —as it once was for Kodak or for the music industry— to neglect this innovation or to fight it with judicial means.

We must critically analyse these experiential aspects of networked hospitality. So far, we may have relied too much on marketed storylines. The role of research will be to help understand and improve the experience of visiting a destination in contact with those who live there for the benefit of hospitality professionals, tourists as well as city residents.

References

Airbnb (2012, November 9). *Study Finds that Airbnb Hosts and Guests Have Major Positive Effect on City Economies*. Retrieved October 13, 2015, from Airbnb: https://www.airbnb.nl/press/news/study-finds-that-airbnb-hosts-and-guests-have-major-positive-effect-on-city-economies

Airbnb (2013a, June 12). *New Study: Airbnb Community Contributes €185 million to Parisian Economy*. Retrieved October 13, 2015, from Airbnb: https://www.airbnb.nl/press/news/new-study-airbnb-community-contributes-185-million-to-parisian-economy

Airbnb (2013b, June 18). *New Study: Airbnb Community Makes Amsterdam Economy Stronger*. Retrieved October 13, 2015, from Airbnb: https://www.airbnb.nl/press/news/new-study-airbnb-community-makes-amsterdam-economy-stronger

Airbnb (2013c, October 22). *New Study: Airbnb Generated $632 Million in Economic Activity in New York*. Retrieved October 13, 2015, from Airbnb: https://www.airbnb.nl/press/news/new-study-airbnb-generated-632-million-in-economic-activity-in-new-york

Airbnb (2013d). *New Study: Airbnb Community Generates $824 Million in Economic Activity in the UK*. Retrieved October 13, 2015, from Airbnb: https://www.airbnb.nl/press/news/new-study-airbnb-community-generates-824-million-in-economic-activity-in-the-uk

Airbnb (2013e). *New Study: Airbnb Community Contributes $175 Million to Barcelona's Economy*. Retrieved October 13, 2015, from Airbnb: https://www.airbnb.nl/press/news/new-study-airbnb-community-contributes-175-million-to-barcelona-s-economy

Airbnb (2014a). *New Study: Airbnb Community Generates $61 Million in Economic Activity in Portland*. Retrieved October 13, 2015, from Airbnb: https://www.airbnb.nl/press/news/new-study-airbnb-community-generates-61-million-in-economic-activity-in-portland

Airbnb (2014b, December 4). *New Study: Airbnb Community Generates $312 Million in Economic Impact in LA*. Retrieved October 13, 2015, from Airbnb: https://www.airbnb.nl/press/news/new-study-airbnb-community-generates-61-million-in-economic-activity-in-portland

Airbnb (2014c, December 19). *New Study: Airbnb Community Generates $51 Million in Economic Impact in Boston*. Retrieved October 13, 2015, from Airbnb: https://www.airbnb.nl/press/news/new-study-airbnb-community-generates-51-million-in-economic-impact-in-boston

Airbnb (2015, May 12). *Airbnb Community Tops $1.15 billion in Economic Activity in New York City*. Retrieved October 13, 2015, from Airbnb: https://www.airbnb.com/press/news/airbnb-community-tops-1-15-billion-in-economic-activity-in-new-york-city

Araya, D. (2015, November 11). *Interview: Michel Bauwens on Peer-To-Peer Economics and Its Role in Reshaping Our World*. Retrieved April 6, 2016, from Futurism:

http://futurism.com/interview-michel-bauwens-on-peer-to-peer-economics-and-its-role-in-reshaping-our-world/

Arias Sans, A. (2015, July 1). *Desmuntant Airbnb. Apunts crítics sobre el cas de Barcelona*. Retrieved October 31, 2015, from La trama urbana: http://latramaurbana.net/2015/07/01/desmuntant-airbnb-apunts-critics-sobre-el-cas-de-barcelona/#more-1245

Blickhan, M., Bürk, T., & Grube, N. (2014). Touristification in Berlin. *sub \ urban. Zeitschrift für kritische Stadtforschung, 2*(1), 167-180.

Botsman, R. (2010, May 2015). *The case for collaborative consumption*. Retrieved 29 October, 2015, from TEDx Sydney: http://www.ted.com/talks/rachel_botsman_the_case_for_collaborative_consumption/

Cox, M. (2015, September 3). *Amsterdam*. Retrieved October 31, 2015, from Inside Airbnb. Adding data to the debate: http://insideairbnb.com/amsterdam/

Davies, S., & Mishkin, S. (2014, December 18). *Airbnb in deal with Amsterdam to collect tourist taxes*. Retrieved April 7, 2016, from Financial Times: http://www.ft.com/cms/s/0/ee07a86c-86b0-11e4-8a51-00144feabdc0.html

Eisenmann, T., Parker, G., & Alstyne, V. W. (2006, October). Strategies for Two-sided markets. *Harvard Business Review, 84*(10).

Ert, E., Fleischer, A., & Magen, N. (2016). Trust and reputation in the sharing economy: The role of personal photos in Airbnb. *Tourism Management*, 62-73.

EY España. (2015). *Impactos derivados del exponencial crecimiento de los alojamientos turísticos en viviendas de alquiler en España, impulsado por los modelos y plataformas ce comercialización P2P.* Madrid: Exceltur.

Finley, K. (2013). *Trust in the Sharing Economy: An Exploratory Study.* Warwick: University of Warwick. Centre for Cultural Policy Studies.

Fradkin, A., Grewal, E., H. D., & Pearson, M. (2015). Bias and Reciprocity in Online Reviews: Evidence From Field Experiments on Airbnb. *Proceedings of the Sixteenth ACM Conference on Economics and Computation* (p. 641). Denver: ACM.

France 24. (2015, February 26). *Airbnb vows to comply with Paris lodgings tax*. Retrieved April 7, 2016, from France 24: http://www.france24.com/en/20150226-paris-airbnb-cooperate-home-rental-hotels-chesky-france

Füller, H., & Michel, B. (2014). 'Stop Being a Tourist!'New Dynamics of Urban Tourism in Berlin-Kreuzberg. *International Journal of Urban and Regional Research, 38*(4), 1304-1318.

Fuscaldo, D. (2015, September). *Will Airbnb Revolutionize Business Travel?* Retrieved April 9, 2016, from Investopedia: http://www.investopedia.com/articles/investing/091515/will-airbnb-revolutionize-business-travel.asp

Gansky, L. (2010). *Why the Future is Sharing.* New York: Penguin Group.

Gebbia, J. (2016, February). *How Airbnb designs for trust*. Retrieved April 6, 2016, from Ted.com: https://www.ted.com/talks/joe_gebbia_how_airbnb_designs_for_trust/transcript?language=en#t-751180

Gemeente Amsterdam. (2015). *Toerisme in Amsterdam*. Retrieved April 9, 2016, from Onderzoek, Informatie en Statistiek: https://www.ois.amsterdam.nl/toerisme

Guttentag, D. (2013). Airbnb: disruptive innovation and the rise of an informal tourism accommodation sector. *Current Issues in Tourism*(ahead-of-print), 1-26.

Hamari, J., Sjöklint, M., & Ukkonen, A. (2015). The sharing economy: Why people participate in collaborative consumption. *Journal of the Association for Information Science and Technology*, ahead-of-print. doi:10.1002/asi.23552

Huston, C. (2015, August 13). *As Airbnb grows, hotel prices expected to drop MarketWatch*. Retrieved September 2, 2015, from Marketwatch: http://www.marketwatch.com/story/as-airbnb-grows-hotel-prices-expected-to-drop-2015-08-13

Ikkala, T., & Lampinen, A. (2014). Defining the price of hospitality: networked hospitality exchange via Airbnb. *Proceedings of the companion publication of the 17th ACM conference on Computer supported cooperative work & social computin* (pp. 173-176). Baltimore: ACM.

Ikkala, T., & Lampinen, A. (2015). Monetizing Network Hospitality: Hospitality and Sociability in the Context of Airbnb. *Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work & Social Computing* (pp. 1033-1044). Vancouver: ACM.

Kagermeier, A., Köller, J., & Stors, N. (2015). Airbnb als Share Economy-Herausforderung für Berlin und die Reaktionen der Hotelbranche. *Studien zur Freizeit- und Tourismusforschung, 11 (ahead of print)*.

Kaplan, R. A., & Nadler, M. L. (2015). Airbnb: A Case Study in Occupancy Regulation and Taxation. *The University of Chicago Law Review Dialogue*(82), 103-115.

Kohda, Y., & Masuda, K. (2013). *How do Sharing Service Providers Create Value?* Retrieved August 24, 2015, from Service and Knowledge Innovation Center (SAKI Center): http://saki.siit.tu.ac.th/acis2013/uploads_final/20__2d8e033c4413c7764bc013ce1b32dd0d/acis2013-sharing-service-value%20revisions.pdf

Kraniotis, L. (2016, February 15). *Amsterdam gaat illegale Airbnb's aanpakken met 'big data'*. Retrieved April 6, 2016, from NOS: http://nos.nl/artikel/2087106-amsterdam-gaat-illegale-airbnb-s-aanpakken-met-big-data.html

Kurtz, M. (2014). *In Focus: Airbnb's Inroads into the Hotel Industry.* Houston: HVS.

Lehr, D. D. (2015). *An Analysis of the Changing Competitive Landscape in the Hotel Industry Regarding Airbnb (Master Thesis).* San Rafael: Dominican University of California.

Les Echos (2015, August 9). *Airbnb dans le collimateur des palaces parisiens*. Retrieved August 12, 2015, from LesEchos.fr: http://www.lesechos.fr/09/08/2015/lesechos.fr/021252611336_airbnb-dans-le-collimateur-des-palaces-parisiens.htm

Liang, L. J. (2015). *Understanding Repurchase Intention of Airbnb Consumers: Perceived Authenticity, EWoM and Price Sensitivity (Master Thesis).* Guelph: University of Guelph.

McAfee, A., Brynjolfsson, E., Davenport, T. H., Patil, D. J., & Barton, D. (2012). Big data. The management revolution. *Harvard Business Review, 90*(10), 61-67.

McNamara, B. (2015). Airbnb: A Not-So-Safe Resting Place. *Colorado Technology Law Journal*, *13*(1), 149-169.

New York State Attorney General. (2014). *Airbnb in the City.* New York: Office of the New York State Attorney General Eric T. Schneiderman.

Newcomer, E. (2015, July 20). *Airbnb Overhauls Service for Business Travelers*. Retrieved April 9, 2016, from Bloomberg: http://www.bloomberg.com/news/articles/2015-07-20/airbnb-overhauls-service-for-business-travelers

Norton, S. (2015, February 10). *Starwood Hotels Using Big Data to Boost Revenue*. Retrieved April 6, 2016, from The Wall Street Journal: http://blogs.wsj.com/cio/2015/02/10/starwood-hotels-using-big-data-to-boost-revenue/

O'Neill, J., & Ouyang, Y. (2016). *From Air Mattresses to Unregulated Business: An Analysis of the Other Side of Airbnb.* University Park: The Pennsylvania State University.

Oskam, J., & Boswijk, A. (2016). Airbnb: the future of networked hospitality businesses. *Journal of Tourism Futures*, 22-42.

Oskam, J., & Zandberg, T. (2016). Who will sell your rooms? Hotel distribution scenarios. *Journal of Vacation Marketing*, ahead of print.

Realty Shares. (2016, February 9). *The Rise of the Professional Airbnb Investor*. Retrieved February 12, 2016, from Realty Shares Blog: https://www.realtyshares.com/blog/the-rise-of-the-professional-airbnb-investor/

Richard, B., & Cleveland, S. (2016). The future of hotel chains: Branded marketplaces driven by the sharing economy. *Journal of Vacation Marketing*, ahead of print.

Rochet, J.-C., & Tirole, J. (2004). Two-sided markets: an overview. *IDEI Working Paper, 258*. Toulouse: Institut d'Économie Industrielle.

Rochet, J.-C., & Tirole, J. (2006). Two-sided markets: A progress report. *The RAND journal of economics, 37*(3), 645-667.

Rothkopf, E. (2014, Spring). *CCTP-725: Remix and Dialogic Culture*. Retrieved August 24, 2015, from Transitioning to Post-Postmodernism: A Look at Twitter & Airbnb: https://blogs.commons.georgetown.edu/cctp-725-fall2014/2014/01/27/transitioning-to-post-postmodernism-a-look-at-twitter-airbnb/

Sabatini, J. (2015, May 14). *Airbnb rentals cut deep into SF housing stock, report says*. Retrieved October 19, 2015, from SF Examiner: http://archives.sfexaminer.com/sanfrancisco/sf-report-says-units-rented-for-short-term-reduce-long-term-housing/Content?oid=2929888

Slee, T. (2013). *Some Obvious Things About Internet Reputation Systems*. Retrieved October 6, 2015, from tomslee.net: http://tomslee.net/wordpress/wp-content/uploads/2013/09/2013-09-23_reputation_systems.pdf

Sottek, T. (2014, December 14). *Uber has an army of at least 161 lobbyists and they're crushing regulators*. Retrieved October 19, 2015, from The Verge: http://www.theverge.com/2014/12/14/7390395/uber-lobbying-steamroller

Stors, N., & Kagermeier, A. (2015). Motives for Using Airbnb in Metropolitan Tourism—Why do People Sleep in the Bed of a Stranger? *Regions Magazine, 299*(1), 17-19.

Takhur, S. (2015, September 24). *Airbnb Shows Its Hand. What Next?* Retrieved September 30, 2015, from Hospitalitynet: http://www.hospitalitynet.org/news/4071878.html

Turnbull, D., & Heinz, M. (2015). *Hospitality Analytics: How Data Can Make Hotels Smarter*. New York: Skift and Snapshot.

Vekshin, A. (2015, October 23). *Airbnb's $8 Million Plus Fight Over Proposed Rules in San Francisco*. Retrieved October 23, 2015, from Skift: http://skift.com/2015/10/23/airbnbs-8-million-plus-fight-over-proposed-rules-in-san-francisco/

Ward, J. (2016, April 5). *U.K. Ponders Big Data to Measure the Economy of Uber and Airbnb*. Retrieved April 6, 2016, from Bloomberg: http://www.bloomberg.com/news/articles/2016-04-05/u-k-ponders-big-data-to-measure-the-economy-of-uber-and-airbnb

Winkler, R., & MacMillian, D. (2015, June 17). *The Secret Math of Airbnb's $24 Billion Valuation*. Retrieved April 6, 2016, from The Wall Street Journal: http://www.wsj.com/articles/the-secret-math-of-airbnbs-24-billion-valuation-1434568517

Xiang, Z., Schwartz, Z., Gerdes, J. H., & Uysal, M. (2015). What can big data and text analytics tell us about hotel guest experience and satisfaction? *International Journal of Hospitality Management*, *44*, 120-130.

Yannopoulou, N., Moufahim, M., & Bian, X. (2013). User-Generated Brands and Social Media: Couchsurfing and AirBnb. *Contemporary Management Research*, *9*(1).

Zervas, G., Proserpio, D., & Byers, J. (2014). *The rise of the sharing economy: Estimating the impact of Airbnb on the hotel industry*. Boston: Boston U. School of Management Research Paper.

Zervas, G., Proserpio, D., & Byers, J. W. (2015, January 28). *A First Look at Online Reputation on Airbnb, Where Every Stay is Above Average*. Retrieved August 24, 2015, from Collaborative Economy: http://collaborativeeconomy.com/wp/wp-content/uploads/2015/04/Byers-D.-Proserpio-D.-Zervas-G.2015.A-First-Look-at-Online-Reputation-on-Airbnb-Where-Every-Stay-is-Above-Average.Boston-University.pdf