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Impacts of Peer-to-Peer Accommodation Use on Travel Patterns

Iis P. Tussyadiah¹ and Juho Pesonen²

Abstract

As a result of the phenomenal growth of the sharing economy in the travel industry, investigating its potential impacts on travelers and tourism destinations is of paramount importance. The goal of this study was to identify how the use of peer-to-peer accommodation leads to changes in travelers' behavior. Based on two online surveys targeting travelers from the United States and Finland, it was identified that the social and economic appeals of peer-to-peer accommodation significantly affect expansion in destination selection, increase in travel frequency, length of stay, and range of activities participated in tourism destinations. Travelers' desires for more meaningful social interactions with locals and unique experiences in authentic settings drive them to travel more often, stay longer, and participate in more activities. Also, the reduction in accommodation cost allows travelers to consider and select destinations, trips, and tourism activities that are otherwise cost-prohibitive. Implications for tourism planning and management are provided.

Keywords

collaborative consumption, peer-to-peer accommodation, sharing economy, travel pattern, travel behavior

Introduction

The sharing economy has emerged as a new socioeconomic system that allows for shared creation, production, distribution, and consumption of goods and resources among individuals. Facilitated by online social network platforms, people easily share access to resources sitting idle, such as transportation (i.e., ride shares), accommodation (i.e., short-term rentals), food (i.e., peer-to-peer dining), and skills (i.e., task shares), with one another. The sharing economy has entered the travel and hospitality industry, giving ways to successful startup businesses offering peer-to-peer accommodation and peer-to-peer transportation, such as Airbnb, 9Flats, Uber, and Lyft (Ferenstein 2014). These new startup companies are starting to grow at a phenomenal rate and change the travel industry. For example, for the full year of 2014 alone, Airbnb served 18 million guests (100% growth compared to the previous year), 75 million room nights, and \$5.5 billion in bookings (Melloy 2015), indicating the disruptive force of the sharing economy. At this rate, according to World Travel Market (WTM) London (2014), alternative accommodation and peer-to-peer sharing will continue to dominate the global travel trend in 2015.

In addition to the advancement of technology, the emergence of sharing economy is believed to be driven by economic and societal pressures (Botsman and Rogers 2010; Owyang 2013). Literature suggests that because of the economic recession, people are more mindful about their spending and continuously try to be more resourceful

(Botsman and Rogers 2010; Gansky 2010). The practice of collaborative consumption (Belk 2014), which implies various forms of resource redistribution among individuals, is viewed as an alternative consumption mode that offers value with less cost (Botsman and Rogers 2010; Gansky 2010; Lamberton and Rose 2012; Sacks 2011). In the context of travel, travelers use peer-to-peer accommodation rentals as a low-cost alternative to hotels. Indeed, according to Quinby and Gasdia (2014), better value for money was stated as one of the top reasons for travelers to use peer-to-peer accommodation along with more space. Likewise, Balck and Cracau (2015) suggest that cost reduction was stated as the main reason for consumers to choose peer-to-peer accommodation instead of hotels. Additionally, the sharing economy is also driven by people's desire for a stronger community (Botsman and Rogers 2010). Participating in collaborative consumption allows people to create and maintain social connections. That is, by using peer-to-peer accommodation, travelers are able to have direct interactions

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with hosts (i.e., local residents) and to connect with local communities (Guttentag 2013). Therefore, peer-to-peer accommodation appeals to travelers socially as it provides an opportunity to have unique local experiences.

The exponential growth of peer-to-peer accommodation calls for further investigation to assess the potential impacts of this business model on the accommodation sector, the travel industry in general, as well as tourism destinations. While peer-to-peer accommodation has been shown to positively impact local hosts (in income generation), local neighborhoods, and tourism destinations (in tourism spending), it is also believed to generate induced travels and create changes in travel patterns and behaviors (e.g., see Airbnb 2015b). That is, the advantages of using peer-to-peer accommodation stimulate more people to travel, increase travel frequency, and increase length of stay at the destinations. Consequently, these might lead to further rounds of economic, social, and environmental impacts (e.g., more spending, overcrowding, frictions with local residents, etc.), prompting the need for policy development and regulation. Additionally, the continued growth of peer-to-peer accommodation affects the competitive landscape in the accommodation sector, with budget hotels directly competing for similar market segments (Economist 2014; Zervas, Proserpio, and Byers 2014). Hence, in order to estimate the broader impacts of peer-to-peer accommodation on tourism destinations and the travel industry, it is important to assess how the use of peer-to-peer accommodation affects travel patterns among tourists. To that end, the goal of this research is to assess the influences of the use of peer-to-peer accommodation on travel patterns, which include destination choice set, travel frequency, length of stay, and activity participation. To accommodate the global phenomenon of peer-to-peer accommodation, this study was designed to capture responses from adult travelers residing in the United States and Finland. The contrast between the United States and Finland in terms of market penetration (i.e., Airbnb was introduced to the U.S. market first and European market later) and market sizes (i.e., U.S. population is 318.9 million, Finland is 5.4 million) for peer-to-peer accommodation provides opportunities to assess the potential impacts of peer-to-peer accommodation on travel patterns that apply in different contexts.

Collaborative Consumption

Collaborative consumption can be traced back to the well-established form of resource exchanges in our socioeconomic system. Leismann, Schmitt, Rohn and Baedeker (2013) refer to the terms “new utilization concept” and “product-service systems” (e.g., Baines et al. 2007; Tukker 2004; Varian 2000) emphasizing “using rather than owning” model as alternative modes of consumption. These concepts highlight the shift toward resource-saving consumption culture (Leismann et al. 2013), where consumers put less value on ownership in favor of renting, bartering, and exchange. Indeed, Chen (2009) suggests that

ownership is no longer considered the ultimate expression of consumer desire, especially in experience consumption contexts such as appreciation for art. Hence, as suggested by Bardhi and Eckhardt (2012), consumers who could not afford to own or choose not to own due to space or environmental concerns are acquiring access to products and services and, in cases of market-mediated access, willing to pay a price for gaining that access. They refer to it as access-based consumption, emphasizing that the market-mediated transaction does not come with a transfer of ownership (Bardhi and Eckhardt 2012). The alternative mode of consumption is believed to provide an answer to economic challenges for natural resource conservation and efficiency (Leismann et al. 2013).

In order to formally define today’s sharing economy practices, Belk (2014) challenges an early definition of collaborative consumption suggested by Felson and Speath (1978) that focused on joint activities involving consumption (e.g., drinking beer with friends, a group of people watching a sports game together), but not necessarily captured the sharing aspects of the consumption (i.e., distribution of resources to others for their use). He further asserts that a too broad definition of sharing (e.g., sharing, bartering, lending, trading, gifting, swapping, etc.) does not characterize the new collaborative consumption practices either. Collaborative consumption, he suggests, involves “people coordinating the acquisition and distribution of a resource for a fee or other compensation” (p. 1579). This definition highlights the importance of market mediation (i.e., systems of exchange) and the power of social network effects (i.e., peer-to-peer sharing enabled by social technologies) that allow this type of consumption to grow in scale (Cusumano 2015). This translates well with Airbnb’s practices in creating a seamless platform connecting supply and demand in hospitality (Conley 2015; Zervas, Proserpio, and Byers 2015). Hence, while Airbnb and similar networked hospitality exchange systems can be considered collaborative consumption, couchsurfing and other free, non-compensated peer-to-peer hosting models are excluded from this definition.

As an alternative mode of accommodation, peer-to-peer accommodation rentals have the potential to induce changes in travel behavior. Indeed, Airbnb (2015a) reported significant differences in length of stay and local spending between Airbnb travelers and those staying at conventional commercial accommodation. This is likely due to the benefits of peer-to-peer accommodation offering lower cost compared to hotels (Balck and Craacu 2015; Botsman and Rogers 2010; Gansky 2010; Guttentag 2013; Lamberton and Rose 2012; Owyang 2013; Sacks 2011) and opportunities to meet people (Kohda and Matsuda 2013) and connect with local communities (Botsman and Rogers 2010; Gansky 2010; Guttentag 2013). Furthermore, most of Airbnb listings are located outside the central hotel districts and, thus, providing access to what MacCannell (1973) refers to as “back regions,” offering tourists with intimacy of relationships and unique experiences in authentic settings (Guttentag 2013). Airbnb (2015a) also reported that many of the hosts use the rental income to pay their mortgage (i.e., to

stay in their current property) and regular living expenses. As a result, peer-to-peer accommodation systems contribute to the local economy and generate income that is crucial to local residents (Geron 2012).

While collaborative consumption has been suggested as a more sustainable model of economic organization against the backdrop of energy crises, environmental degradation, and economic recession (Botsman and Rogers 2010), the business model comes with considerable complexity that potentially leads to negative impacts for the society at large. For example, Zervas, Proserpio, and Byers (2014) suggest that the rise of peer-to-peer accommodation presents challenges to existing business models as well as the social fabric that makes up the communities. They estimated that the increase in Airbnb listing causes a decrease in quarterly hotel revenues in the state of Texas, mainly with budget hotels being affected. Further, they also assert that the sharing economy might contribute to nonparticipant externalities, where local residents subjected to noise, cleanliness, and public safety issues resulting from the rise in short-term rentals in their neighborhoods. Therefore, peer-to-peer accommodation practices may contribute negatively to the sense of community (Zervas, Proserpio, and Byers 2014). Furthermore, the sharing economy continues to evolve in legal grey areas, where laws concerning zoning, taxes, insurance, health and public safety, and employment that regulate commercial hotels are not fully considered as barriers in peer-to-peer sharing systems. A better understanding of the potential impacts of peer-to-peer accommodation on traveler behavior will provide relevant supports to “level the playing field” (Cusumano 2015) for accommodation businesses and to assess further impacts on the travel industry and tourism destinations.

Trends and Changes in Travel Patterns

Collaborative consumption is the latest addition to numerous developments and trends in the marketplace that have substantially transformed traveler behavior and disrupted the industry dynamics. For example, the Internet changed the landscape of travel distribution (Barnett and Standing 2001; Novak and Schwabe 2009; Tse 2003) by causing changes in the strategic practices among different players in the travel distribution channels (Bitner and Booms 1982; Connolly, Olsen, and Moore 1998; Law, Leung, and Wong 2004; Werthner and Klein 1999). The internet also directly affected traveler behavior, including the ways travelers search for information and make purchase decisions. Further, facilitated by the emergence of social media, the proliferation of user-generated information containing personal tourism experiences affected travelers’ choice of information sources during trip planning processes as well as the evaluation and sharing of experiences after the trip (Ayeh, Au, and Law 2013; Parra-López et al. 2011; Xiang and Gretzel 2010).

The boom of low-cost carriers as a result of the liberation of air transport regulations was another development that transformed traveler behavior and caused changes in the travel industry. Low-cost carriers provide almost the same

services (about 80% of service quality) with drastically reduced cost (about 50% of cost) (Franke 2004), thanks to their operational efficiency achieved through a lean business model (i.e., low cost structure with point-to-point network and no frills services) and supported by internet technology (i.e., online booking and e-ticketing). The reduction in transportation cost stimulates travelers who would not have otherwise traveled to fly, resulting in an increase in passenger traffic (Bennett and Craun 1993; Windle and Dresner 1995). Rebollo and Baidal (2007) stated that low-cost carriers contributed positively to the growth of international passengers to Spain, with a growth rate of 15.2% from 2001 to 2005. Additionally, as low-cost carriers often open new routes and use secondary airports, they induce more travel to destinations formerly not included in travelers’ consideration set. However, studies also show that lower transportation cost and access to more destinations encouraged travelers to take multiple short vacations, the behavior associated with a progressive decline in the overall length of stay at tourism destinations (Mason and Alamdari 2007).

Similarly, the introduction of collaborative consumption in the travel and hospitality industry has the potential to induce changes in travel patterns. The reduction in accommodation cost, which leads to reduction in the overall trip cost, may yield similar impacts as those of low-cost carriers. These may include induced travels (i.e., those who would not have traveled otherwise), increase in travel frequency, and longer stay. Indeed, previous studies suggest that accommodation types typically associated with lower cost, such as villas and apartments (Alegre and Pou 2007), and campsites and rented homes (Martínez-García and Raya 2008), lead to longer stays and eventually to the range of activities they participate in the destinations. Further, the experiential appeal of peer-to-peer accommodation (i.e., access to experiences in local neighborhoods not typically exposed to tourists) opens up opportunities for travelers to consider many more destinations to travel to. The following subsections are dedicated to explore the potential impacts of peer-to-peer accommodation on travelers’ destination choice set, travel frequency, length of stay, and activity participation.

Destination Choice Set

Destination selection is an important issue in tourism, and destination choice set is a central component of destination selection models (Crompton 1992; Sirakaya and Woodside 2005; Um and Crompton 1990). The concept of destination choice set suggests that potential travelers develop an early consideration set of possible destinations, reduce the number of destinations to form late consideration set, and make a final decision (Crompton 1992; Crompton and Ankomah 1993). In making destination selection, Crompton and Ankomah (1993) further argue that travelers evaluate alternatives in the early consideration set based on the relative merits of the destination attributes and later use the constraints of each destination alternative to evaluate those in the late consideration set. According to Mansfeld (1992),

while passing through these stages, potential travelers are influenced by both the utilitarian (i.e., functional, such as cost) and emotional (e.g., family and friends) elements. Indeed, Nicolau (2011a) argues that price is one of the most influential factors for consumers to make travel-related decisions, including destination selection. However, he further asserts that in a hedonic consumption context such as tourism, high prices do not always act against demand (Nicolau 2011a, 2011b). He found that tourists motivated by cultural interests are less reluctant to pay more than expected for the enjoyment of the cultural traits of destinations (Nicolau 2011a).

According to literature (e.g., Botsman and Rogers 2010; Gansky 2010; Guttentag 2013; Kohda and Matsuda 2013), the advantages of peer-to-peer accommodation include low cost and social experiences. These appeals can support certain destinations to be included in travelers' early and late consideration sets and, finally, selected. That is, the reduction in accommodation cost (i.e., low price) as well as the opportunity to experience and interact with local communities in neighborhoods outside of the typical tourism settings (i.e., sociocultural attractions) will add to the attributes of destinations for positive evaluation in the early consideration set. Further, the use of peer-to-peer accommodation has the potential to enable destinations in the late consideration set that are otherwise cost-prohibitive (i.e., price as a constraint) to be selected. Therefore, it can be argued that the use of peer-to-peer accommodation expand travelers' choice set to include destinations otherwise not considered possible. The following hypothesis is suggested:

Hypothesis 1: The economic (1a) and social appeals (1b) of peer-to-peer accommodation affect changes in destination choice set.

Travel Frequency

Travel frequency (i.e., the number of trips individuals take in a period of time) is a critical factor to predict tourism demand (Alegre and Pou 2006; Alegre, Mateo, and Pou 2009). At a macro level, travel frequency represents the number of trips generated from areas of origin to destinations, which is strategically associated with the management with regards to flow of people (i.e., volume) and spending (i.e., value). According to Eugenio-Martin's (2003) five-stage process of tourism decision, decisions on travel frequency and length of stay are made after individuals have made decisions on travel participation (i.e., whether or not to travel) and budget constraint (i.e., how much to spend for travel). Hence, the availability and size of tourism budget determine how many trips to take in a period of time and how long to stay during each trip. Following the model, given predisposed travel budget, the reduction in the trip cost (e.g., due to lower prices) may generate a larger trip frequency. More specifically, the decisions on travel frequency and length of stay depend on the combination of fixed cost (e.g., for transportation) and variable cost (e.g., for accommodation and activities) that make up the total trip cost. When

combined with high fixed cost (e.g., transportation cost for international tourism), lower accommodation cost may result in longer stay, but less frequent, trips. However, lower accommodation cost also leads to a reduction in the total trip cost (i.e., makes travel more affordable), allowing the travelers' budget to accommodate more trips. Therefore, it can be suggested that the low prices of peer-to-peer accommodation induce more travel.

An introduction of new tourism attractions and facilities typically alerts potential tourists to their existence and, eventually, generates visitation to the destinations. Previous studies have emphasized this in the contexts of tourism resort development (Prideaux 2000), the opening of new tourism routes for rural development (Briedenhann and Wickens 2004), the sacralization of local heritage sites into cultural theme parks (Teo and Yeoh 1997), and the development of what Sharpley (1994) referred to as the selling of local places to tourists. Considerably, as tourists are searching for new, authentic experiences in areas of cultural riches (Briedenhann and Wickens 2004), alternative attractions and activities have great potentials to generate visitation. Comparably, as the use of peer-to-peer accommodation opens pathways to unique experiences with local social landscapes, a certain extent of novelty, which is a basic motive for leisure travel (Bello and Etzel 1985), is attached to collaborative consumption experiences. Additionally, staying in "common places" outside of the designated hotel areas may appeal to tourists who seek variety in their experiences. Therefore, it can be argued that the social appeal of collaborative consumption has the potential to attract interests, induce more travels, and lead to an increase in travel frequency. The following hypothesis is suggested:

Hypothesis 2: The economic (2a) and social appeals (2b) of peer-to-peer accommodation affect changes in travel frequency.

Length of Stay

Length of stay is an important tourism indicator as a result of its strategic policy and business implications for tourism destinations and the travel industry. Length of stay represents the "quantity" of vacation "purchased" by travelers as it has direct implications to tourist spending and, consequently, income generated for tourism destinations. The impacts of accommodation types on length of stay have been suggested in previous research (Alegre and Pou 2007; Barros, Butler, and Correia 2009; Gokovali, Bahar, and Kozak 2006; Martínez-García and Raya 2008; Nicolau and Más 2009; Woodside and Dubelaar 2002). Studying length of stay among golf tourists, Barros, Butler, and Correia (2009) found that the types of hotel affect tourists' length of stay. Consistent with Alegre and Pou (2007) as well as Woodside and Dubelaar (2002), Martínez-García and Raya (2008) showed that nonhotel accommodation such as campsites, bed and breakfasts, apartments, and rented homes lead to longer stays. They further argued that this effect is associated with the accommodation prices; travelers who stay at

accommodation with lower prices stay significantly longer than those staying at hotels. Likewise, Nicolau and Más (2009) identified that travelers staying at rented apartments or chalets (i.e., with lower price per day compared to hotels) tend to stay longer in the destination. Staying in peer-to-peer accommodation benefits travelers economically from reduction in accommodation cost (Botsman and Rogers 2010; Guttentag 2013). Therefore, consistent with the findings from previous research regarding the positive effects of low-cost accommodation on length of stay, it can be suggested that the use of peer-to-peer accommodation leads to longer stay. Indeed, Airbnb (2015a) suggests that Airbnb guests stay longer than hotel guests in San Francisco (5.5 nights and 3.5 nights on average, respectively), New York (6.4 nights and 3.9 nights, respectively), and Berlin (6.3 nights and 2.3 nights, respectively).

Furthermore, length of stay is also associated with meaningful social interactions between tourists and local residents. Previous studies show the relationship between length of stay and the intensity of tourist–host social interactions (e.g., Gomes de Menezes, Moniz, and Cabral Vieira 2008; Seaton and Palmer 1997). For example, travelers visiting friends and relatives tend to stay longer in order to optimize their social “contact” (Gomes de Menezes, Moniz, and Cabral Vieira 2008; Yang, Wong, and Zhang 2011). Studying social interactions among backpackers, Murphy (2001) suggests that choosing backpacking as a means of traveling is linked to its social aspects (e.g., opportunities to meet people, to obtain “real” experiences) as well as the extension of trip length. Su and Wall (2010) suggest that travelers interact with local residents in order to understand local culture and local life, acquire more local knowledge, and make friends. Staying at peer-to-peer accommodation implies sharing personal experiences with local residents who often possess rich knowledge of local environments and attractions and have the experience and ability to deal with local issues. Eventually, Su and Wall (2010) found that guest–host interactions affect length of stay. Therefore, it can be suggested that the experiential and social appeal of peer-to-peer accommodation will lead to travelers staying longer at the destinations to create and maintain social connections with local communities. Therefore, the following hypothesis is suggested:

Hypothesis 3: Economic (3a) and social appeals (3b) of peer-to-peer accommodation affect changes in length of stay.

Activity Participation

The economic and social appeals of peer-to-peer accommodation potentially affect the range of activities that tourists partake at destinations, ranging from dining out at restaurants and bars to visiting museums, etc. Activity participation is often associated with the level of tourist expenditures during the trip (e.g., Kastenholz, Davis, and Paul 1999; Loker and Perdue 1992; Masiero and Nicolau 2012; McKercher et al. 2002; Nicolau and Masiero 2013;

Perales 2002). Indeed, Masiero and Nicolau (2012) suggest that while travelers obtain pleasure from leisure activities at the destinations, they balance this pleasure with the amount of money they need to spend for participating in these activities. That is, price is considered a dissuasive factor in the choice of activities, even though its effects vary among travelers (Masiero and Nicolau 2012; Nicolau and Masiero 2013). Therefore, it can be suggested that the reduction in accommodation cost due to the use of peer-to-peer accommodation rentals allows for the distribution of predisposed expenditures for other trip components, including on-site activities.

Nicolau (2011b) further suggest the monetary and nonmonetary efforts that travelers make in order to participate in certain activities at the destination. He identified significant relationships between accommodation types and these efforts. While travelers staying at hotels make higher monetary efforts (i.e., pay higher prices), travelers staying at alternative accommodation make bigger nonmonetary efforts (e.g., traveling further distances), driven by their interest in taking part in specific activities at a destination (e.g., visiting family and friends). In the context of peer-to-peer accommodation use, staying with locals in nontouristic areas offers new types of activities, potentially leading to the attainment of niche tourism experiences, which, according to Robinson and Novelli (2005), include tourism activities in an authentic setting. Indeed, according to Airbnb (2015a), besides wanting to live like locals, 80% of guests visiting Paris, 85% of guests visiting London and Edinburgh, as well as 96% of guests visiting Barcelona were motivated to explore a specific neighborhood (outside of tourist areas), often characterized with unique attractions and activities. Also, about 98% of Airbnb hosts in Sydney reportedly suggest local restaurants, cafes, bars, and shops in their local neighborhoods to their guests, helping them discover less-visited locales in tourism destinations. Therefore, peer-to-peer accommodation is suggested to grow and diversify tourism activities, appealing to tourists seeking for authentic and personal experiences (Airbnb 2015a). The following hypothesis is suggested:

Hypothesis 4: Economic (4a) and social appeals (4b) of peer-to-peer accommodation affect changes in range of tourism activities.

Peer-to-Peer Accommodation Use

While the practices of peer-to-peer sharing and renting are not new (Belk 2014), present-day peer-to-peer accommodation business models entered the market with the introduction of Airbnb in 2008. Peer-to-peer accommodation services are introduced as innovative business models offering alternative solutions to travelers wanting experiences unique to the standard hotel services and, hence, are novel to most. However, the rapid growth of the business model (i.e., in number of listings, number of guests served, and revenues generated) indicates that the rate of adoption of this alternative accommodation among travelers is relatively

high. Indeed, according to PricewaterhouseCooper (2015), 44% of American adults are familiar with the sharing economy. However, Travel Weekly (2014) also shows that only about 8% of adults in North America (and 11% in Europe) have rented peer-to-peer accommodation as of the first quarter of 2014. Therefore, it is expected that there are varying levels of use experience among peer-to-peer accommodation users, including those who were new to the services and those who are more experienced users.

The difference in the levels of use may cast a direct influence on behavioral changes among travelers. That is, the impacts of peer-to-peer accommodation on the behavior of travelers who used it once are expected to be different from those who have used it multiple times. With a higher level of use of peer-to-peer accommodation (i.e., implying that users become more experienced), travelers may recognize higher cost-savings or heightened experiences and broadened social connections, which, in turn, will influence their travel behavior more. Therefore, it is suggested that the use levels of peer-to-peer accommodation among travelers contribute positively to the expansion in destination choice sets (hypothesis 1c), increase in travel frequency (hypothesis 2c), increase in length of stay (hypothesis 3c), and increase in activity participation (hypothesis 4c).

Traveler Characteristics

Collaborative consumption is associated with the sociodemographic characteristics of its users. For example, studies suggest that the sharing economy appeals to younger demographics. Based on a national survey in the United States, Olson (2013) reported that 32% of Gen Xers and 24% of Millennials find collaborative consumption “very appealing,” in contrast to only 15% of Baby Boomers (65% of both Gen Xers and Millennials find collaborative consumption appealing, while 53% of Boomers do). A study in San Francisco and Oakland, United States, also confirms that younger respondents (25–30 years of age) are more open to a peer-to-peer car sharing program (Ballús-Armet et al. 2014). Likewise, based on a study in Berlin and Trier, Germany, it was found that younger respondents are more willing to participate in ride sharing, peer-to-peer accommodation, peer guided tours, etc. (Stors and Kagermeier 2015). This is due to the tendency that younger consumers, who were born in the era of social technology and are accustomed to online sharing behavior, can easily translate their online sharing behavior offline (Gaskins 2010; John 2013). Further, Olson (2013) also demonstrates that consumers with higher income levels are more likely to participate in collaborative consumption, which is the contrary to the view that the sharing economy appeals primarily to low-budget consumers. This is consistent with the findings from Mander (2014) that 60% of respondents in the top 25% of income reported willing to rent rooms from Airbnb, compared to about 47% of those in the bottom 25% of income among internet users. PricewaterhouseCooper (2015) found respondents with annual household income between \$50,000 and \$75,000 (the U.S. national average is

\$51,939) are most excited to use services such as Airbnb and Uber. Finally, Mander (2014) also found that the proportion of male and female respondents who reported interest in renting from Airbnb-style platforms is comparable (51% male, 47% female). Therefore, in analyzing the impacts of peer-to-peer accommodation use, it is important to consider travelers’ demographic characteristics as predictors of changes in their travel patterns.

Indeed, previous studies suggest that destination selection is influenced by personal characteristics of the travelers (Lang, O’Leary, and Morrison 1997; Moscardo et al. 1996; Um and Crompton 1990) in addition to trip characteristics, destination-related attributes, and marketing variables. That is, sociodemographic characteristics (i.e., age, income, education, etc.) count for the individual differences in the ways travelers evaluate alternatives and make destination selection. For example, Guillet et al. (2011) found that travelers’ age is a significant predictor of destination choice among Hong Kong residents. Studying destination choice among American college students, McIntosh and Goeldner (1990) linked destination choice with income, suggesting that students travel to nearby destinations due to income restrictions. Lang, O’Leary, and Morrison (1997) identified the influences of income and education levels on destination choice of Taiwanese tourists, differentiating between within-Asia and out-of-Asia destination choice groups. However, the effects of age and gender were not found in their study. Most recently, Park, Nicolau, and Fesenmaier (2013) identified significant influences of age and income on decisions to visit a destination. Previous studies also found that cultural contexts (i.e., nationalities) influence tourist behavior (e.g., Pizam and Jeong 1996; Pizam and Reichel 1996; Pizam and Sussman 1995), including destination choice.

Travel frequency is also linked to the sociodemographic characteristics of tourists in previous studies. For example, Woodside, Cook, and Mindak (1987) identified that the heavy traveler segment (i.e., those who travel very frequently) in the United States can be distinguished from less frequent travelers by their socioeconomic characteristics. Also, Pearce and Lee (2005) identified that travelers with high and low travel experience differ from each other regarding sociodemographic characteristics such as gender, education, age, and nationality. Littrell, Paige, and Song (2004) found that senior tourists travel more frequently, taking an average of 4.8 trips annually. Tsiotsou (2006) identified income to play an important role in predicting ski resort customers’ behavior and especially visit frequency.

Literature also shows that the demographic characteristics of travelers influence length of stay, including nationality, age, income, and education (Alegre and Pou 2007; Becken and Gnoth 2004; Martínez-García and Raya 2008). Fleischer and Pizam (2002) found that level of income and age significantly influence length of stay. Alegre and Pou (2007), on the other hand, did not find age to be a relevant factor but identified that nationality matters. Gokovali, Bahar, and Kozak (2007) found the positive effects of nationality and level of income on length of stay, as well as the negative effect of level of education. However, they also did not find

age as a relevant factor. Finally, Martínez-García and Raya (2008) identified nationality, age, and level of education as relevant explanatory factors of length of stay, with older travelers and those with lower levels of education showing a tendency to stay longer.

Finally, sociodemographic characteristics of tourists have been identified as factors affecting their participation in activities while visiting a destination. While previous studies segmenting tourists based on their activity preferences argued that demographic characteristics are not the most accurate predictors of activity participation (e.g., McKercher and du Cros 2003; Perales 2002; Prentice, Witt, and Hamer 1998), researchers found age (e.g., McKercher et al. 2002; Kastenholz, Davis, and Paul 1999), income (e.g., Kastenholz, Davis, and Paul 1999), education (e.g., McKercher et al. 2002), and tourist origins (e.g., McKercher et al. 2002) as significant factors that distinguish activity-based tourist segments. Although Perales (2002) did not identify education and income to be significant in distinguishing between modern and traditional rural tourists to Spain, McKercher et al. (2002) found education to be significant among culture tourists to Hong Kong. Also, Kastenholz, Davis, and Paul (1999) showed that there are differences in terms of expenditure per person per day, which is associated with purchasing power, as well as the nationalities among different rural tourist segments to Portugal. Finally, McKercher et al. (2002) identified that different tourist origins led to different culture tourism segments to Hong Kong: Western tourists are likely to engage in activities that include general cultural attractions, as well as exploration of Colonial and Sino-Colonial heritage, while Asian tourists are likely to be incidental culture tourists engaging in exploration of iconic Chinese heritage. Based on these findings from previous research, this study proposes the variables of gender, age, education, income, and nationality as predictors of expansion in destination choice sets (*hypotheses 1d-h*), increase in travel frequency (*hypotheses 2d-h*), increase in length of stay (*hypotheses 3d-h*), and increase in activity participation (*hypotheses 4d-h*) among travelers due to the use of peer-to-peer accommodation.

Methodology

This study was designed to identify if peer-to-peer accommodation affects changes in traveler behavior. More specifically, the study seeks to verify and test the impacts of economic and social appeals of peer-to-peer accommodation use on the expansion of destination choice sets (*hypothesis 1*), travel frequency (*hypothesis 2*), length of stay (*hypothesis 3*), and activity participation (*hypothesis 4*) among users residing in the United States and Finland. To achieve the objectives of the study, a questionnaire was designed to capture respondents' behavior with regard to the use of peer-to-peer accommodation. First, respondents were given an explanation of peer-to-peer accommodation following the definition of collaborative consumption from Belk (2014): "Peer-to-peer accommodation rentals are accommodation

services where you pay a fee to stay at someone's property (such as *Airbnb*), but excluding free accommodation services (such as *Couchsurfing*)." The first part of the questionnaire captures the patterns of peer-to-peer accommodation use, including levels of use (i.e., how many times travelers have used peer-to-peer accommodation before) and reasons for using peer-to-peer accommodation. To measure the latter, various motivations for collaborative consumption derived from relevant literature (see Botsman and Rogers 2010; Gansky 2010; Guttentag 2013; Kohda and Matsuda 2013; Owyang 2013) were summarized into 12 statements representing the appeals (i.e., advantages) of using peer-to-peer accommodation. As this study is partly exploratory in nature, bipolar scale was used to examine both negative and positive aspects of the statements (Dolnicar 2013). The statements were presented as a five-point Likert-type scale (strongly disagree, disagree, neither agree nor disagree, agree, strongly agree) (see Appendix). An exploratory factor analysis was performed to identify the underlying factors that explain these motivations, resulted in two factors: economic and social appeals. In the second part of the questionnaire, respondents were asked to rate their agreement on the statements representing how peer-to-peer accommodation has influenced their travel (i.e., in a five-point Likert-type response format: strongly disagree, disagree, neither agree nor disagree, agree, strongly agree). The statements include impacts of peer-to-peer accommodation on expansion in destinations they consider visiting, increase in travel frequency, increase in length of stay, and increase in activities participated at a destination. The last part of the questionnaire captures sociodemographic characteristics of travelers, including gender, age, education, and income levels. Respondents' origins (i.e., United States and Finland) were used as a dummy variable representing nationality. It is acknowledged that nationality can cause cross-cultural differences in survey response patterns (Dolnicar and Grün 2007), but these limitations are addressed in data analysis by examining nationality separately as a dummy variable.

In order to ensure readability and to test for face validity, two experts in tourism and eight 3rd and fourth-year undergraduate students enrolled in a hospitality management program read and tested the English version of the questionnaire. To gather responses from Finnish travelers, two bilingual tourism experts translated the questionnaire into Finnish language. First, the experts translated the questionnaire from English to Finnish independently. Then, the translated questionnaires were compared and once an agreement was achieved, the Finnish questionnaire was translated back into English to ensure that the meanings of the questionnaire stayed the same through the translation process. The questionnaire was distributed through Amazon Mechanical Turk (mturk.com) to target adults residing in the United States in August 2014 and sent to the M3 Online Panel (m3research.com) members in Finland in December 2014. The data collection efforts resulted in 799 responses from the United States (155 of them have used peer-to-peer accommodation before) and 1,246 responses from Finland (295 of them were users). To analyze the impacts of peer-to-peer accommodation on travel patterns, only

responses from those who have used peer-to-peer accommodation were included in this study (a total of 450 respondents).

Table 1. Characteristics of Respondents (*N* = 450).

Characteristics		United States (<i>n</i> = 155)		Finland (<i>n</i> = 295)		Total (<i>N</i> = 450)	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Gender							
(0)	Male	90	60.8	171	58.9	261	59.6
(1)	Female	58	39.2	119	41.0	177	40.4
Age							
(1)	24 years or younger	25	16.9	40	13.8	65	14.8
(2)	25–34 years	86	58.1	76	26.2	162	37.0
(3)	35–44 years	23	15.5	60	20.7	83	18.9
(4)	45–54 years	12	8.1	37	12.7	49	11.2
(5)	55–64 years	2	1.3	19	6.5	21	4.8
(6)	65 years or older	0	0	58	20.0	58	13.2
Education							
(1)	Less than high school	1	0.1	71	25.1	72	16.7
(2)	High school	14	9.4	49	17.3	63	14.6
(3)	Post–high school education	45	30.4	37	13.1	82	19.0
(4)	Bachelor’s degree	56	37.8	76	26.8	132	30.6
(5)	Master’s degree	28	18.9	45	15.9	73	16.9
(6)	Doctoral degree	4	2.7	5	1.8	9	2.1
Income							
(1)	Under \$20,000 (Under €15,000)	16	10.8	24	8.7	40	9.4
(2)	\$20,000–\$39,999 (€15,000–€29,999)	68	45.9	63	22.9	131	31.0
(3)	\$40,000–\$59,999 (€30,000–€44,999)	45	30.4	60	21.8	105	24.8
(4)	\$60,000–\$79,999 (€45,000–€59,999)	19	12.8	43	15.6	62	14.6
(5)	\$80,000–\$99,999 (€60,000–€74,999)	0	0	34	12.4	34	8.0
(6)	\$100,000–\$119,999 (€75,000–€89,999)	0	0	17	8.2	17	4.0
(7)	\$120,000 or more (€90,000 or more)	0	0	34	12.4	34	8.0
Peer-to-peer accommodation use							
(1)	Once	52	35.1	78	28.9	130	31.1
(2)	2–5 times	87	58.8	85	31.5	172	41.1
(3)	More than 5 times	9	.1	107	39.6	116	27.8

The characteristics of respondents are presented in Table 1. Respondents from both countries are predominantly male (60%). While American respondents are mostly younger (i.e., with an overrepresentation of respondents between the ages of 25 and 34 years [58%] and underrepresentation of older respondents), the ages of Finnish respondents are more evenly distributed with more representation from senior travelers (20% of them were 65 years or older), which is reasonable for age distribution of the population in Finland. The majority of

respondents receive post–high school education (i.e., some college experiences in the United States and vocational/university experiences in Finland). While the majority of respondents earn less than US\$60,000 in the United States (88%) and less than €45,000 in Finland (66%), around 20% of Finnish respondents are in higher income levels, earning more than €60,000 annually.

In order to test the hypotheses, ordinal regressions with polytomous universal model (PLUM) procedure were identified for four dependent (outcome) variables:

expansion in destination selection, increase in travel frequency, increase in length of stay, and increase in activities participated. Each dependent variable was estimated by the factors of gender, age, levels of education, levels of income, and nationality as well as covariates representing social and economic appeals of peer-to-peer accommodation. The regression analyses were performed using IBM SPSS Statistics 19 software.

Table 2. Peer-to-Peer Accommodation Use ($N = 450$).

Factors	Factor Loading		Cumulative Cronbach's Alpha	
	g	Eigenvalue	Percent	Alpha
Social Appeal (SA)		3.97	49.62%	.86
... I would like to get to know people from the local neighborhoods.	.86			
... I would like to have a more meaningful interaction with the hosts.	.82			
... I would like to get insiders' tips on local attractions.	.75			
... I would like to support the local residents.	.74			
... it was a more sustainable business model.	.73			
Economic Appeal (EA)		1.53	68.85%	.82
... it saved me money.	.89			
... it helped me lower my travel cost.	.89			
... I would like to have higher quality accommodation with less money.	.72			

Results and Discussion

An exploratory factor analysis (i.e., principal components analysis with varimax rotation) was utilized to explore the reasons for travelers to use peer-to-peer accommodation. The analysis revealed two factors that drive the use of peer-to-peer accommodation among respondents: Social Appeal and

Economic Appeal (see Table 2). The two factors explain 68.85% of the total variance. The Kaiser–Meyer–Olkin measure of sample adequacy (.83) and Bartlett's test of sphericity ($\chi^2 = 1554.10$, $df = 28$, significance = .00) indicated that factor analysis is appropriate for this data. The Cronbach's alpha of .70 or more supports the reliability of both scales (i.e., Social Appeal $\alpha = .86$; Economic Appeal $\alpha = .82$). The two factors suggest that the use of peer-to-peer accommodation among respondents was driven by (1) the social motivation to get to know, interact, and connect with local communities in a more meaningful way; to experience tourism destinations as a local; and to contribute to local residents, as well as (2) the motivation to get quality accommodation with lower cost. These factors are consistent with suggestions from literature regarding the societal drivers and the low-budget appeal of collaborative consumption (Botsman and Rogers 2010; Gansky 2010; Guttentag 2013; Lamberton and Rose 2012; Owyang 2013; Sacks 2011). In order to identify significant differences between respondents from the United States and Finland in terms of peer-to-peer accommodation use and travel behavior variables, independent-samples t -tests were conducted. A significant difference in means was found in terms of economic appeal of peer-to-peer accommodation ($t = 7.04$, significance = .00), with American travelers rated significantly higher (mean = 4.24, SD = .58) on economic appeal compared to their Finnish counterparts (mean = 3.71, SD = .82). No significant difference was found in the social appeal factor.

The correlation matrix between dependent and independent variables used in this study is presented in Table 3. Among the independent variables, strong correlation was observed between social appeal and economic appeal of peer-to-peer accommodation ($r = .428$, $p < .001$) as well as between nationality and age ($r = -.498$, $p < .001$). However, the correlation coefficients were below the cutoff point of .80 to indicate concerns for multicollinearity in the subsequent regression analyses. No other strong correlations were observed among predictor variables.

Expansion in Destination Selection

The majority of respondents agreed that peer-to-peer accommodation expands their selection on places to visit, with 45.5% respondents selecting "agree" and 21.7% "strongly agree" to the statement. Significant differences were found between U.S. and Finnish respondents ($\chi^2 = 50.84$, $df = 4$, $p < .001$), with U.S. respondents showing a larger proportion in agreement. Gender difference was also significant ($\chi^2 = 15.17$, $df = 4$, $p < .005$), with female respondents more in agreement. No significant differences were identified among respondents in terms of their age, levels of education, income, and use of peer-to-peer accommodation. The results from ordinal logit regression revealed significant chi-square statistic ($\chi^2 = 193.99$, $df = 22$, $p < .001$), and the final model shows a significant improvement over the baseline model, suggesting a good model fit with the data. The Nagelkerke pseudo- $R^2 = .413$

suggests that predictor variables explain a significant proportion (41.3%) of the variation between perceived expansion in destination consideration set. To demonstrate the relationship between the dependent and independent variables, parameter estimates are presented in Table 4a.

The results show that the economic appeal of peer-to-peer accommodation use significantly contributes to the expansion of destinations to select from, the odds of respondents selecting higher agreement rating increased by 4.96 (95% confidence interval [CI], 3.56 to 6.92) for every unit increase in economic appeal (Wald $\chi^2 = 89.60$, $df = 1$, $p < .001$), indicating significant effects. This suggests that the lower accommodation cost allow travelers to expand destination selection as more become more affordable. The social appeal of peer-to-peer accommodation also contributes to the expansion of destination selection. The odds that respondents would select higher agreement ratings on expansion of destination selection were 1.48 times (95% CI, 1.14 to 1.92) higher for every unit increase in social appeal (Wald $\chi^2 = 8.61$, $df = 1$, $p < .005$). This indicates that the desire for social connection allows travelers to consider more destinations in their choice set. In terms of demographic characteristics, respondents in the age group of 55–64 years had 3.45 times (95% CI, 1.18 to 10.09) higher odds compared to the reference age group of 65 plus to select higher agreement ratings (Wald $\chi^2 = 89.60$, $df = 1$, $p < .001$). Finally, in terms of levels of education, the odds of respondents with some college experience perceiving that peer-to-peer accommodation expands their selection of

destinations to visit were 3.84 times higher (95% CI, 1.08 to 13.60) than the reference group of those with doctoral degrees (Wald $\chi^2 = 89.60$, $df = 1$, $p < .001$). No other relationship is significant in the regression model.

Increase in Travel Frequency

A bigger proportion of respondents agreed that peer-to-peer accommodation increases the frequency of their travel (compared to those who disagreed), with 30% respondents selecting “agree” and 11% “strongly agree” to the statement. Significant differences were found between U.S. and Finnish respondents ($\chi^2 = 14.32$, $df = 4$, $p < .01$), with a greater proportion among U.S. respondents leaning toward agreement. No significant differences were found among respondents in terms of their gender, age, levels of education, income, and use of peer-to-peer accommodation. The results from ordinal logistic regression revealed a significant chi-square statistic ($\chi^2 = 165.41$, $df = 22$, $p < .001$), suggesting that the final model shows a significant improvement over the baseline model, which indicates a good model fit with the data. The Nagelkerke pseudo- $R^2 = .358$ suggests that predictor variables explain a significant proportion (35.8%) of the variation between perceived increase in travel frequency. To demonstrate the relationship between the dependent and independent variables, parameter estimates are presented in Table 4b.

Table 3. Correlation Matrix.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Dependent variables													
Expand Choice Set (1)	1												
Increase Travel Frequency (2)	.426**	1											
Longer Stay (3)	.303**	.589**	1										
More Activities (4)	.413**	.509**	.553**	1									
Independent variables													
Social Appeal (SA) (5)	.375**	.514**	.334**	.493**	1								
Economic Appeal (EA) (6)	.558**	.335**	.275**	.401**	.428**	1							
Gender (7)	.165**	n.s.	n.s.	n.s.	n.s.	.195**	1						
Age (8)	n.s.	n.s.	n.s.	n.s.	n.s.	-.125**	.077**	1					
Education (9)	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	.107**	1				
Income (10)	n.s.	n.s.	n.s.	n.s.	n.s.	.124*	-.092**	n.s.	.230**	1			
Nationality (11)	.178**	n.s.	n.s.	.101*	.101*	.323**	-.094**	-.498**	n.s.	.234**	1		
P2P Use: Once (12)	n.s.	-.139**	n.s.	n.s.	-.164**	n.s.	n.s.	-.103**	n.s.	n.s.	n.s.	1	
P2P Use: 2–5 times (13)	n.s.	n.a.	n.s.	.099*	n.s.	n.s.	n.s.	-.050**	.095**	.086**	.073**	-.079**	1
P2P Use: More than 5 times (14)	n.s.	n.s.	.118*	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	-.157**	-.064**	-.075**

Note: Significant at ** $p < .01$ level, * $p < .05$ level; n.s. = not significant.

Table 4. Ordinal Regression Models: Destination Selection and Travel Frequency.

Variables	a. Expansion of Destination Selection					b. Increase in Travel Frequency				
	B	SE	Wald (df)	Sig.	Exp(B)	B	SE	Wald (df)	Sig.	Exp(B)
SA	0.39	0.13	8.61 (1)	0.00	1.48	1.30	0.14	86.02 (1)	0.00	3.67
EA	1.60	0.17	89.60 (1)	0.00	4.96	0.35	0.15	5.89 (1)	0.02	1.42
[Gen=0]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Gen=1]	0	.	.	.	1	0	.	.	.	1
[Age=1]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Age=2]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Age=3]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Age=4]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Age=5]	1.24	0.55	5.11 (1)	0.02	3.45	n.s.	n.s.	n.s.	n.s.	n.s.
[Age=6]	0	.	.	.	1	0	.	.	.	1
[Edu=1]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Edu=2]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Edu=3]	1.35	0.65	4.35 (1)	0.04	3.84	n.s.	n.s.	n.s.	n.s.	n.s.
[Edu=4]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Edu=5]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Edu=6]	0	–	–	–	1	0	–	–	–	1
[Inc=1]	n.s.	n.s.	n.s.	n.s.	n.s.	1.16	0.49	5.68 (1)	0.02	3.19
[Inc=2]	n.s.	n.s.	n.s.	n.s.	n.s.	1.00	0.42	5.79 (1)	0.02	2.72
[Inc=3]	n.s.	n.s.	n.s.	n.s.	n.s.	0.87	0.41	4.43 (1)	0.04	2.38
[Inc=4]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Inc=5]	n.s.	n.s.	n.s.	n.s.	n.s.	1.20	0.49	5.96 (1)	0.02	3.33
[Inc=6]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Inc=7]	0	–	–	–	1	0	–	–	–	1
[Nat=0]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Nat=1]	0	–	–	–	1	0	–	–	–	1
[Use=1]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Use=2]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Use=3]	0	–	–	–	1	0	–	–	–	1

Note: Sig. = significance; EA = economic appeal; SA = social appeal; Gen = gender; Edu = education; Inc = income; Nat = nationality; Use = frequency of use; n.s. = not significant.

Compared to the regression on choice set expansion, an increase in travel frequency can be attributed mainly to the social appeal of using peer-to-peer accommodation. The odds of selecting higher agreement on the increase in respondents’ travel frequency was 3.67 times (95% CI, 2.78 to 4.82) higher for every unit increase in social appeal (Wald $\chi^2 = 8.61$, $df = 1$, $p < .005$). That is, travelers’ desire to connect and develop meaningful relationships with local communities drives travelers to take more trips. The appeal of staying with locals in common places opens new experience opportunities for travelers, stimulates interests, and hence, generates more travels. While smaller compared to the social appeal, the economic appeal of peer-to-peer accommodation use also significantly contributes to the increase in travel frequency. The odds of respondents strongly agreeing on increase in travel frequency were 1.42 times (95% CI, 1.07 to 1.89) higher for every unit increase in economic appeal (Wald $\chi^2 = 5.89$, $df = 1$, $p < .05$). The ability to reduce trip expenditure (i.e., as a result of the cost savings from accommodation) allows travelers to stretch their travel budget to include more trips.

Importantly, the levels of income contributes to the change in travel frequency with respondents in lower income levels showing high odd ratios of agreeing to the statement that they travel more often because of the availability of peer-to-peer accommodation. Specifically, the odds of respondents with an annual income less than \$20,000 agreeing to increase in travel frequency were 3.18 times (95% CI, 1.23 to 8.26) higher than the reference group with an annual income of \$120,000 or more (Wald $\chi^2 = 5.67$, $df = 1$, $p < .05$). The odds ratios gradually decreased as the annual income increased, which can mean that travelers in the higher income brackets are less sensitive to the reduction in trip costs that would allow them to take multiple trips. However, the income group of \$80,000–\$99,999 had an odds ratio 3.33 times (95% CI, 1.27 to 8.75) higher than the reference high-income group (Wald $\chi^2 = 5.96$, $df = 1$, $p < .05$).

Increase in Length of Stay

About 29% respondents agreed that peer-to-peer accommodation increases the length of stay at the destination and 12% strongly agreed to the statement. A significant

percentage of respondents (38%), however, stated that they neither agreed nor disagreed to the statement. Significant differences were found between U.S. and Finnish respondents ($\chi^2 = 14.24, df = 4, p < .01$), with proportionally higher tendency toward agreement among U.S. respondents. No significant differences were identified among respondents in terms of their gender, age, education, income, and use of peer-to-peer accommodation. The results from ordinal logistic regression revealed significant chi-square statistic ($\chi^2 = 87.65, df = 22, p < .001$). The final model shows

a significant improvement over the baseline model, suggesting a good model fit with the data. The Nagelkerke pseudo- $R^2 = .208$ suggests that predictor variables explain a proportion (20.8%) of the variation between perceived increase in length of stay, which is lower than the two previous models. To demonstrate the relationship between the dependent and independent variables, parameter estimates are presented in Table 5a.

Table 5. Ordinal Regression Models: Length of Stay and Activity Participation.

Variables	a. Increase in Length of Stay					b. Increase in Activity Participation				
	B	SE	Wald (df)	Sig.	Exp(B)	B	SE	Wald (df)	Sig.	Exp(B)
SA	0.66	0.13	26.44 (1)	0.00	1.93	1.12	0.14	64.83 (1)	0.00	3.06
EA	0.61	0.15	17.48 (1)	0.00	1.85	0.83	0.15	29.66 (1)	0.00	2.30
[Gen=0]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Gen=1]	0	–	–	–	1	0	–	–	–	1
[Age=1]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Age=2]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Age=3]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Age=4]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Age=5]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Age=6]	0	–	–	–	1	0	–	–	–	1
[Edu=1]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Edu=2]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Edu=3]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Edu=4]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Edu=5]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Edu=6]	0	–	–	–	1	0	–	–	–	1
[Inc=1]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Inc=2]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Inc=3]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Inc=4]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Inc=5]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Inc=6]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Inc=7]	0	–	–	–	1	0	–	–	–	1
[Nat=0]	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
[Nat=1]	0	–	–	–	1	0	–	–	–	1
[Use=1]	n.s.	n.s.	n.s.	n.s.	n.s.	1.12	0.14	64.83 (1)	0.00	3.06
[Use=2]	n.s.	n.s.	n.s.	n.s.	n.s.	0.83	0.15	29.66 (0)	0.00	2.30
[Use=3]	0	–	–	–	1	n.s.	n.s.	n.s.	n.s.	n.s.

Note: Sig. = significance; EA = economic appeal; SA = social appeal; Gen = gender; Edu = education; Inc = income; Nat = nationality; Use = frequency of use; n.s. = not significant.

The effects of both social and economic appeals of using peer-to-peer accommodation on the increase in length of stay are proportional; both appeals contribute almost equally to travelers staying longer in the destinations. The odds of respondents strongly agreeing on the increase in length of stay were 1.85 times (95% CI, 1.38 to 2.46) higher for every unit increase in economic appeal (Wald $\chi^2 = 17.48, df = 1, p < .001$) and 1.93 times (95% CI, 1.50 to 2.48) for one unit increase in social appeal of peer-to-peer accommodation (Wald $\chi^2 = 26.44, df = 1, p < .001$). The cost-savings from staying at peer-to-peer accommodation allow travelers to

stretch the trip budget to accommodate longer stays. Additionally, the unique local experiences in atypical tourist neighborhoods drive tourists to explore the destinations more by staying longer. No other variables were found to have significant effects on the dependent variables.

Increase in Activity Participation

Slightly more than 40% of the respondents agreed that peer-to-peer accommodation increased the range of activities they participate at the destination, while 13% stated they strongly

agree with the statement. Significant differences were found between U.S. and Finnish respondents ($\chi^2 = 14.41$, $df = 4$, $p < .01$), with a proportionally higher tendency toward agreement among U.S. respondents. No significant differences were found among respondents in terms of their gender, age, levels of education, income, and use of peer-to-peer accommodation. The results from ordinal logit regression revealed significant chi-square statistic ($\chi^2 = 158.43$, $df = 22$, $p < .001$); the final model shows a significant improvement over the baseline model, suggesting a good model fit with the data. The Nagelkerke pseudo- $R^2 = .350$ suggests that predictor variables explain a proportion (35%) of the variation between perceived increase in length of stay, which is comparable to the effects in the first two models. To demonstrate the relationship between the dependent and independent variables, parameter estimates are presented in Table 5b.

Similar to the regression model on the increase of travel frequency, the increase in the range of activities participated in the destinations was caused mainly by the social appeal and slightly lesser by the economic appeal of using peer-to-peer accommodation. The odds of selecting higher agreement on the increase in the range of activities participated at a destination is 3.06 times (95% CI, 2.33 to 4.01) higher for every unit increase in social appeal (Wald $\chi^2 = 64.83$, $df = 1$, $p < .001$). The social interactions with local hosts as well as the authenticity of experiences outside of touristic places allow tourists to engage in an array of activities typically accessible only to locals. Insider tips and local recommendation may direct tourists to visit local restaurants, cafes, and bars as well as engage in local events and festivities. Additionally, the odds of respondents strongly agreeing on the increase in length of stay were 2.30 times (95% CI, 1.70 to 3.10) higher for every unit increase in economic appeal (Wald $\chi^2 = 29.66$, $df = 1$, $p < .001$). That is, the cost savings from staying at peer-to-peer accommodation allow travelers to afford more activities in their travel budget. Interestingly, the more respondents use peer-to-peer accommodation, the less likely they are to perceive an increase in activity participation. Travelers who used peer-to-peer accommodation once have the highest odds of strongly agreeing to the increase in activity participation with 3.06 times (Wald $\chi^2 = 64.83$, $df = 1$, $p < .001$). This may be due to the diminishing value of the novelty and uniqueness of the sharing economy as users become more familiar with the service and exposed to varying experiences.

Based on the four regression models, it can be suggested that, with varying degrees, peer-to-peer accommodation affects changes in travel patterns of their guests. The motivations of using peer-to-peer accommodation to save cost lead travelers to consider more destinations in their choice set (i.e., as destinations become more affordable), allow them to stay longer, and participate in more activities. To a smaller extent, the economic appeal of peer-to-peer accommodation also influences travelers to take more trips as reflected in the increase of travel frequency. The social appeal of peer-to-peer accommodation contributes significantly to the increase in travel frequency and range of activities participated in the destinations. This signifies the suggestion that the experience of

staying with locals in an authentic setting induces more travels, especially among those seeking for new, unique, and authentic travel experiences. The availability of peer-to-peer accommodation in common places (i.e., in neighborhoods outside of tourist areas) also offers unique settings for a variety of tourism activities to take place. This confirms the potentials of collaborative consumption to generate diversified tourism services and experiences that, eventually, support local businesses and create vibrant local communities. Finally, the social appeal of peer-to-peer accommodation affects length of stay at the destination, confirming findings from Airbnb (2015a, 2015b), as well as the number of destinations considered in travelers' choice set, with more destinations becoming more attractive as a result of their social experiences. Therefore, all hypotheses pertaining the effects of peer-to-peer accommodation use on changes in travel patterns are supported.

The demographic characteristics of travelers were not found to be significant predictors of changes in travel patterns, except for the effects of age and education on expansion of destination choice set and the effects of income on increase of travel frequency. Consistent with previous studies suggesting moving away from using demographic variables in tourism segmentation (e.g., McKercher and du Cros 2003; Perales 2002; Prentice, Witt, and Hamer 1998), this result suggests that demographic variables may not be accurate to predict traveler behavior as a result of collaborative consumption trend in the marketplace. Therefore, other variables that explain personal characteristics from cognitive, psychographic perspectives, such as values, lifestyle, and attitudes, may better explain their behavior with regards to the use of peer-to-peer consumption in the travel context.

Conclusion and Implications

Because of the explosive growth of tourism and hospitality businesses adopting the sharing economy model, assessing the impacts of collaborative consumption models will provide relevant bases for the travel and hospitality industry as well as tourism destinations to respond to the growing trend with relevant management decisions and policies. The results of this study show that the use of peer-to-peer accommodation stimulates changes in travel patterns. First of all, travelers use peer-to-peer accommodation largely because of two factors: cost savings (i.e., economic appeal) and desire for social relationships with local community (i.e., social appeal). Verified by the regression models in this study, these factors are significant predictors of changes in travel patterns, stimulating expansion in destination choice set, increase in travel frequency, length of stay, and range of activities participated in the destinations. It is also suggested that demographic characteristics are not accurate to predict changes in travel behavior in the context of sharing economy, indicating that future studies should capture other personal and behavioral characteristics to explain these behaviors.

First, the use of peer-to-peer accommodation leads to an increase in the number of destinations in the choice set (i.e., expands travelers' selections of places they could go to). Specifically, the economic appeal of peer-to-peer

accommodation contributes significantly to more destinations being considered in the choice set, while social appeal contributes in a smaller degree. Following the concept of destination choice set (Crompton 1992; Crompton and Ankamah 1993; Mansfeld 1992), it can be interpreted from the results that the social and economic appeals of peer-to-peer accommodation add to the overall merit of destinations to be included in the consideration set. Additionally, the reduction in accommodation cost leads to elimination of price constraints in some destinations, which results in more destinations being considered by travelers. However, it is not just the reduction of prices that is changing the travel behavior as low-cost accommodation has been available in majority of destinations even before collaborative consumption technology in the form of budget hotels and hostels. Peer-to-peer accommodation platform such as Airbnb is able to match a variety of different accommodation services with customers that really value them by not only providing tourists with budget options but efficiently matching tourists with accommodation that best satisfies their various needs (Zervas, Proserpio, and Byers 2015). It is noted as a limitation that this study does not differentiate between early and late consideration sets. Therefore, in order to further elaborate the dynamics of destination selection involving peer-to-peer accommodation, future studies should address this issue.

The expansion of destination choice set as a result of peer-to-peer accommodation use causes important implications to tourism destinations. For less-developed tourism destinations having limited accommodation facilities and capacity, the availability of peer-to-peer accommodation may support and strengthen their chance to attract potential travelers. The impacts of collaborative consumption are likely similar to those from opening new routes and hubs (i.e., exposure of alternative destinations) in the case of low-cost carriers. As long as carrying capacity is not a concern, these destinations might benefit from collaborative consumption in terms of attracting more visitors. On the other hand, for well-established destinations that are characterized with higher prices (i.e., price is a constraint), induced travels due to lower accommodation cost will likely result in spillover activities to neighborhoods that are not zoned for tourism (e.g., residential areas). While the spillover tourism activities may contribute economically to local businesses, they may generate social issues, such as health and public safety, likely from nonparticipant externalities (Zervas, Proserpio, and Byers 2014). Future studies should address this issue to explain further rounds of impacts of peer-to-peer accommodation.

Second, the use of peer-to-peer accommodation also affects travel frequency (i.e., allows travelers to take more trips). The social appeal of collaborative consumption contributes significantly to the increase in travel frequency, confirming that perceived new ways of traveling (i.e., staying with locals) stimulate more travels. Moreover, the cost savings from this alternative accommodation, which results in reduction of the total trip cost, makes taking more trips more affordable. In other words, referring to Eugenio-Martin's (2003) decision model, travelers could fit more trips

into their budget constraint. The increase in travel frequency (i.e., in volume) can be considered beneficial for tourism destinations because it potentially leads to more tourism spending (i.e., value). However, the main concerns associated with travel frequency increase are the environmental impacts of the induced travels. While the general practice of collaborative consumption is viewed as a greener, more sustainable consumption alternative that promotes efficient use of resources (Leismann et al. 2013), induced travels resulting from peer-to-peer accommodation may cause more environmental pressures and lead to resource exploitation and overcrowding in the destinations. As tourism destinations may anticipate that an increase in rental listings may generate more visitors, it is important to have a set of regulations to ensure that the induced travels are within the carrying capacity of the destination.

Third, the use of peer-to-peer accommodation leads to longer stay. Staying at peer-to-peer accommodation implies intense interactions between guests and local hosts. Because local hosts have rich information regarding cultural traditions and local environments, having access to this knowledge will enable travelers to explore and stay longer in the destinations. This confirms Su and Wall's (2010) findings regarding the effects of host-guest interactions on length of stay, with social appeal of peer-to-peer accommodation identified as significant in the regression models in this study. The increase in length of stay is also influenced by the reduction in accommodation cost, with travelers being able to spread their trip budget to include more days. An increase in length of stay, combined with more meaningful interactions with local hosts (i.e., more than just brief exposure and superficial image), is often associated with a deeper understanding and result in travelers developing a strong emotional attachment to the destinations. That is, the more travelers feel they are integrated with the local community, the more they will develop favorable attitude toward the community and the destination (Pizam, Uriely, and Reichel 2000; Su and Wall 2010). This will eventually lead to satisfaction, positive evaluation, and return intention (Pizam, Uriely, and Reichel 2000). Longer stay often translates into more spending, which is beneficial for local businesses and the destination. However, the potential negative consequences of travelers staying longer include conflicts due to travelers' use of resources and facilities developed to accommodate residents, crowding, and other nonparticipant externalities mentioned before. Eventually, it is important for destination managers and policy makers to ensure that collaborative consumption practices are not threatening the social fabric of the local communities.

Finally, the use of peer-to-peer accommodation causes travelers to participate in more activities while experiencing tourism destinations. Both economic and social appeals of peer-to-peer accommodation lead to travelers participating in more activities, with social appeal contributing in a higher degree. The savings from lower accommodation cost can be distributed to other activities, leading to increased intensity and variety in activity participation. Additionally, interactions with hosts and local community, where travelers engage in casual conversations and various activities

involving locals, can be considered new and unique destination experiences. Therefore, the unique experiences offered by staying at peer-to-peer accommodation diversify tourism products and encourage niche tourism experiences. Eventually, this will enrich destination attributes and add to the competitiveness of destinations.

In summary, this study contributes to the better understanding of the potential impacts of collaborative consumption model in tourism by assessing how the different motivations of using peer-to-peer accommodation affect changes in travel patterns. The results of this study confirm that the new trend has the potential to transform traveler behavior, impacting the hospitality sector and tourism destinations. This study provides support for better tourism planning and management to anticipate further impacts of this alternative accommodation. This study has several limitations. First, this study does not consider the temporal dimension of traveler behavior to assess if the impacts of peer-to-peer accommodation use on travel behavior are immediate (i.e., short-term) or prolonged. Therefore, in order to differentiate between short-term and lasting impacts of collaborative consumption, future studies should take the temporal dimension of consumption and travel behavior into consideration (e.g., time period, distance between first use, and time of analysis). Second, this study captured changes in travel behavior as perceived by the travelers (i.e., via self-reported agreement rating) but did not capture the actual behavior or the magnitude of these changes (e.g., increase in length of stay by how many days, how many more activities, etc.), as it would require a longitudinal study. Previous studies have challenged the accuracy of results from self-report measures in questionnaires due to memory errors (e.g., memory decay, lack of motivation to recall) and motivational biases from leniency and social desirability (e.g., Podsakoff et al. 2003; Tarrant et al. 1993). The latter can be influenced by the cultural backgrounds (e.g., Chen, Lee, and Stevenson 1995; Hui and Triandis 1989) and personal characteristics of respondents (e.g., Austin et al. 1998; Donaldson and Grant-Vallone 2002), albeit small and insignificant in some cases. However, despite these limitations, the use of self-report measures in behavioral research is favored for its persuasive advantages due to easy interpretability, information richness, and practicality, thus continuing to yield important, useful, and valid findings (e.g., Paulhus and Vazire 2007). In this study, these concerns were addressed in the design of the questionnaire by making its statements easy to comprehend (i.e., easing the cognitive task) and in the data processing through the detection and elimination of outliers from the analysis. While it was consistently shown that there are differences between U.S. and Finnish respondents in terms of their agreement with the dependent variables, the inclusion of nationality (a dummy variable) as a factor variable in the regression models also assists in capturing the potential cultural bias, which was found insignificant. In light of the limitations from the study method, future studies should capture actual travel behavior comparing between those staying at hotels and peer-to-peer accommodation to measure the actual impacts. Third, this study treats peer-to-peer accommodation as an accommodation category by

contrasting it from hotels, but does not narrow down the category to capture different types of peer-to-peer accommodation services. For example, Airbnb and 9flats allow hosts to offer three types of accommodation: entire house or apartment, private room (often with shared facilities), and shared room. The social and economic appeals may vary according to these accommodation types. Renting a shared room may yield more cost-savings and more intense social interactions with the hosts when compared to renting an entire house or apartment, even though travelers may still enjoy the same benefits of staying in a desired nontouristy neighborhoods and having authentic tourism experiences. Therefore, future studies should consider these different types of peer-to-peer accommodation to capture its impacts.

Appendix

Measurement Items

1. Peer-to-peer accommodation:

“Peer-to-peer accommodation rentals are accommodation services where you pay a fee to stay at someone’s property (such as *Airbnb*), but excluding free accommodation services (such as *Couchsurfing*).”

2. Reasons to use peer-to-peer accommodation:

“*I used peer-to-peer accommodation rentals because . . . I would like to get to know people from the local neighborhoods*” (SA).

“*. . . I would like to have a more meaningful interaction with the hosts*” (SA).

“*. . . I would like to get insider tips on local attractions*” (SA).

“*. . . I would like to support local residents*” (SA).

“*. . . it was a more sustainable business model*” (SA).

“*. . . it saved me money*” (EA).

“*. . . it helps lower my travel cost*” (EA).

“*. . . I would like to have higher quality accommodation with less money*” (EA).

“*. . . the location was convenient*” (did not converge).

“*. . . it saved me time to search for accommodation*” (did not converge).

“*. . . it was enjoyable to find the rental online*” (did not converge).

“*. . . I did not want to support hotel enterprises*” (did not converge).

3. Changes in Travel Patterns:

“*The availability of . . .*”

“*. . . peer-to-peer accommodation rentals expands your selection of places to go to.*”

“*. . . peer-to-peer accommodation rentals increases the frequency of your travel.*”

“... peer-to-peer accommodation rentals makes you take longer vacations.”

“... peer-to-peer accommodation rentals makes you do more activities while traveling.”

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