

The Sharing Economy and Sustainability: A Case for Airbnb

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ABSTRACT

This paper explores the sustainable initiatives within sharing economies, specifically that of Airbnb. Airbnb provides users the ability to list, find, and rent lodging from other individuals. A background on Airbnb and its commitment to sustainability is presented along with the major sustainability issues commonly found plaguing traditional accommodations. Accordingly, we propose that sharing economies, ones such as accommodations, are a more sustainable alternative to traditional travel lodging through the consumption of less energy and resources, the production of less waste, and the overall theme of sustainability that is portrayed through many hosts and users of the service. We conclude with a discussion of implications and avenues for future research.

Keywords: sharing economy, sustainability, sustainable tourism

Introduction

Sustainable tourism at its basic roots is the application of the concept of sustainable development to the tourism industry and tourism development (Weaver, 2006). A radical and ever expanding development within the sustainable tourism sector is the sharing economy (Geron, 2013). In what follows, we offer a thorough examination of the sharing economy in regard to sustainable tourism. As such, we first describe the origins of the sharing economy and discuss the specific context of Airbnb. In doing so, we pay particular attention to aspects of the sharing economy that are likely to enhance the sustainability of the system. Following our historical and contextual overview of the sharing economy, we offer a set of theoretically grounded propositions in favor of the sharing economy as a means to

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increase sustainability across a number of forefronts. We conclude with a general discussion of the sharing economy and its possible limitations in regard to sustainability.

Sustainability is a subset of sustainable development, and the goals of sustainable development focus on meeting the needs of the present generation without compromising the resources available to meet the needs of following generations (United Nations General Assembly, 1987). Sustainable tourism strives to focus on minimizing all negative implications of tourism while maximizing all positive implications of tourism to the greatest extent (Weaver, 2006). Sustainable tourism is a complex concept with many different interpretations (Tip, 2009). Another way sustainable tourism is defined is the triple bottom line of business principles (Tip, 2009). The triple bottom line is commonly referred to as People, Planet, and Profit (Weaver, 2006; Wilson & Post, 2013) or Economy, Social Equity, and Environment (United Nations General Assembly, 2005).

Furthermore, this triple bottom line is used to realize the environmental and social accountability of a business as well as the economic side of operations (Stoddard, Pollard, & Evans, 2012). The environmental dimension represents all aspects of our ecosystem in terms of environmental management and human consumption; the economic dimension represents increasing or sustaining economic growth without compromising the other two dimensions; and the societal dimension represents egalitarianism or broadly enhancing individuals' quality of life, poverty reduction, promoting peace and security and more (United Nations General Assembly, 2005). Businesses following and employing the triple bottom line philosophy want to create social value and good; in fact, the main goal of their operations is actually to enhance the social good around them both culturally and environmentally (Wilson & Post, 2013).

Through incorporating sustainability, tourism operators can greatly reduce their impact on the environment while making a greater contribution to their community and in turn incorporate more aspects of the triple bottom line into their operations (Dodds & Butler, 2010). Tourism accommodation providers can especially utilize methods across all dimensions of the triple bottom line to incorporate sustainability into most operational aspects (Prud'homme & Raymond, 2016). Bed and breakfast establishments, for example, can incorporate guest towel reuse programs to reduce freshwater consumption, benefit the local community by employing local staff and sourcing food locally, implement recycling in the guest rooms and common areas, and do much more to address all dimensions of the triple bottom line (van Haastert & de Grosbois, 2010).

There is a trend of sustainability growing throughout the tourism industry that is reshaping the industry as a whole (Tip, 2009) as opinions and desires of travelers become more environmentally and socially focused (Weaver, 2006). The "green" consumer, one with a focus on incorporating all dimensions of sustainability into their tourism experiences, is an entirely new market segment that industry players are beginning to capitalize on, rather it be for the positive reasons (i.e., encouraging the triple bottom line) or not (Weaver, 2006). The tourism industry is being

pushed toward a new era of sustainability because the viability of tourism destinations is beginning to deteriorate due to stress (Tip, 2009) in terms of overuse, a misalignment with the triple bottom line of sustainability, and so forth (Weaver, 2006). The ability to incorporate sustainability in tourism operations, especially in the accommodations sector is arguably infinite, but there are substantive barriers to implementation, especially in the case of bed and breakfast establishments, small inns, and hotels (van Haastert & de Grosbois, 2010), that create major issues within traditional accommodations (Weaver, 2006).

Common Sustainability Issues in Traditional Accommodations

With the growing desire for sustainability and sustainable tourism experiences in the tourism industry, it is no surprise that many types of traditional tourism accommodation providers are choosing to implement sustainable initiatives (Tip, 2009; Weaver, 2006). The problem is that traditional accommodations are generally unsustainable to begin with, and the entire accommodation sector is viewed as falling behind comparable industries in their conversion on sustainability (Melissen & Roevens, 2007). Even with the lower rate of incorporating sustainability when compared to other industries, the accommodation sector is beginning to realize that there are many situations dealing with the incorporation of sustainable initiatives that are necessary if they want to compete with the growing trend of environmentalism (Melissen & Roevens, 2007).

While many tourism accommodation providers are turning their focus to increasing the sustainability of their businesses, there are many issues with the implementation of such practices (Weaver, 2006). These issues include lack of knowledge of proper ways to implement sustainable tourism effectively, minimal effort to comply with sustainable initiatives (i.e., implementation of low cost, minor initiatives only such as recycling), inability to focus on the other sides of the triple bottom line because the financial side is weighing too heavily, and staff not complying with sustainable initiatives put into practice (van Haastert & de Grosbois, 2010; Weaver, 2006). Leonidou, Leonidou, Fotiadis, and Zeriti, (2013) found that great competitive advantage in terms of attracting and retaining guests can be achieved in the form of increasing financial and market performance when an environmental marketing strategy is utilized. Notably, advertising sustainable initiatives and unambiguously operating sustainably can influence and encourage guests to revisit accommodation establishments (Lee, Hsu, Han, & Kim, 2010; Manaktola & Jauhari, 2007).

The problem of “greenwashing,” or portraying false, incorrect, or vague information about an accommodation provider’s sustainable practices to the public (Rahman, Park, & Chi, 2015; Weaver, 2006), is also a growing problem that can lead to consumer mistrust and confusion within the traditional tourism accommodations sector (Rahman et al., 2015). The complexity of tourism and the tourism industry creates a dynamic struggle with the implementation of sustainability and effective sustainable initiatives that can only be realized and combatted through increased transparency and metrics for measuring the degree

of sustainability achieved in tourism businesses (Rahman et al., 2015; Weaver, 2006). Tourism accommodation providers must strive to give customers no doubt in the sustainable initiatives they are providing if they want high levels of guest satisfaction and a high rate of return guests (Rahman et al., 2015).

Even if “the hotel industry is in the midst of a sustainability awakening” (Prairie, 2012) and the growing rate of tourism accommodation providers are working toward increasing their sustainability, there is still a need for more providers that are operating sustainably (Jones, Hillier, & Comfort, 2014; Prarie, 2012) and especially ones that are effectively communicating efforts to customers with a keen focus on keeping them informed (Jones et al., 2014). Traditional accommodation providers have a great reach, which many are not realizing in the world of sustainability (Jones et al., 2014) where “smarter systems, smarter people, smarter designs and smarter businesses will prevail” (World Business Council for Sustainable Development, 2010, p. 5). A compelling example of a tourism accommodation provider with a smarter design and innovative business model that also portrays a dedication to sustainability is Airbnb, a relatively recent start-up founded in 2008, which gives users the ability to list, find, and rent lodging (Airbnb, 2017a).

Literature Review and Theory Development

The Evolution of the Sharing Economy

Airbnb, as well as Uber, Lyft, Zipcar, and countless other companies, is significantly involved in the accommodation sector (the tourism industry) and is part of the fastest growing segment of the economy called the sharing economy (Sundararajan, 2016). There is no one standard definition for the sharing economy (Sundararajan, 2016). In fact, the phenomenon of the sharing economy has several different names including the collaborative economy, collaborative consumption, the mesh, coproduction, and consumer participation (Belk, 2014). Also, there are various types of sharing—from pooling household resources to “borrowing” a paper from a stranger. Sharing can consist of gift giving to market exchanges as well (Belk, 2014).

Belk (2007) stated that sharing occurs when partners have resources the others desire and they are willing to share the object in return from their exchange partner. Sharing is most likely to occur between friends and family members, but it can also occur between strangers within an exchange network. What will likely differ in the exchange network will be the resources that are exchanged. We could expect that more valuable resources will be less likely to be a no-strings-attached type of sharing (Belk, 2014). From the standpoint of the sharing economy, there are drivers from both the demand and supply positions. On the supply side, individuals can rent out property or vehicles that would not be in use—eliminating inefficiency. On the demand side, the access to the sharing economy allows for people to gain access to resources for an amount that is far cheaper than if they had to use an existing provider or purchase the resources themselves (Davis, 2016).

What are some of the salient features of the sharing economy? According to Sundararajan (2016), there are five such features. The first aspect is that the sharing economy is one that is market driven—information technology has created new markets. Second, it usually involves “high-impact” capital such as cars, human capital, or property—placing this capital to higher degrees of full deployment. Third, sharing economics are based on networks of social exchange; usually the social networks produced by information technology that are now drawing consumers to different modes of production. This blurs the line between personal and purely professional. Fourth, taking someone home from the airport in your car or having someone at your home is a bit different than purely renting someone a company car. Finally, jobs could be supplemented with new ways of sharing, namely, that the networks may encourage exchanges between equal parties that goes beyond markets and hierarchies (Sundararajan, 2016). For example, two Airbnb providers can in essence “share” their houses when they are on vacation. They now have both a social and market relationship—different than sharing resources at work or buying resources from the market. Each of these factors is designed to produce a more receptive and dynamic version of the sharing economy (Botsman & Rodgers, 2010).

The sharing economy is a new development in the working of markets (Benkler, 2004). Coase (1937) proposed that there is an exchange mechanism is a marketplace. A marketplace is a simple place where buyers and sellers gather together to sell and buy various goods and services. An example of a market would be something like a farmer’s market whereby small farmers gather together. However, entrepreneurs often need to expand vertically because the use of the marketplace can be prohibitively expensive (Coase, 1937). Therefore, companies add activities into the company because the use of the market is more costly than integration. Williamson (1985) refers to this type of setup as one of hierarchies. Other scholars have used the term pipeline (Van Alostne, Parker, & Choudary, 2016). A type of pipeline from the hospitality standpoint would be the Hilton Corporation. To build a hotel, Hilton needs to purchase land, buy materials for construction, actually construct the hotel, hire staff, and purchase beds and other furniture.

Yet information technology allows for the development of new means of organization (Van Alostne et al., 2016). One way information technology allows for new ways to organize is called a platform. The Internet allows dispersed individuals to gather together so they can participate with low costs and less capital and also allows for universal access (Davis, 2016). An analogue to the online platform would be a farmer’s cooperative or some other sharing arrangement. The primary difference concerning the Internet is to merely increase the groups of people involved. One of the first Internet platforms which allowed for this type of local exchange was Craig’s List. One of the primary issues with Craig’s List was that there was little trust embedded in the exchange process (Sundararajan, 2016). However, a process could be implemented to improve trust. Namely, we have seen the development of various websites that create networks in which people can

exchange freely. In addition, the best platforms allow sellers to rate buyers, creating a two-way marketplace (Van Alstyne et al., 2016).

Companies transact attempts to eliminate opportunism—or pursuing self-interest through guile—through legal contracts and enforcement. The problem with this type of enforcement is with high legal costs due to the incomplete nature of contracts and cost of enforcement (Williamson, 1973). Although a large corporation such as Hilton should have little difficulty enforcing contracts due to the organization's legal power, a low level seller may have difficulty. They also protect themselves by allowing access through credit (Sundararajan, 2016).

There are two reinforcement mechanisms in sharing economy markets. The first mechanism is that the market is generally shared by like-minded people who are more likely to value positive community and civic outcomes—not exactly the same type of customer that would be selected by a company such as Hilton that deals with a broader market segment (Hamari, Sjöklint, & Ukkonen, 2016). Thus, this is a value-based argument that stipulates that some people will value and show more public spirit than others such that they will be less likely to behave in an opportunistic fashion. Moreover, this line of reasoning is backed by personal values research, which indicates that upon reaching adulthood people's values crystalize and become relatively fixed for life (Inglehart & Welzel, 2005). The other enforcement mechanism is through reputation since both parties rank themselves in a two-way market place (Sundararajan, 2016). That is, reputation is the mechanism through which the free market naturally disciplines devious parties and rewards cooperative parties (e.g., Axelrod, 1984; Fama, 1980). For example, in the case of the sharing economy where sustainability is valued, if a renting or host party were to consistently behave in a way that violated these values and they were to develop a poor reputation within the market, then eventually no one would cooperate with them and they would be effectively weeded from the market. Hence, the reinforcing mechanisms work together to not only attract a particular values-based demographic but also to expel the imposters.

Still others argue that the sharing economy is not based on sharing at all, but rather it is based on the use of information technology to take advantage of inefficiencies in the marketplace to compete on price. The use of information technology allows increased access to those who wish to rent their home, apartment, car, or other good. Without information technology, there would be little avenue for individuals to participate in the sharing economy. Therefore, Eckhardt and Bardhi (2015) suggest that the sharing economy is nothing more than a more efficient price system—no more and no less. They point out that users of Zipcar have little trust in either the people that rent cars or the company itself. In fact, they argue that what drives purchases will be price savvy. Nor does brand loyalty or appeal to community play any major role. What will drive individuals is price since individuals view access differently.

Eckhardt and Bardhi (2015) base their ideas on that notion that within a social exchange sharing is carried out between members of a family. Therefore, they argue that sharing is something done between individuals that have a closeness to

each other like friends or family. Yet such an attitude ignores the long role of sharing in driving the economy (Sundararajan, 2016). Social exchange does not need to be developed but can occur between strangers (Blau, 1964), and the use of resource networks could aid in them (Emerson, 1972). The idea of people purchasing their goods and services is a new idea that has only emerged within the last 200 or so years. Previously, the idea of sharing was common, and it was not until the later stages of the market revolution that such arrangements disappeared. The notion of a peer-to-peer economy has been ingrained in society for centuries. The difference now is the use of information technology, rather than the neighborhood, as the conduit of exchange (Sundararajan, 2016). For these reasons, we believe the sharing economy will persist as well as offer scholars and practitioners means to live more sustainably.

[Airbnb as a Sustainable Alternative to Traditional Accommodations](#)

Accommodation sharing in the context of the tourism industry is significantly less resource intensive than the traditional accommodation sector, creating positive impacts in terms of the environmental dimension of the triple bottom line (Zvolska, 2015). Zvolska (2015) also suggests that the local individuals or owners of the sharing economy infrastructure (homes, apartments, etc.) benefit financially, which impacts the social and economic dimensions of the triple bottom line positively. Furthermore, those who participate in the sharing economy often do so because they want to take care of the environment (Böcker & Meelen, 2016), and one can expect these individuals to be more environmentally conscientious in their actions.

Airbnb properties, specifically the “home-sharing” options, are marketed on the basis that they consume less energy and resources when compared to traditional accommodations (Airbnb, 2014). A study conducted by Cleantech Group (CTG), whose main goal is to assist clients in “accelerating sustainable innovation,” found that Airbnb “promotes a more efficient use of existing resources” and labeled them as “an environmentally sustainable way to travel” (CleantechOrg, 2015). CTG focuses on “corporate executives, innovation managers, venture capitalists, technologists, and businesses looking to source R&D, and drive rapid commercialization internally and externally” (CleantechOrg, 2015). The company’s study analyzed data collected from February to April of 2014, including more than 8,000 surveys collected from guests and hosts throughout the world, and the findings concluded that Airbnb’s sustainability occurs through more efficient resource use during tourism experiences (CleantechOrg, 2015). For example, Airbnb states that properties listed on Airbnb.com were found to consume 63% less energy than traditional hotel accommodations per guest night in North America overall and 78% less in Europe (Airbnb, 2014). From a water usage standpoint, Airbnb also notes that home-share properties listed on Airbnb.com were found to use 12% less water than traditional hotel accommodations per guest night in North America and 48% in Europe, and the waste avoidance achieved in North America compared to traditional hotel accommodations per guest night was up to 32% (Airbnb, 2014). Perhaps, less

energy is consumed and less waste created because properties are often shared with homeowners.

Additionally, Airbnb suggests that there may be less food waste created since most properties have no separate, stand-alone restaurant or meal type service as compared to traditional hotels and bed and breakfast establishments (Airbnb, 2014). If properties do provide a food or meal service, they are encouraged to obtain local foods if available (Airbnb, 2014). Additionally, CSRhub reports that Airbnb has yielded above average corporate social responsibility scores (spanning the most recent years of 2014–2016), thereby the CSRhub scores support the results of the Cleantech study (CSRhub, 2017).

Airbnb discourages the use of the small bottles of plastic toiletry products (i.e., mini shampoo, conditioner, and soap bottles; Airbnb, 2014), which account for a great amount of waste in traditional accommodations (Bobbett, 2010). Hosts are also encouraged to use “green” cleaning products to further reduce the environmental impacts created through this type of tourism (Airbnb, 2014). Airbnb states that “by living like a local, guests really can reduce their environmental impact on the communities they visit” and hosts are also encouraged to recommend local restaurants and activities (Airbnb, 2014). This can directly benefit the local economy and provide more of an authentic experience to guests.

Airbnb can also be viewed as a career maker or enhancer for individuals, because it allows users who desire to be hosts the ability to “quasi-startup” a business to some extent for individuals willing to rent out a room or offer a property or group of properties for rent (Airbnb, 2014; Johnson, 2015). This also allows hosts the ability to turn a profit locally, rather it be for extra spending money or as a sole income (Johnson, 2015), which touches directly on the social and economic dimensions of sustainability. Airbnb’s site strongly portrays the message of “welcoming travelers to your neighborhood” (Airbnb, 2017a), which may encourage a boost to the local economy as well. If users of Airbnb uphold such sustainable practices, this may address the sustainable initiatives identified previously that encourage effective sustainable tourism—including but not limited to solid waste management reduction, responsible purchasing, greenhouse gas emissions reduction, freshwater management reduction, and community stimulation. This could result in Airbnb as a sustainable alternative to many traditional establishments in the accommodation sector.

It is important to note that there are issues with Airbnb that are situational and depend on the geographic context in which Airbnb is being used. A prime example of this is the criticism they have received for guests not being required to pay the typical tourist or holiday tax that is required by the governments in many locations to stay in traditional accommodations (Harrison, 2015; Streitfeld, 2014). For example, on October 1, 2015, all guests utilizing Airbnb rental properties in Paris were required to pay an additional 0.83 euro or 94 cents per person per night to cover the tourist tax (Harrison, 2015). There have been similar issues in

Amsterdam and other locations where the tax has recently been imposed (Harrison, 2015) to further level the playing field with traditional accommodations.

In New York, there have been cases presented against Airbnb for city laws and local ordinance violations dealing with the ability to run what some consider “unlicensed hotels” (Harrison, 2015; Streitfeld, 2014). The main issue in New York with Airbnb was that all of the homes, apartments, condos, and etc. that hosts are sharing are all subject to different regulations and rules, which makes it difficult to prove if hosts are operating legally or illegally (Streitfeld, 2014). To address these situational city conflicts, Airbnb has implemented links on its website with detailed recommendations and resources available for hosts to determine the local rules for home sharing in any area that hosts would like to operate (Airbnb, 2017a). Even with these issues, Airbnb is likely a sustainable alternative to traditional accommodations.

The Airbnb Rating System

In the previous sections, we argued that the enforcement arrangements of the sharing economy are based on both legal and social enforcement mechanisms. Again, the reason why social enforcement mechanisms are in place is that the sharing economy is more personal than the general economy. The method of rating both buyers and sellers and other features of the network encourage a different type of exchange than the impersonal one of the general market. That is, the explicit rating system serves to further embed social aspects into economic transactions, thereby enhancing the market’s natural reputation-based method of discipline (Axelrod, 1984; Fama, 1980; Granovetter, 1985). In addition, individuals who participate in the sharing economy are more likely to endorse the viewpoints and values of the sharing system due to positive experiences (Böcker & Meelen, 2016). Furthermore, host parties of the sharing economy are incentivized to root out individuals who do not conform to the sustainable values of the sharing economy, because in doing so they are ridding the system of costly users, which creates a positive externality among hosts (Coleman, 1988; 1990). The rating system may also reveal guests who travel more sustainably and courteously through positive reviews. Blogs are evidence of this process, as blogs have developed for the specific purpose of discussing Airbnb’s sustainability and how to identify problem and wasteful guests in addition to guests who are respectful and less wasteful (e.g., AirHostsForum, 2016; Guesty, 2015; Muchnick, 2015; Robin, 2016; Xplorer, 2015). A final explanation is that rather than adding new pipeline to take advantage of economies of scale, one must spend money building. Whereas a platform takes advantage of resources that are created, but idle.

Propositions

The sharing economy and Airbnb are likely to be better suited to produce sustainable business outcomes for a number of reasons. In the current section we discuss how the sharing economy and Airbnb can lead to sustainable outcomes across the three aggregate dimensions of sustainability outlined by the United Nations (environmental, economic, and social; United Nations General

Assembly, 2005). Based on the unique strengths of platform-centered systems, we develop the following six propositions.

We begin our case for Airbnb by discussing how the use of the sharing economy may enhance the accommodations sector's ability to meet the criteria of environmental sustainability. Specifically, we developed propositions to articulate how Airbnb may reduce energy usage, greenhouse gas emissions, water usage, and solid waste in comparison to the traditional pipeline-based accommodations sector. In providing a system capable of reducing the environmental impact of the accommodation's sector across a number of dimensions, we conclude that Airbnb is evidence of the sharing economy's level of environmental sustainability.

Within modern society there are several drivers to energy consumption—namely the inefficient use of energy such as leaving the lights and television on when one is not around. One of the issues with the use of the traditional market economy is that there is little enforcement against the use of extra energy. For example, at various hotel chains, there generally are no provisions to ensure that people will not use excess energy. However, if someone uses excess energy at a shared room, they could be rated downward. Another explanation for why the sharing economy will reduce consumption is that rather than having to build new, the sharing economy makes use of resources already in existence. This is represented by Airbnb's "home-share" options.

While a majority of Airbnb accommodation offerings are of the "home-share" type, this does not encompass everything that Airbnb has to offer (Airbnb, 2017a). For example, Airbnb offers an experience referred to as "glamping" in Asheville of Western North Carolina. This experience is described as "an upscale camping destination in the Blue Ridge mountains of North Carolina" where guests can "camp glamorously" and all amenities excluding food and beverages are provided (Airbnb, 2017b). The issue with this type of accommodation is that it is not the typical home-sharing option. Instead, it requires the development of land for the creation of stand-alone "glamping" tents, common areas, and guest facilities (Airbnb, 2017b), which ultimately makes it less sustainable than listings because this is not a case of slack resource utilization (Schor & Wengronowitz, 2017).

Alternative examples of this limitation include condo and timeshare rentals listed with the same amenities and offerings of traditional tourism accommodations like hotels and vacation homes (Airbnb, 2017a). The only difference is that they are listed on Airbnb instead of through a major traditional tourism website. Therefore, one may note that there are boundary conditions and conditioning effects. However, so long as the sharing economy is used to "share" existing resources and take advantage of excess capacity, then the sharing economy should be an environmentally friendly alternative. This conditioning effect holds true across propositions the first four propositions as sharing economies will not represent the most environmentally sustainable alternative to the traditional

market if they require the procurement of additional resources, rather than the exploitation of existing slack resources. Thus, we propose the following:

Proposition 1a: Sharing economy based accommodations are likely to consume less energy than traditional accommodations.

Next, greenhouse emissions are gases that absorb and emit radiation within the thermal infrared range. Greenhouse emissions have a potential danger to our climate as they trap heat in. Greenhouse emissions emerged from the use of cars and other technology that consume fossil fuels. The reason why the sharing economy would reduce the use of greenhouse emissions is that people are commonly motivated to use the sharing economy because they are aware of their carbon footprint and as such are trying to take steps to reduce it (Airbnb, 2014; Böcker & Meelen, 2016). A second explanation comes from the idea of the fact that the sharing economy takes advantage of slack resources—and that it is more efficient to fully use existing slack resources rather than to create new facilities (Schor & Wengronowitz, 2017). This leads to the fact that there will be no need to produce new ways to reduce emissions (Van Alystne et al, 2016). Therefore we propose the following:

Proposition 1b: Sharing economy based accommodations are likely to produce fewer greenhouse gas emissions than traditional accommodations.

Third, we address water usage. Excessive water usage occurs when individuals use more water than is needed or in violation of an ordinance when an area is undergoing a drought. The reason why people would abuse water is that there is little consequence to them personally and/or a lack of incentives promoting reduced water usage. Most hotel chains do not have provisions regarding excessive water usage, and if they did, the penalty would only be financial. However, the sharing economy would penalize individuals both financially and socially through the rating system. Thus, we propose the following:

Proposition 1c: Sharing economy based accommodations are likely to consume less water than traditional accommodations.

Fourth, the abundance of waste has emerged in recent years, as the United States appears to waste more and more. One of the reasons why people waste is that there is a lack of a punishment mechanism in place. Although excess waste penalties do exist, too often, individuals are not aware of the economic cost of the externalities that they produce. Alternatively put, few incentives are in place for individuals and businesses to be more mindful of the waste they are producing. However, given the social rating systems, individuals will seek to avoid social sanction. Furthermore, if hosts can successfully influence guests to be less wasteful of resources then they will be able to effectively lower their operating costs and increase their profit margins—incentivizing environmentally sustainable behavior. Guests who engage in sustainable behaviors may also be

rewarded in the sharing economy by receiving high rating from the host, which will enhance their credibility in future sharing economy transactions. In addition, the presence of a platform—which uses slack resources—reduces the amount of waste. Thus, we propose the following:

Proposition 1d: Sharing economy based accommodations are likely to produce less waste than traditional accommodations.

Fifth, while our initial propositions largely focus on the positive implications for the environmental dimension of sustainability, it is important to discuss the implications for the remaining two dimensions: economic and social. In terms of the economic dimension, the sharing economy allows users to reap monetary savings while increasing efficiency and ease of use. On the other end of the spectrum, the operators, or individuals using Airbnb to list, market, and sell its accommodations and tourism experiences are having the opportunity to participate in a sort of quasi-entrepreneurship at a larger scale and with a greater amount of exposure that would be otherwise unavailable and in a system that has not always existed (Johnson, 2015).

Furthermore, economic theory suggests that transactions occur when both parties deem the transaction to be beneficial (Coase, 1937). Additionally, many people have excess resources or capacity, for example an individual may have a guest room in their house that is vacant the vast majority of the year. Sharing economy platforms offer individuals the ability to leverage their surplus resources and provide consumers with additional options (Davis, 2016; Frenken & Schor, 2017). Therefore, the sharing economy may enhance the economic well-being of those who rationally choose to take part in it.

Proposition 2: Sharing economy based accommodations are more positively related to consumer economic well-being than traditional accommodations.

In regard to the social dimension, we would like to first mention that caring for the natural environment creates social welfare for all walks of life (e.g., clean water, fresh air, low levels of toxins, and so forth; Shrivastava, 1994). Additionally, users of the sharing economy are contributing directly to the local economy in which they are using the services, as the operators within the sharing economy largely consist of local individuals. Similar to the driving rationale of the “buy local movement,” one can expect that a majority of the income generated by the rental will then stay within the community and serve to simulate the local economy (Lyon, 2014; Weisul, 2010). Furthermore, if the local community has a tax system that is developed to tax transactions conducted within the sharing economy at an equitable rate, then the locally generated tax revenues can be further put to work for the common good.

However, the sharing economy is most likely to uniquely benefit the social sphere by generating new social ties between individuals who would not have previously been introduced to one another. That is, in the process of engaging in the

transactions within the sharing economy, typically, the host and renter will have some face-to-face interaction, and in this moment it is possible for these individuals to build a friendship or network ties (Frenken & Schor, 2017). Moreover, many users of the sharing economy state they utilize these platforms because they enjoy the social aspects of the sharing economy, in addition to being motivated to participate out of a desire to reduce their impact on the environment (Böcker & Meelen, 2016). Furthermore, some users of the sharing economy actually report that they did, in fact, build friendships with their fellow users (Parigi, Dakhllallah, Corten, & Cook, 2013). Hence, sharing platforms represent a unique technology that can foster social interactions and returns, which is much different from many technological advances from the past that have led to greater levels of social isolation (e.g., Internet shopping or media streaming; Ritzer, 1983)

Proposition 3: Sharing economy based accommodations are more likely to create social ties among users than traditional accommodations.

With the economic, social, and environmental dimensions of sustainability taken into consideration, the sharing economy is likely a sustainable alternative to many traditional operators across the accommodation sector in localities. In summary, if a locality's accommodation sector revolves around the sharing economy, it may (on average) be more sustainable than a similar locality's accommodation sector that relies to a greater extent on the use of traditional accommodations.

DISCUSSION

The propositions create a framework for how the sharing economy is positively impacting the triple bottom line in localities, with specific examples from Airbnb. The company can be viewed as a trailblazer for establishing a new and trendy way to incorporate sustainability into lodging options while also allowing local people in destinations to become quasi-entrepreneurs, allow customers an easy and efficient resource for finding affordable accommodations, and provide users with the opportunity to develop social ties. By utilizing all Airbnb has to offer (especially the home-sharing options) users of the site have the opportunity to create and enjoy memorable and unique tourism experiences, increase monetary savings, make a positive impact on the local economy and community, and reduce negative environmental impacts to a greater extent as opposed to traditional accommodation types in localities.

Limitations and Future Research

Though a sustainable alternative, the issues and limitations presented with Airbnb do impact its sustainability. While certain examples of accommodations offered on Airbnb's site are traditional when compared to the home-share options, they are still supporting a local individual, and the accommodation is more likely to include other forms of sustainability as influenced by Airbnb (Airbnb, 2014). The limitations of Airbnb and the sharing economy are apparent, and certain issues are

still in the process of resolution, but there is no doubt that this platform-based system is paving the way into a new era of tourism accommodation providers. The company is also managing to incorporate the essence of sustainable tourism effectively in a majority of its business operations along the way. More extensive research on Airbnb and the sharing economy is recommended to take a deeper and more advanced look into the impacts they are making on local economies, the tourism industry, traditional tourism accommodation providers, the hosts themselves, and on sustainable tourism implementation worldwide.

There are tradeoffs associated with Airbnb when compared to traditional accommodations. Airbnb lists host safety recommendations which include recommending the installation of smoke alarms, carbon monoxide detectors, and other ways to reduce hazards, but there is no guaranteed system in place to ensure that accommodations provided by hosts actually have these items in place, whereas traditional accommodations are generally required to have these safety procedures in place. However, Airbnb is compliant with ADA and FHA regulations and does have an antidiscrimination policy in place (Airbnb, 2017c), which negatively impacts the social dimension of sustainability. There is also the potential for different experiences and quality in customer service from host to host.

The review system in which both guests and hosts have the ability to review one another is very useful for users of the site because it has the potential to deter potential guests from choosing accommodations with hosts that are particularly lacking on the customer service side of operations and gives hosts the ability to express their opinions as well (i.e., reputational discipline; Airbnb, 2017a; Axelrod, 1984). Some adventurous types of travelers are less likely to demand a great amount of perks when traveling and tend to seek comfortable accommodations but remain more on the beaten path (Cohen, 1972), so they may be more suited to using Airbnb than other types of guests. This illustrates the varying tastes of consumers, which may impact the functionality of the sharing economy. Barber & Deale (2014) argue that highly mindful and environmentally aware travelers are more likely to seek sustainable accommodations. Therefore, those types of travelers may be best suited to utilizing Airbnb, especially in the search for more sustainable accommodation options.

As noted previously, the differences in local regulations, especially with the number and extent of Airbnb regulations growing (Edelman & Geradin, 2015; Harrison, 2015), may impact the adoption of sustainability in favorable and unfavorable ways (i.e., growing regulations could cost Airbnb more or less which could give the company and its operators more or less of a financial ability to incorporate sustainability). In addition, Uber and Lyft have similarly faced criticisms based on tax inequities with traditional taxi drivers being required to pay taxes, while Uber and Lyft operators can sometimes avoid them (Edelman & Geradin, 2015).

An Airbnb specific example of devious sharing economy use is in New York where there have been issues with landlords renting out apartments at a cheaper rate through Airbnb for extended periods of time, which decreases the supply of other

apartments and drives up prices for other tenants (Streitfeld, 2014). Hosts renting out apartments, homes, rooms, etc. have exposed other issues including discrepancies with licensing, kitchen inspections, and other regulations that private individuals may or may not be required to obtain depending on location (Malhotra & Van Alstyne, 2014). This presents a need for legislation that is effective on all scales, from the individual level to the industrial and in between (Malhotra & Van Alstyne, 2014). Moreover, we agree that that the tax inequities are a problem and run in contrast to the spirit of sustainability, as avoiding taxes takes money away from municipalities that would have used the money for the public good. Therefore, in order for the sharing economy to become more viable as an ultrasustainable alternative, policy makers should seek to develop a means to consistently tax transactions made in the sharing economy.

Competitors of Airbnb also argue that the company's lower rates and greater flexibility are taking a "bite" out of the traditional tourism accommodation industry (Roberts, 2016), which can be viewed as positive across the environmental dimension of sustainability, but in some situations detrimental to the economic dimension of a locality due to inequities created between traditional operators and those operating in the sharing economy. In terms of the hotel industry, the impact of sharing economies like Airbnb largely differs with hotel price segments; lower-end accommodation types are typically most susceptible to negative effects that sharing economies can create in terms of increased competition and more (Zervas, Proserpio, & Byers, 2014). In terms of the sharing economy, operators similar to Airbnb, Uber and Lyft have seriously impacted the profitability of traditional taxis, especially as they continue to grow in popularity with business travel (Murphy, 2015).

Some argue that the sharing economy produces adverse macroeconomic effects, as it can put traditional establishments (e.g., taxis and hotels) out of business (Frenken & Schor, 2017). However, such is the case with evolutionary economics, creative destruction, and the entrepreneurial process. Whereby, inferior systems are overtaken as the dominant design by superior systems that ultimately lead to greater societal well-being and sustainability, but the initial transition may be difficult (Jovanovic, 1982; Schumpeter, 1935). For example, one may note that music downloads put a dent in the market for CDs and CD players, but in doing so, we can now listen to music without having to waste materials on making CDs and/or CD players.

With the breadth of this topic, we leave much opportunity for further research. Specific outlets include a focus on determining in more detail the extent and effectiveness of sustainability within sharing economies as compared to traditional options. Situational case studies identifying location specific issues and constraints on sharing economies are also suggested as well as further studies determining the effects, in any means, that sharing economies place on traditional businesses. The argument for sharing economies leading to a higher rate of sustainability, in terms of our propositions, also needs further exploration in case specific situations and in more general terms. Further exploration of the direct and indirect implications

that the creation of sharing economies places on local economies—in terms of sustainability—and other relevant aspects is also recommended. Ultimately, sharing economies may encourage a trend of sustainability in social, economic, and environmental terms, which must be further proven through various outlets and situational analyses.

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