Motivations to participate in sharing economy: How location matters?

Emergent Research Forum Paper

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Abstract

The modern sharing economy paradigm is tied with using novel technologies. This study defines and investigates actual sharing economy participation. The role of demographic, economic, locational, and social capital factors, along with attitude towards sustainability and trust on participation by hosts of shared accommodations is examined to understand participation motivations. Building upon social exchange theory and sharing economy literature, the conceptual model of sharing economy participation is developed. The model is tested with data obtained from Airbnb. Socio-economic spatial data is sourced from public datasets. Location attributes of the model are analyzed using spatial statistics techniques to avoid spatial bias. We anticipate our results to predict sharing economy participation. Theoretically, findings of our research will provide a framework for IS researchers to study spatial patterns of sharing economy and participation therein. In practice, we expect our results to be generalizable for non-accommodation forms of collaborative consumption.

Keywords

Sharing economy, spatial analysis, social exchange

Introduction

Sharing economy or collaborative economy is the new buzzword to describe “a way for consumers to pay to temporarily access or share products and services rather than buying or owning them” (Sundarajan 2013). Sharing economy provides experiences and tools to people at affordable pricing (Kane 2016). Sharing economy sometimes called as Uberization to describe a phenomenon in which a new digital service with a new economic model is a competitor to old economic models (Bertand et al. 2016). Modern sharing economy generates public value based on sharing of goods, spaces, and tools among individuals connected through social network sites and apps (Bertand et al. 2016). Forms of sharing economy include collaborative consumption (e.g. carpooling, couch surfing), shared lifestyle (e.g. co-working, collocation), shared finance (e.g. crowdfunding), and contributory output (e.g. Do-it-Yourself (DIY), 3D printers) (Bertand et al. 2016). Sharing economy is a broad economic system with five characteristics: it is market-based, there is a rise in the capital impact, its crowd-based network competes with integrated, centralized organizations, there is a blurring of lines between personal and professional activities, and there is a blurred line between the full-time and casual workforce (Kane 2016).

In the field of sharing economy, technologies facilitate its implementation (Bertand et al. 2016). Sharing economy is the core of many service applications such as Uber, Airbnb, and BlablaCar. Uber, as the sharing economy pioneer in the digital age, provides a ride-sharing platform through outsourcing core functions to its contractors. As of 2016, Uber has more than 8 million users and 180 million drivers (Smith 2016a). The average number of Uber rides per day is 1 million (Smith 2016a). Airbnb, a home sharing application, has been one of the most successful companies in the past few years. Airbnb enables hosts to share their living area partially/completely to guests (Statista 2015). Airbnb usually provides cheaper alternatives than a hotel room. For example, as of 2015 in San Francisco the average daily Airbnb...
stay price was 18% cheaper than the average daily price of what hotels had to offer (Statista 2015). Airbnb has 60 million users, 640,000 hosts, and 2 million listings (Smith 2016b). Airbnb is active in 191 countries and 57k cities (Smith 2016b). On average, an Airbnb host earns $7,350 annually (Smith 2016b).  

Prior research has studied characteristics of sharing economy platforms (Bertand et al. 2016), holistic economical outcomes (Bocker and Meelen 2016), participation intentions (Kim et al. 2015), trust implications (Hawlitschek et al. 2016), and possible risks and benefits (Zhang et al. 2016). For example, results demonstrate host’s trustworthiness and reputation have a significant effect on guest’s choices on Airbnb (Ert et al. 2016). In addition, people participate in sharing economy due to intrinsic (e.g. sustainability) and extrinsic motivation (e.g. reputation). People’s motivation to participate in sharing economy as a service provider or supplier, instead of users or customers is not considered in prior research. More specifically, the importance of location attributes on sharing economy participation is not considered in previous studies. While location is an important aspect of sharing economy (Ert et al. 2016), the lack of theoretical framework in Information Systems (IS) to investigate effects of geography in a proper manner, such as understanding the impact of spatial bias by incorporating spatial autocorrelation metrics, is another motivation of this study. To fill these gaps, this research proposes following research questions:

**Research Question 1:** What factors determine participation in the sharing economy by hosts of short-term shared accommodations?

**Research Question 2:** How does location, specifically spatial autocorrelation, influence participation in the sharing economy?

**Literature Review**

**Sharing economy and social exchange**

An economic system of sharing economy is best described with five characteristics. First, it is market-based and enables exchange of goods (Sundararajan 2016). Then, it has high impact on capitals and creates new avenues of using goods and creating opportunities. Third, sharing-economy is based on the decentralized network of people rather than some centralized institutions. Fourth, the distinction between professional labor and personal giving becomes less clear. Finally, the line between fully employed and casual labor becomes fuzzy (Sundararajan 2016, pp.27). Emergence of today’s sharing economy is largely due to a set of digital enablers and socioeconomic foundations (Sundararajan 2016, pp.47). Three distinguishable and fundamental sharing economy-shaping forces of digital technologies are digital information, information technology (IT) growth, and increase in programmability of new forms of IT or higher flexibilities (Sundararajan 2016, pp.52-53).

Recent research has begun to study the sharing economy participation intentions (Kim et al. 2015; Zhang et al. 2016). Social exchange theory (SET) has been used to explain sharing economy participation intentions (Kim et al. 2015; Tussyadiah 2016). For home-sharing services, such as Airbnb, motivations of service providers or renters to participate could be explained by intrinsic motivations (e.g. attitude towards a sustainable environment, economic need) and extrinsic motivations (e.g. the surrounding neighborhood, social interaction). Within cities, as the best examples of modern sharing economies, people are more inclined to adopt to sharing because of shortages of available resources/assets or availability of new value creations (Sundarajan 2013; Sundararajan 2016). In addition, sharing economy is more developed in certain locations compared to others (Kim et al. 2015). Overall, three main motivations to participate in sharing economy for both providers and users are based on economic, environmental, and social attributes (Bocker and Meelen 2016). Unfortunately, the importance of spatial attributes in the sharing economic literature is superficially mentioned but has not been studied yet.

**Socioeconomic spatial attributes**

People’s socioeconomic status is one of the most powerful forces of using or not-using information and communication technologies (Hsieh et al. 2008). Socio-economic analysis reveals how user’s intentions to perform a certain security behavior is a function of cognitive, social, and psychological components (Anderson and Agarwal 2010). Socioeconomic variables in the information systems (IS) field usually neglect location attributes or treat location as a binary variable (for example, urban versus rural) and
prior IS research has not studied socioeconomic impacts through geographical spaces, although they have different influences over various spaces (Lopez-Ospina et al. 2016). Specifically, socioeconomic variables throughout a city play important roles when a household is making economic decisions (Lopez-Ospina et al. 2016). Socioeconomic drivers of sharing economy are “powering increasingly widespread crowd-based capitalism” (Sundararajan 2016, pp.67). In our study, indicators of socioeconomic attributes are housing price, median household income, technology accessibility, poverty, labor force composition, race-ethnicity, education, median age, and average size of the household.

**Theoretical Foundation and Model Development**

Building on the social exchange theory, resources are exchanged reciprocally (Cropanzano et al. 2017; Emerson 1976). Among several alternatives with different costs and benefits, individuals choose the option that maximizes the overall benefit (Kim et al. 2015). Economic exchanges tend to involve less trust whereas social exchange involves greater trust (Cropanzano et al. 2017). SET explains that beneficial behaviors are fortified when individuals’ needs are satisfied (Chiu et al. 2015). Economic motivations for sharing economy are dominant in the participation choices (Bocker and Meelen 2016). Nonetheless, modern sharing economy participation is not possible without digital enablers. For online community marketplaces facilitating short-term rentals spanning shared accommodations to entire homes, we posit the following hypotheses:

**H1**- Economic benefit is positively associated with actual sharing economy participation.

**H2**- Locational benefit is positively associated with actual sharing economy participation.

**H3**- Social capital is positively associated with actual sharing economy participation.

**H4**- Trust is positively associated with actual sharing economy participation.

**H5**- Attitude toward sustainability is positively associated with actual sharing economy participation.

**H6**- Crime rate negatively moderates the relationship between economic benefits, locational amenities, trust, social capital, and attitude toward sustainability with the actual sharing economy participation.

Based on the previous six hypotheses, our conceptual research model for participation in the sharing economy is depicted in Figure 1. Socioeconomic spatial attributes provide information about level of socially advantaged individuals within a location (Hsieh et al. 2008) (e.g. city, or zip codes). Socioeconomic status can predict the technology use (Jung et al. 2001) and readiness for modern form of sharing economy participation. We control the effect of race/ethnicity, age, gender, income, and educational attainment on actual sharing economy participation.

![Figure 1. Conceptual Model of Location-Aware Sharing Economy Participation (LASEP)](image-url)
Methodology and Expected Contributions

Our methodology is comprised of the steps of descriptive mapping and socio-economic characterization of a large sample of over 25,000 Airbnb listings in the city of Los Angeles California (Insidairbnb.com). This listings dataset along with similar datasets from other populous, urban world cities and cities in the United States are procured from the Inside Airbnb site. Each listing’s attributes include location, property type, hedonic variables, amenities, daily/weekly/monthly rents, neighborhood information, extent of availability over the past 365 days, and customers’ reviews. We anticipate several of these attributes – notably, location, hedonics, amenities, neighborhood information, and extent of availability to provide important independent variables for our previously mentioned hypotheses. The dependent variable is the actual extent of participation in sharing economy. Listings are aggregated at the zip code level and an indicator of participation in the sharing economy is developed using density of listings in a zip code (per 1,000 population) weighted by the average duration of homes being rented and share of space being rented (shared room versus private room versus entire home/apartment). This is an important contribution of this work. Because the typical Airbnb listing in Los Angeles is rented for a median duration 71 days (Airbnb 2017), listings with availability fewer than 71 out of the last 365 days are removed from the dataset.

Agglomeration of listings is achieved using K-means cluster analysis. Generated clusters are characterized in terms of socio-economic attributes such as housing price, median household income, technology accessibility, poverty, labor force composition, race-ethnicity, education, median age, and average size of the household. Data on most of these socioeconomic indicators is expected to be sourced from the U.S. Census Bureau datasets. Social capital, which measures social interconnectedness of communities is also anticipated to a factor that characterizes zip codes. Zip codes with highest versus lowest rates of participation in the sharing economy are contrasted. K-means cluster analysis is exploratory; however, it provides important cues about potential spatial bias of listings in neighboring zip codes. The extent of spatial bias is estimated using spatial autocorrelation which is computed within a Geographic Information System (GIS) using Moran’s Index.

For confirmatory analysis, drawing from SET, we posit that economic benefits, locational variables, social capital benefits, trust, and attitude toward sustainability attributes of AirBnB hosts are positively associated with participation rate in the sharing economy. OLS regressions are employed for confirmatory analysis of posited association between the independent correlates and the dependent variable – extent of participation in the sharing economy. OLS regression residuals are mapped and spatial autocorrelation of regression residuals in estimated to diagnose if spatial bias is reduced or eliminated from the model.

We anticipate host-related digital information quality, housing quality, and neighboring quality to be positively associated with the extent of participation in the sharing economy. It is also anticipated that crime rate will negatively moderate associations of independent variables with rate of sharing economy participation.

Overall, this study is the first systematic attempt to define extent of participation in the sharing economy, specifically in the shared accommodation economy. Further we examine the influence of location in the sharing economy, given the fact that the sharing economy is more developed in certain locations compared to others (Kim et al. 2015). Finally, this research will shed light on factors that influence participation in the sharing economy along with moderating influences.

Conclusions

The paradigm of sharing of goods as well as services is fundamentally altering and disrupting the way individuals, businesses, communities, cities, and entire economies function. In this environment, as participation in the shared/collaborative economy is trending upwards, it is essential to understand what motivates individuals to participate in the sharing economy. Furthermore, extent of participation and its underpinnings are important to understand as well. These along with locational dimensions of the sharing economy are largely unstudied in the MIS literature. This study attempts to fill this void using the Airbnb model of collaborative consumption. Connections and associations of economic benefits, locational amenities, trust, social capital, and attitude toward sustainability with the extent of sharing economy participation are anticipated to be explored.
participation, moderation by crime rate with locational underpinnings, and examinations of spatial patterns of sharing economy participation are the novelties of this work.

REFERENCES

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