

Attracting Diverse Sellers into the Sharing Economy

Conceptual Framework

Consumers choose to purchase from the sharing economy in large part because the offerings are often less expensive and less diverse than those in the traditional economy (Guttentag 2016). For example, Airbnb touts the ability to rent luxury penthouses for an affordable price in Manhattan or ancient castles in France as the options that are available to consumers, options that may not be accessible in the traditional economy. Prior work has found that the sharing economy appeals to consumers' sense of deal-seeking (Guttentag 2016), in the home-sharing marketplace consumers are able to obtain accommodations that may otherwise be unaffordable. Both pricing and availability are driving demand in the sharing economy, but ironically sharing itself may have a negative impact on demand. Sharing creates a consumption experience with another person that imposes social norms on the consumer (Aarts and Dijksterhuis 2003). Social norms compel the consumer to act in a manner that limits their freedom; in the sharing economy this may devalue the offering. In the Airbnb marketplace consumers who rent a room in an occupied house may not use the house in the same manner as they would at home for fear of violating social norms. If we aggregate our arguments, we expect that prices and sharing would devalue seller offerings. However, consumers in this market are deal-seeking which means that the quality of the offering would have a positive impact on demand. Ideally, in the Airbnb marketplace a seller who was offering private accommodations in a high demand area for a low price would attract the greatest number of consumers.

Empirical Investigation

To investigate the impact of pricing and sharing on different types of seller offerings, we utilized data from Airbnb rentals in Washington D.C from 2008 to 2017. The data was extracted from Airbnb.com using a web-crawler program. The program extracted the number of days that the listing was available for and the number of days it was occupied (occupancy rate). We also extracted information on whether the accommodation offered a shared room, shared home (private rooms and shared common areas), or the entire residence was for rent. The following information was also extracted: price, seller rating, seller's response time, any cleaning fees, and whether customers could book instantaneously. To augment the data extracted from the Airbnb website we also used the home sales website Redfin.com to extract the average home value for each zip-code for each listing. The average home value (median home value) was used as a measure of property quality in each area. Our sample contained a total of 2640 Airbnb listings in Washington D.C. Of this sample, 1429 listings were offering the entire residence for rent, 795 were offering accommodations in a shared residence, 416 were offering a shared room to rent.

To test the interplay between price, sharing, and the quality of accommodations, we created a hierarchical linear model (HLM). Each Airbnb listing is contained within a neighborhood, the impact of the neighborhood may have a disproportionate impact on certain listings than others. For example, a consumer may be willing to sacrifice privacy if she is staying in a high-end neighborhood. We used the median home value for each zip code as our random effects variable. To test the efficacy of our model we conducted an intraclass correlation in line with Singer

(1998). Our intraclass correlation was .11. This tells us that there is a fair bit of clustering of occupancy rate within each neighborhood. Median home value per zip code, our random effects variable was not significant in our model ($p < 0.255$). Our fixed effects (see Table 1) indicates that occupancy rates were lowered based on sharing. Occupancy rates were highest for listings that offered the entire residence. As expected, price had a negative impact on occupancy rates but listings in areas with higher property values had higher occupancy rates. This reinforces the argument that consumers are deal-seeking in the sharing economy.

Conclusion

To grow the sharing economy it is vital to attract a diversity of sellers into the marketplace. Our research reinforced prior work and finds that price has a negative impact on demand. However, those who charge higher prices may still profit if they increase quality and minimize sharing. In summary, the price, the level of sharing, and the quality of the offering all impacted demand and when manipulated they could be leveraged to attract a diversity of sellers into the marketplace.

REFERENCES

- Aarts, Henk and Ap Dijksterhuis (2003), "The Silence of the Library: Environment, Situational Norm, and Social Behavior," *Journal of Personality and Social Psychology*, 84 (1), 18-28.
- Malhotra, Arvind and Marshall Van Alstyne (2014), "The Dark Side of the Sharing Economy...and How to Lighten It," *Communications of the ACM*, 57 (11), 24-27.
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Table 1**Fixed Estimates of Occupancy Rate, 2008 - 2017 (n = 2640)**

Variables	Model 1	Model 2
Constant	-.389**	-.444*
		-
Price Per Room	-.001***	.001** *
Overall Rating	.148***	.148** *
Response Time	-.000**	-.000**
Cleaing Fee	-.009	-.011
Instantbook	.066***	.065** *
Median Home Value	.000*	.000*
Private	.404***	.426** *
Shared home	.291**	.300**
Shared Room	.275*	.294**
		-
Price Per Room x Median Home Value		.000** *
		-
Price Per Room x Private Room x Median Home Value		.000** *
AIC	8.8	63.5
SBC	13.2	67.8
-2LL	0.8	55.5

Notes:

1. Standardized coefficients are shown
2. All p values reported are at two-tailed significance
3. † p < .1 * p < .05 ** p < .01 *** p < .001