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Segmentation analysis on non-users of P2P accommodations: Why not use them?

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Introduction

Over the past 10 years, peer-to-peer (P2P) accommodations have rapidly spread all over the world. The idea of staying in an ordinary house instead of a commercial hotel is not new, but the market size has expanded swiftly due to new companies, such as Airbnb. Because of Airbnb's nature as a platform (i.e., Airbnb does not own rooms), it cannot be compared with hotel brands in general, yet it has already put more rooms on their website than the total number of the five biggest hotel brands' rooms combined (Hartmans, 2017). According to Airbnb, the average number of people staying in an Airbnb per night is more than 2 million (Airbnb, 2018).

The current market size indicates that P2P accommodations have become one of the common options for tourists. When P2P accommodations were introduced, they were considered a ludicrous idea. Some people argued that P2P accommodations are too different from traditional hotels and opponents tend to criticize their inability to offer basic amenities; proponents of P2P accommodations like to emphasize the authenticity of the tourists' experiences. However, from the tourist perspective, P2P accommodations might not be too different from other types of accommodations. Cheng and Jin (2019) revealed that users of P2P accommodations evaluate their experience based on their past experiences of staying in a hotel. Furthermore, online travel agencies, such as Booking.com, also put P2P accommodations on their websites (Vynck, 2018), which blur the differences between traditional and P2P accommodations.

If the difference becomes vague, non-users' perspectives then must be investigated. In other words, if P2P accommodations are perceived as similar to traditional hotels, it raises the following question: why do some people not use P2P accommodations? It is hard to answer this question without investigating non-users, but past studies have mainly focused on those who use P2P accommodations (e.g., Mahadevan, 2018). In addition, past studies that investigated the barriers dissuading people from using P2P accommodations (So, Oh, & Min, 2018; Tussyadiah & Pesonen, 2018) usually treated consumers as a homogeneous group. This could be problematic, as consumers may be heterogeneous in terms of the barriers they have.

In order to fill the gap, this study explores why some people do not use P2P accommodations. In particular, segmentation analysis is used to figure out the heterogeneity of non-users of P2P accommodations. This study collects data from residents in 12 countries (chosen based on the importance to the tourism industry in Japan) who indicated they will not use P2P accommodations when they travel to Japan. The findings of this study will be useful for both P2P accommodations and traditional

hotels, as they provide insights on how to expand/protect the market.

Literature Review

The amount of research on P2P accommodations is on the rise (Prayag & Ozanne, 2018). Several previous studies have attempted to clarify why people use this new type of accommodation facilities and explore their motivation and experiences (e.g., Mahadevan, 2018; Tussyadiah & Pesonen, 2018). One of the frequently mentioned benefits is that P2P accommodations provide authentic experiences of the local area, which tourists could not enjoy in traditional hotels. This notion is represented by previous promotional campaigns by Airbnb, which emphasized unique experiences, such as the “Live like Locals” campaign (Airbnb, 2017). In this regard, past studies seemed to fail to provide a consistent result. Tussyadiah and Pesonen (2016) argued that a social appeal, such as authentic local experiences, is one of the essential reasons tourists are attracted to P2P accommodations, whereas Young, Corsun, & Xie (2017) found that factors such as price and location are most influential for leisure travelers.

Some studies also suggested that users choose to stay at P2P accommodations in a similar way as in hotel brands. Economic advantage has been often indicated as the reason to stay at P2P accommodations (So et al., 2018; Tussyadiah & Pesonen, 2016). Considering that price is a fundamental explanatory factor for buying behavior, this is an intuitive argument. However, this point has not necessarily acquired consensus in past studies. For example, Yang et al. (2019) questioned the argument that economic incentives are the main factor of P2P accommodation use, as they found no significant effects of household income and hotel-Airbnb price differences on the P2P accommodation choices of tourists.

These inconsistent findings might suggest that there are various motivations for using P2P accommodations. In other words, it might be difficult to treat users as one homogeneous group. In this vein, Guttentag, Smith, Potwarka, and Havitz (2018) conducted a segmentation analysis based on the motivations of choosing Airbnb. They found that users can be divided into five distinct groups: Money savers, Home seekers, Collaborative consumers, Pragmatic novelty seekers, and Interactive novelty seekers. A similar study was conducted on users of P2P sharing services in general by Neunhoeffler and Teubner (2018), showing that consumers can be divided into four distinct groups: Social enthusiasts, Conflicted materialists, Skeptic ascetics, and Individualistic refuseniks. These results confirmed that users of P2P accommodation should not be treated as a homogeneous group.

On the other hand, research on obstacles to P2P accommodation use has still been conducted under the implicit assumption that people share similar deterrent factors from using P2P accommodations. For example, So et al. (2018) incorporated perceived risk, distrust, and insecurity into their research model as constraints for choosing P2P accommodations. They found that only distrust has a significant relationship with overall attitude and insecurity with behavioral intentions among United States citizens. This approach might be problematic, however, as consumers are not a homogeneous group with regard to concerns about using P2P accommodations.

This point is hinted at by the results of Tussyadiah and Pesonen's (2018) study. They examined the barriers to P2P accommodation use among American and Finnish travelers, revealing that barriers to use P2P accommodations are different between American and Finnish citizens. Efficacy (e.g., whether people know what P2P accommodations are and how to use them) was identified as consistent deterrents to choosing P2P accommodations, yet distrust towards the host and technology, as well as lack of cost savings, are found to be significant barriers only among American travelers. Thus, it is possible that people can be divided into some distinct groups regarding their reasons for not using P2P accommodations.

Furthermore, past studies might use too general of concepts when analyzing the barriers, which makes it difficult to derive practical contributions from the research findings. For instance, distrust is often considered to be a barrier, but it is not clear if it indicates general distrust or distrust in a particular domain. Using too general of concepts could lessen the practical contribution of the study.

Thus, this study explores why people do not use P2P accommodations by performing segmentation analysis based on concrete questionnaire items as discussed in the methodology section. The result of this research will be useful for P2P accommodations, as they provide some insights on how to expand the market. Similarly, for traditional hotels, the results of this study may help to protect their market by suggesting where to position their strengths in order to compete with P2P accommodations.

Methodology

This study used Japan as a context for respondents' answers. Japan provides a unique study context, as past studies have mostly been conducted in Western countries (e.g., Mahadevan, 2018; So et al., 2018; Yang et al., 2019), which might fail to capture those barriers unique to Asian countries. Japan welcomed 28.7 million international

“How to access the accommodation”, “Accuracy of the information at the time of booking”, “Safety of the payment method”, “Hygiene concerns (cleaning and amenities, etc.)”, “Security concerns”, “Whether or not my privacy is protected”, and “Whether or not I can communicate”. The 10 items are all binary; respondents were asked to check every concern about using a house/apartment rented from a local resident (if the item is checked, it is coded as 1, or 0 otherwise). Binary items are considered to be optimal for segmentation studies, since they are less prone to cultural response style (Dolnicar, Grün, & Leisch, 2018). Furthermore, the binary data allows the researchers to use Euclidean distance in the clustering analysis. The sample size for this study (2,255 respondents) is suitable for clustering analysis, as it is substantially higher than the 100 times 10 segmentation variables (i.e., 1,000 responses) recommended by Dolnicar, Grün, and Leisch (2016).

First, the number of clusters was selected based on the stability. Stability of solutions was calculated by extracting 2–8 segments using bootstrap samples of the data. The algorithm of k-means clustering was used to extract segments in this process. Based on adjusted Rand indices, the most stable number of segments were selected. Then, the selected number of segments was used to conduct k-mean clustering on the original data. The resulting segments were compared using the additional variables.

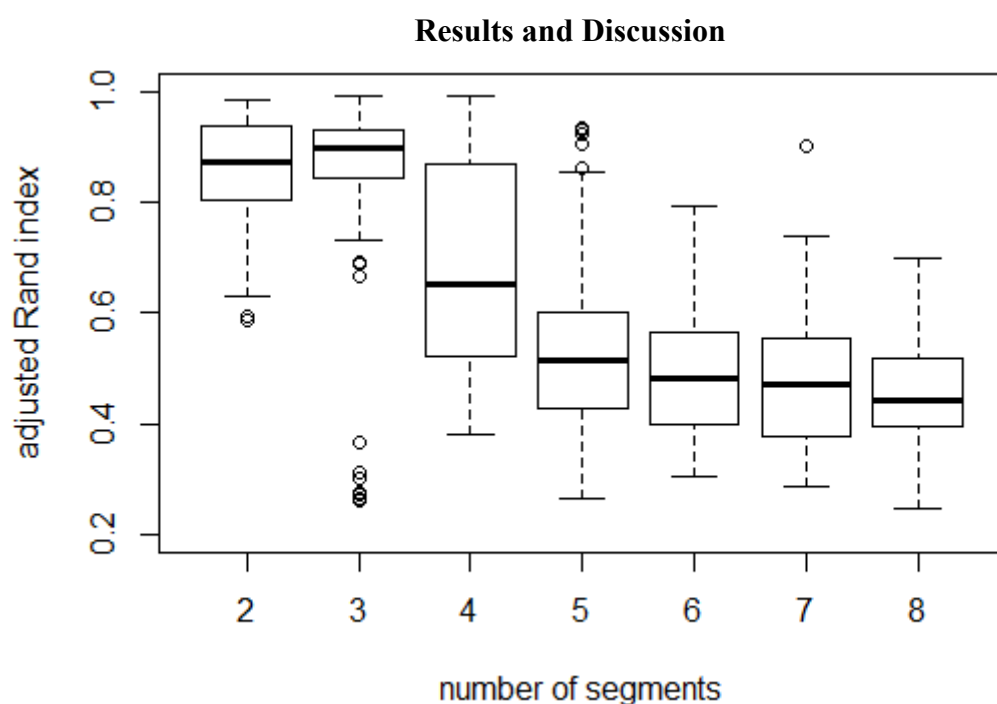


Figure 1. Results of data structure analysis

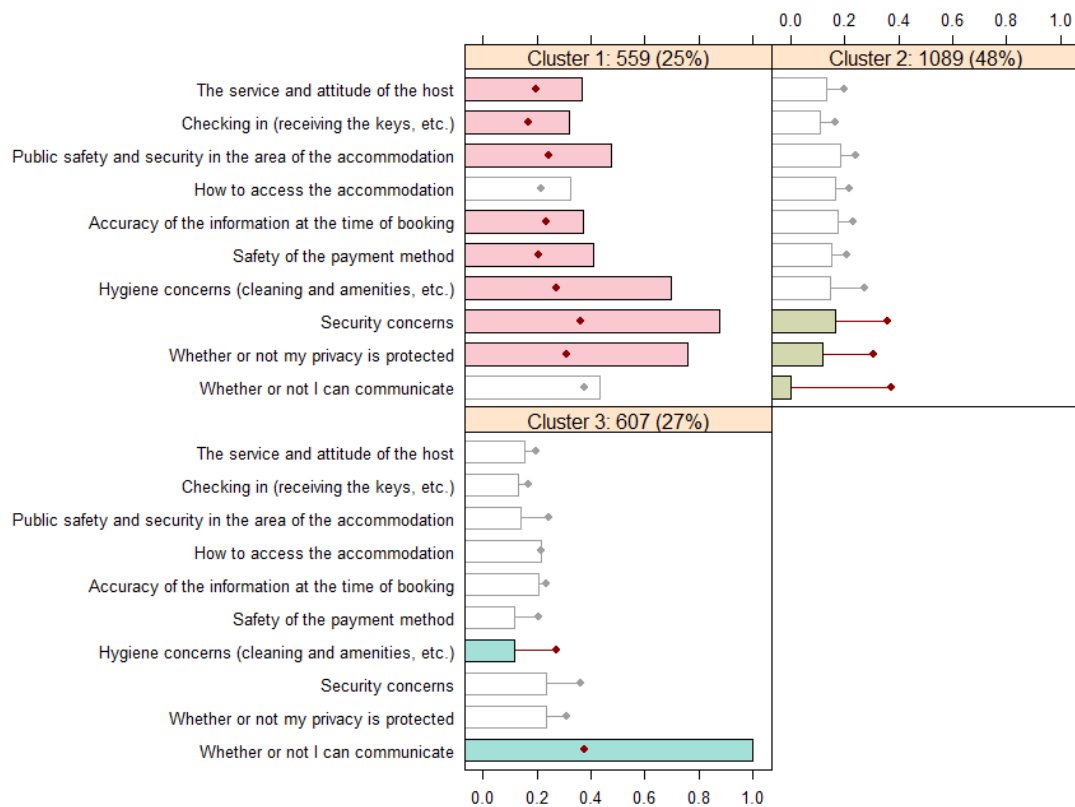


Figure 2. Profile chart of three-segment solution

The comparison of stability suggests that a three-segment solution is most stable over repeated computations, as it has a high average Rand index (Figure 1). In Figure 2, each horizontal bar represents the percentage of respondents in each segment who chose the items. The horizontal lines (red dot) indicate the overall percentage of study participants selecting each item. Horizontal bars are colored on the following conditions: the deference between the segment mean and overall mean is at least half of the overall mean or at least a tenth of the total maximum for that variable. A two-segmentation solution is also stable, but this does not provide a useful managerial implication, as it is simply separating those who are more likely to check everything and nothing. The weakness of a three-segmentation solution is that it does not provide a detailed analysis of niche segments.

Segment 1 comprises 25% of study participants, characterized by an overall high percentage of selecting all the items. In particular, they seem to be characterized by their high concern over safety-related issues (i.e., hygiene, security, and privacy). This is consistent with a general opinion regarding why some people do not use P2P accommodations. Having said that, it should be noted that this segment is the smallest among the three segments identified in this study. Furthermore, it could be that people in

this segment have a general distrust toward P2P accommodations. This is consistent with So et al.'s (2018) findings that showed a distrust toward Airbnb has a negative significant influence on these travelers' overall attitude. In addition, this point could have been captured in past studies as a lack of efficacy. Tussyadiah and Pesonen (2018) revealed that people do not use P2P accommodations simply because they lack knowledge or ability to use P2P accommodations. Since they lack efficacy on the concept of P2P accommodations in general, they tend to select more concerns than average. Although binary variables are less prone to a response style, this might capture it.

In contrast, Segment 2 comprises 48% of study participants and is characterized by an overall low percentage of selecting all the items. This segment seems to have lower concerns, especially regarding safety-related issues, which is opposite to Segment 1. This is by far the largest segment of people who do not use P2P accommodations. Although they do not have specific concerns, they still do not intend to use P2P accommodations. This result could suggest that they do not see the benefits of using P2P accommodations instead of traditional accommodations. Considering that people in this segment tend to have less concerns, P2P accommodations should try to get this market by convincing them of the benefits of staying at P2P accommodations. This segment, again, might capture the response style.

It should be noted here that this segment might have other reasons not to use P2P accommodations which are not included in the survey items. For example, the survey items do not contain items related to room price and location. It might be the case that this segment had a bad experience using P2P accommodations in regard to these factors, resulting in their reluctance to use P2P accommodations.

Segment 3 comprises 27% of study participants and is characterized by their concerns over communication (language problems). Past studies have pointed that the distrust toward hosts might be a barrier for P2P accommodations use (So et al., 2018; Tussyadiah & Pesonen, 2018), but this result provides more concrete insights. Since other concerns, such as hygiene concerns, are below average, this segment does not have an overall distrust toward the host but do have concerns specifically about languages. It is understandable that this is not captured by past studies using English-speaking countries as a study context (c.f., Mahadevan, 2018; So et al., 2018; Yang et al., 2019). However, this point is not captured by studies using non-English speaking countries either (c.f., Amaro, Andreu, & Huang, 2018; Tussyadiah & Pesonen, 2018). This may be attributed to the design of past studies; they might have used too general of a statement in their questionnaire, which failed to capture a specific concern, such as this one.

Also, this point might be interesting for practitioners, as in reality, P2P accommodations in Japan are mostly used by foreign tourists (83.4% of users is foreigners) (Japan Tourism Agency, 2018). Since the proportion of international users is significantly higher than domestic users, it is easy to imagine that P2P accommodations might be actually prepared for international tourists, including communication skills. Since P2P accommodations are considered to be provided by ordinary citizens, non-users might be convinced that hosts' language skills are lower compared to hotels regardless of the reality.

In order to figure out which types of accommodations they use instead, this study asked respondents whether they would consider using the following accommodations while traveling in Japan: 1) traditional Japanese hotels/*ryokan*, 2) luxurious and comfortable high-class hotel (Western-style), 3) low-cost accommodations offering only basic amenities (Western-style), 4) youth hostel/guest house, and 5) relative's or friend's house. Based on chi-square tests, the differences in the proportion of choosing types 2 and 3 of accommodations are statistically significant (Table 2), while other options are not. The results indicate that those who have concerns on safety issues (Cluster 1) prefer staying at high-class hotels. Furthermore, the segment who had less concerns for every item (Cluster 2) is characterized by its low preference on low-cost accommodations.

Table 2. Accommodation preferences

Accommodation preferences	Cluster 1:	Cluster 2:	Cluster 3:	Pearson Chi-Square Sig.
luxurious and comfortable high-class hotel (Western-style)	50.6%	42.0%	39.6%	Chi-square = 13.153, p-value <0.01
low-cost accommodation offering only basic amenities (Western-style)	38.1%	30.2%	37.3%	Chi-square = 13.58, p-value <0.01

Furthermore, each segment is compared based on variables which are not used in the cluster analysis. Chi-square tests are applied to identify the significant differences between segments. As a result, country of residence and income are found to be

significant, whereas age, gender, and whether they have been to Japan are not (Table 3). The result shows that people with higher income do not use P2P accommodations without specific concerns. This is understandable as they have more options (i.e., hotels) and might not see the benefits of staying at P2P accommodations.

Table 3. Segments profile

		Sample size	Cluster 1:	Cluster 2:	Cluster 3:	Pearson Chi-Square Sig.
Country of residence	Mainland China	210	2.2%	4.5%	2.6%	Chi-square= 80.976, p-value <0.001
	Taiwan	277	3.8%	4.1%	4.4%	
	Hong Kong	315	3.4%	6.8%	3.7%	
	Korea	142	2.1%	2.8%	1.4%	
	Thailand	222	2.0%	4.6%	3.2%	
	Indonesia	157	1.9%	3.3%	1.7%	
	Malaysia	170	2.3%	3.4%	1.9%	
	Singapore	192	2.6%	4.3%	1.6%	
	England	166	1.0%	4.7%	1.6%	
	United States	128	1.1%	3.3%	1.3%	
	France	110	0.6%	2.8%	1.5%	
	Australia	166	1.8%	3.6%	1.9%	
	Total	2255				
	Income	Low	605	6.5%	11.9%	
Middle		816	9.8%	17.3%	9.0%	
High		834	8.5%	19.1%	9.4%	
Total		2255				

Conclusions

P2P accommodations are growing at the significant rate. Although its uniqueness has been pointed out, the difference between P2P accommodations and traditional hotels

has become obscured. This study found that one segment does not use P2P accommodations because of safety-related issues (i.e., hygiene, security, and privacy concerns), but it is not the largest segment in the study participants. The largest segment was comprised of those who tended to have less concerns on P2P accommodations for every item, suggesting that it is required to stress the benefits of P2P accommodations for this segment. The other segment has a concern only about language. Judging from the current users of P2P accommodations, hosts in Japan are more likely to be ready for international tourists. P2P accommodations platforms and hosts might need to address this misperception.

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