

1 **Impact of Perceived Peer to Peer Accommodation Development on Community**
2 **Residents' Well-being**
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11

12 **Abstract**

13 A survey of 780 UK residents was conducted to identify the extent to which perceived peer-
14 to-peer (P2P) accommodation development is associated with changes in community
15 members' well-being from economic, social and environmental perspectives, and to
16 understand in which circumstances P2P listings have positive and negative effects on
17 community members' well-being. Partial least squares analysis demonstrates that the
18 perceived positive community impacts of P2P accommodation are more pronounced than the
19 perceived negative impacts. Additionally, weak but statistically significant effects of
20 perceived P2P accommodation prevalence on residents' social and environmental well-being
21 are observed. Based on these findings and in accordance with social exchange theory, both
22 policy makers and the P2P accommodation sector should develop strategies to enhance the
23 perceived positive impacts on residents' well-being and mitigate the perceived negative
24 impacts.

25 **Keywords:** peer-to-peer accommodation; resident well-being; tourism impact; host-guest
26 relationship, partial least squares (PLS).

1 **1. Introduction**

2 The peer-to-peer (P2P) accommodation market, most notably represented by Airbnb, has
3 experienced a phenomenal growth in the last decade. Since its launch in 2008, Airbnb has
4 over seven million accommodation listings located in more than 200 countries and has hosted
5 more than 750 million guests worldwide (Airbnb 2020). Airbnb generated US\$93 million
6 profits in 2017 (Financial Times 2018) and it is expected to triple that figure by 2020,
7 reaching US\$3.5 billion (Gallagher 2017). P2P accommodation offers customers an
8 alternative option to traditional hotels and, as a result, has changed the travel patterns of
9 visitors (Tussyadiah and Pesonen 2016). It is suggested that P2P accommodation provides
10 customers with localness and personalization (Mody, Suess and Lehto 2017), authenticity
11 (Paulauskaite, Powell, Coca-Stefaniak, and Morrison 2017; Liang, Choi and Joppe, 2018),
12 and more opportunities for social interactions with locals (Tussyadiah and Pesonen 2018).

13 The P2P accommodation market now contributes significantly to local tourism economies
14 (Levendis and Dicle 2016) and is creating new employment opportunities within tourism
15 destinations (Fang, Ye and Law 2016). However, the P2P accommodation market's
16 precipitous expansion also leads to numerous potential problems within tourism destinations,
17 including increased housing prices (Brauckmann 2017, Barron, Kung, and Proserpio 2017),
18 avoidance of government regulation (Cheng 2016), gentrification (Schor and Attwood-
19 Charles 2017, Gant 2016), threats to traditional tourism and hospitality businesses (Blal,
20 Singal, and Templin 2018), and discrimination (Cheng and Foley 2018).

21 While the socio-economic impact of P2P accommodation within an area has been examined
22 in several studies (e.g. Quattrone et al. 2016), more comprehensive research investigating
23 how P2P may affect the holistic well-being of destination community members from
24 environmental, social, and economic perspectives has been called for (Kim, Uysal, and Sirgy
25 2013, Uysal et al. 2016). Indeed, as the tension between tourists and residents mounts

1 because of the growing number of tourists brought into residential areas through P2P
2 accommodation, better understanding of the dynamic between residents and tourists, a long-
3 standing topic of interest for tourism scholars (e.g. Jurowski, Uysal, and Williams 1997, Lin,
4 Chen, and Filieri 2017, Fan, Liu and Qiu, 2018) is needed. Using Social Exchange Theory
5 (SET) as a framework, scholars have demonstrated a positive relationship between the
6 perceived positive benefits stemming from tourism and community residents' support for
7 tourism development (Nunkoo and So 2016, Zhang, Fan, Tse and King, 2017, Qiu et al.
8 2018; Rasoolimanesh et al. 2015). Previous research has also found that perceived social and
9 economic impacts influences the support for P2P accommodation among community
10 residents (Garau-Vadell, Gutiérrez-Taño & Díaz-Armas 2019). Therefore, this study takes a
11 holistic approach to understanding the impact that perceived P2P accommodation
12 development may have on the overall well-being of community residents. More specifically,
13 this study will provide important insights into how P2P accommodation services can be both
14 designed and regulated by addressing the following research objectives:

- 15 1. Identify the extent to which perceived P2P listings are associated with changes in
16 community members' well-being from economic, social and environmental
17 perspectives.
- 18 2. Understand in which circumstances perceived P2P listings have a positive relationship
19 with community members' well-being, and in which circumstances perceived P2P
20 listings have a negative relationship with community members' well-being.
- 21 3. To use the understanding gained above to identify how P2P platforms can develop
22 more sustainable business models.
- 23 4. To use the understanding gained above to identify how policy intervention can
24 achieve desirable outcomes for P2P platforms, particularly in terms of sustainable
25 tourism development objectives.

1 The originality of this study is the application of SET into the P2P accommodation context so
2 as to investigate the impact of perceived P2P accommodation development on community
3 residents' well-being from a holistic perspective. Furthermore, this study assists practitioners
4 in anticipating the range of benefits and externalities from the development of P2P
5 accommodation more comprehensively and provides academic support for policymakers and
6 other stakeholders to ensure the growth and impacts of P2P accommodation will align with
7 sustainable development goals in the tourism industry and across destinations.

8 The remainder of this paper is organized as follows: Section 2 presents a review of relevant
9 literature on impacts of P2P accommodation, residents' attitudes toward tourism
10 development, and impacts of tourism development on residents' well-being. Section 3
11 introduces the methodology adopted in this study, followed by Section 4, which presents
12 findings and discussions. Lastly, Section 5 concludes this paper with limitations of the study
13 and future research directions.

14 **2. Literature Review**

15 ***2.1 Determinants of Hosts' Attitudes toward Tourism Development***

16 The attitude of hosts toward tourism development has been extensively investigated by
17 tourism scholars using different models. Using the framework of SET, Ap (1990) explained
18 why the attitudes of hosts toward tourism development could change. Hosts compare the
19 benefits and costs brought by tourism development. If the positive impact is larger than the
20 negative impact, hosts are likely to embrace more tourists and further support tourism
21 development. However, if the negative impact is larger than the positive one, hosts may not
22 support tourism development any longer, such as when over-tourism emerges in the
23 destination.

1 Recently, two studies from the Economics discipline have attempted to illustrate the attitude
2 of hosts. Bimonte and Punzo (2016) explained that an “exchange” happens between hosts and
3 tourists due to the different endowments they have. They used competitive equilibrium
4 analysis to show hosts in the destination could exchange tourism resources with financial
5 resources from tourists. Fan et al. (2018) introduced private consumption, leisure, and public
6 resource into a utility function and proved the SET under the partial equilibrium framework.
7 Their conceptual mathematical model also complements Butler (1980)’s tourism area life
8 cycle (TALC) model and proved that the expansion of public resources does not necessarily
9 lead to rejuvenation of tourism destinations because the ability of hosts to transform the
10 income generated from tourism into productivity is an important determinant of rejuvenation.
11 Numerous studies have emerged to empirically examine SET in the tourism field, where
12 impacts were measured from the economic, social, and environmental perspectives (Fan et al.
13 2018; Qiu et al. 2018; Zhang et al. 2017), using data collected from different destinations.
14 Wang and Pfister (2008) used a rural community in the US as an example and found a
15 positive relationship between residents’ perceived benefits and their attitudes toward tourism.
16 Nunkoo and Gursoy (2012) took Mauritius as an example and further confirmed Wang and
17 Pfister (2008)’s findings. Similar findings were identified by Bestard and Nadal (2007) in
18 Balearic Island, Gursoy, Chi and Dywer (2009) in Australia, and Vargas-Sánchez Porrás-
19 Bueno and Plaza-Mejía (2011) in Spain.

20 According to Bimonte and Punzo (2016), positive impacts refer to financial resources earned
21 by hosts from tourists when they consume tourism products. They can also be explained by
22 private consumptions and leisure in Fan et al. (2018)’s model as the injection of tourism
23 revenue stimulates hosts’ income and productivity of the destination. As a result, hosts are
24 able to expand private consumptions, reduce working hours, and increase leisure time (Liu,
25 Song and Blake, 2018; Liu and Wu, 2019). All the benefits of tourism improve the utility of

1 hosts and positively affect their attitude towards tourism development. On the other hand,
2 negative impacts such as traffic congestion and pollution are referred to as public resources in
3 Fan et al. (2018)'s model. As tourist numbers increase, public transportation, road capacity
4 and the environment have to be shared by more people, which decreases public resource per
5 capita for hosts. This reduces hosts' utility and negatively affects their attitudes towards
6 tourism development.

7 Most of the aforementioned empirical studies in the tourism field are in support of SET (Ap,
8 1990) at the destination level, indicating that hosts' attitudes towards tourism development is
9 determined by the impact of tourism development on their well-being. After 12 years of rapid
10 growth, P2P accommodation's impacts on housing prices, taxes, and traffic congestion have
11 been reported by the media (Chung, 2017; Skift, 2017). However, to date there has been
12 limited empirical evidence from scientific research to comprehensively assess P2P
13 accommodation's impacts on community residents' well-being.

14 ***2.2 Impact of P2P Accommodation on Destinations***

15 As the rapid growth of P2P accommodation listings, some research has emerged recently to
16 investigate the impact of P2P accommodation on destinations' housing markets, particularly
17 in the US. The rationale is P2P accommodation, which implies short-term stays/rentals, is
18 more profitable for landlords. Thus, landlords would prefer to make their property available
19 for the short-term rather than the long-term market. With the decreasing housing supply, the
20 cost of long-term rental increases. Barron et al. (2017) aggregated individual P2P
21 accommodation listings and property rental data in the US into zip code level and adopted a
22 panel data model to explore the relationship between the number of P2P accommodation
23 listings and housing prices. They revealed that one percent growth in P2P accommodation
24 listings causes a 0.018 percent raise in rents and a 0.026 percent raise in house prices.
25 Focusing on the City of Boston, Massachusetts, Horn and Merante (2017) found that a one

1 standard deviation increase of P2P accommodation listing concentration leads to a 0.4
2 percent increase in asking rents. Coles et al. (2017) argued that as the short-term stay market
3 continues to develop, the return rate is not as attractive as before, thus the impact of P2P
4 accommodation on the housing market of New York is limited. Brauckmann (2017) further
5 explained that the pressure on rents caused by P2P accommodation is only limited to central
6 locations and that the impact on the whole housing market needs to be observed
7 continuously.

8 In addition to its impact on housing markets, other impacts of P2P accommodation on local
9 communities have also been observed. Schor and Attwood-Charles (2017) found that
10 different platforms in the sharing economy, including Airbnb, facilitate race discrimination.
11 Cheng and Foley (2018) analyzed comments to the news article regarding Airbnb's new
12 discrimination policy using text mining and identified that from the reader's perspective, P2P
13 accommodation could cause digital discrimination based upon sexual orientation, gender, and
14 race. Edelman, Luca and Svirsky (2017) conducted a field experiment and found the rent
15 requests sent by guests with African American names are 16 percent more likely to be
16 rejected than guests with White American names, suggesting the existence of race
17 discrimination on the Airbnb platform. The fast development of P2P accommodation also
18 challenges the current regulation policies. Nieuwland and van Melik (2018) reviewed the
19 regulation of P2P accommodation in 11 cities. They summarized that most regulations focus
20 on mitigating the impacts on neighborhoods, such as through limiting the number of nights
21 and times a property can be rented, as well as limiting the number of guests. One of the main
22 appeals for guests to choose P2P accommodation is interactions with a host and locals
23 (Paulauskaite et al., 2017; Tussyadiah and Pesonen, 2016). Although it is understandable that
24 such regulation aims to minimize negative externality on the neighborhoods (e.g. negative
25 impacts on neighboring residents), the sustainable development of P2P accommodation and

1 the sustainable relationship between P2P accommodation and local communities need to be
2 further investigated.

3 ***2.3 Impact of Tourism Development on Community Members' Well-being***

4 According to SET, attitudes of hosts are determined by the impact of tourism development on
5 hosts' well-being. Subjective well-being is more widely used in tourism literature than
6 objective measures(Uysal et al. 2016). Numerous studies have also demonstrated that well-
7 being is multi-dimensional and influenced by economic, social and environmental (e.g. health
8 and safety) factors (e.g., Dolan et al., 2011; Kim, Uysal, & Sirgy, 2013; Uysal et al. 2016).
9 That is, according to the bottom-up spillover theory introduced by Uysal et al. (2016) into
10 resident well-being studies, an individual's economic, social and environmental well-beings
11 will contribute to their overall life satisfaction.

12 Nawijn and Mitas (2012) used Palma de Mallorca, a popular destination in Spain as an
13 example and indicated the perceived tourism impacts are positively related to cognitive
14 components of life satisfaction using the data collected from 373 local residents. Similarly,
15 Woo, Kim and Uysal (2015) collected data from five destinations in the US and revealed that
16 there is a positive relationship between perceived tourism development and overall quality of
17 life, mediated by satisfactions toward different life domains (i.e., economic, social,
18 environmental). Finally, Nunkoo and So (2016) examined five types of model settings and
19 identified significant impacts of tourism development on quality of life in the model with the
20 best model fit.

21 Although P2P accommodation has developed dramatically for 12 years and both positive and
22 negative impacts have been observed (Chung, 2017; Skift, 2017), the impact of P2P
23 accommodation development on the well-being of residents in the community is overlooked
24 by academia. To our best knowledge, Jordan and Moore (2018) is one of the few studies

1 focusing on the influence of P2P platforms on local communities. In their study, twelve in-
2 depth interviews were conducted with residents living in Hawaii and the results of the
3 thematic analysis indicated residents perceive both positive and negative economic, social,
4 and environmental impacts brought by P2P accommodation. However, Jordan and Moore
5 (2018) did not further explore the impact of P2P accommodation on community residents'
6 wellbeing.

7 ***2.4 Framework of the Study***

8 Based on the above literature, two research gaps are identified. First, although a few studies
9 have focused on the impact of P2P accommodation from different perspectives, there has
10 been no investigation into the impact in a holistic manner. Second, there is a dearth of
11 research investigating perceived impact of P2P accommodation development on community
12 residents' well-being. To fill in these gaps, a conceptual framework is proposed, as illustrated
13 in Figure 1.

14 **Figure 1 about here**

15 There are three types of constructs presented in Figure 1. The exogenous construct is
16 perceived level of P2P accommodation in the community. Most residents may not know the
17 exact number of P2P listings in the community, thus only the information of perceived level
18 of P2P accommodation can be collected from them. The adaption of subjective indicators is
19 in line with previous resident well-being studies in the tourism literature which reveal that
20 perceived tourism development impact can influence the well-being domains (Kim et al.,
21 2013; Uysal et al. 2016).

22 A few P2P studies have shown the impact of P2P accommodation development on
23 destinations (Barron et al., 2017; Schor and Attwood-Charles, 2017), thus, we extend the
24 previous research into a micro level and examine the perceived economic, social and

1 environmental impact from residents' perspective. According to SET, the attitude of residents
2 toward tourism depends on the net balance of the comparison between benefits and costs.
3 Thus, perceived economic, social and environmental impacts are further split into positive
4 and negative impacts in order to capture the perceived influence of P2P accommodation more
5 precisely.

6 The key variables of the framework are the well-being of residents. To correspond with the
7 different impacts generated by P2P accommodation development, the well-being domains are
8 tailored into economic, social and environmental perspectives, respectively. The premise of
9 the bottom-up spillover theory introduced by Uysal et al. (2016) is that the different life
10 domain well-beings have a spillover effect on overall life satisfaction. Because the three well-
11 being domains can be correlated with each other, overall life satisfaction is introduced into
12 the framework as a control variable to address the endogeneity issue. This is consistent with
13 scholars such as Skevington and Böhnke (2018), who have demonstrated that quality of life
14 and well-being are complimentary, yet distinct, constructs which together can measure the
15 concept more comprehensively.

16 After 12 years of development, the impact of P2P accommodation has drawn increasing
17 attention from academia and the media (Barron et al., 2017; Cheng and Foley, 2018; Chung,
18 2017; Skift, 2017). One of the contributions of this study is to be among the firsts to
19 investigate the impact of P2P accommodation development from a holistic perspective, not
20 focusing on one particular type of impact such as Merante (2017) on housing market or
21 Cheng and Foley (2018) on discrimination. The proposed framework can be used to compare
22 the overall positive and negative impacts from economic, social, and environmental
23 perspectives. The hypotheses underlying the framework (H_1 - H_3) are proposed as follows:

1 **H₁:** The relationship between perceived positive economic impact and perceived peer-to-
2 peer accommodation development is significantly stronger than the relationship between
3 perceived negative economic impact and perceived peer-to-peer accommodation
4 development.

5 **H₂:** The relationship between perceived positive social impact and perceived peer-to-peer
6 accommodation development is significantly stronger than the relationship between
7 perceived negative social impact and perceived peer-to-peer accommodation development.

8 **H₃:** The relationship between perceived positive environmental impact and perceived peer-
9 to-peer accommodation development is significantly stronger than the relationship between
10 perceived negative environmental impact and perceived peer-to-peer accommodation
11 development.

12 To find empirical evidence for SET, Lvles (2017) investigated residents from 32 European
13 countries using six waves of the European Social Survey data in 2002-2013. By estimating
14 the model with both ordinary least square and instrumental-variable approaches, he found the
15 impact of tourism development on well-being is not a linear relationship, but follows a bell-
16 shape, which means as the development of tourism (akin to the development of P2P
17 accommodation) grows, the impact on communities' wellbeing increases to a certain level
18 before it starts to decline. This observation has been replicated in Fan et al. (2018). Based on
19 the aforementioned literature, it can be predicted that the relationship between P2P
20 accommodation development and residents' well-being is also non-linear. Thus, the
21 following research hypotheses have been developed:

22 **H_{4a} & H_{4b}:** The relationship between perceived positive/negative economic impacts of peer-
23 to-peer accommodation and individual's economic well-being can be moderated by perceived
24 number of peer-to-peer accommodation listings in the community.

1 **H_{5a} & H_{5b}:** The relationship between perceived positive/negative social impacts of peer-to-
2 peer accommodation and individual's social well-being can be moderated by perceived
3 number of peer-to-peer accommodation listings in the community.

4 **H_{6a} & H_{6b}:** The relationship between perceived positive/negative environmental impacts of
5 peer-to-peer accommodation and individual's environmental well-being can be moderated by
6 perceived number of peer-to-peer accommodation listings in the community.

7 **3. Methods**

8 ***3.1 Sampling***

9 In order to empirically test the hypothesized relationships between perceived P2P
10 accommodation development and community residents' well-being, an online questionnaire
11 methodology was utilized. The online questionnaire was distributed to a panel of UK
12 residents (including England, Wales, Scotland, and Northern Ireland) maintained by Survey
13 Sampling International (SSI). A purposive sampling plan specified that residents of the
14 Greater London area constitute 50 percent of the sample, as questions regarding P2P
15 accommodations are particularly relevant for urban communities and because London is
16 among the cities with the highest number of P2P accommodation listings. In total, 780
17 responses, 390 of which are residents of Greater London and 390 are living elsewhere in the
18 UK were obtained in June 2018 (Stienmetz, Liu & Tussyadiah, 2019). The average time
19 spent by the respondents to finish the survey is 7.7 minutes with the standard deviation of
20 20.61 minutes. The time duration of all respondents is within the interval of ± 3 standard
21 deviations, so all 780 samples were recognized as valid samples. Additionally, an "attention
22 check" item was included midway through the questionnaire to ensure that respondents were
23 not answering questions randomly.

3.2 Measurement

As shown in Table 1, all measurement items for the research model were adapted from extant studies. Well-being constructs' (i.e. economic well-being, social well-being, and environmental well-being) measurement scales were anchored by "totally unhappy" and "totally happy" and the single-item measure of overall life-satisfaction was measured from "not at all satisfied" to "completely satisfied". Well-being is defined as the overall assessment of life satisfaction including cognitive evaluations and emotional reactions to the satisfaction (Diener, 1984; Diener and Diener, 1995). Although the measurement of subjective well-being has been widely investigated in either mainstream social science literature (Skevington and Böhnke, 2018) or tourism research (Uysal et al., 2016), considering all the respondents are UK residents, the measurements of Dolan, Layard and Metcalfe (2011) with 11-point scales, which are recommended by the Office for National Statistics of UK, are selected in this study. Perceived level of P2P accommodation development within a community was measured from "very low" to "very high" (Vargas-Sánchez, Oom do Valle, da Costa Mendes, and Silva, 2015). The six dimensions of perceived P2P accommodation community impacts (i.e. positive and negative; economic, social, and environmental) were measured with Likert scales ("strongly disagree" to "strongly agree") using items adapted from Ko and Stewart (2002). All the items are measured by 11-point scales to maximize the data variance. Addition survey questions included the number of years lived in their current community, whether they had experience listing a P2P accommodation or staying in a P2P accommodation, as well as respondent gender, age, and education.

Table 1 about here

3.3 Estimation Procedure

Partial Least Squares (PLS) was used to evaluate the research model and test all hypotheses. While covariance-based structural equation modelling (CB-SEM) is a confirmatory method

1 most appropriate for evaluating measurement models for the purpose of theory testing, it can
2 only be used to estimate models with multi-normal distributed data which is a very strong
3 assumption for tourism and hospitality studies. To achieve a more robust and reliable
4 estimation result, the PLS methodology for assessing the measurement model is considered
5 most appropriate (Wynne W Chin, Marcolin, & Newsted, 2003). SmartPLS version 3.2.7
6 software (Ringle, Wende, & Becker, 2015) was used for this analysis.

7 **4. Results**

8 *4.1 Descriptive Analysis*

9 Sample characteristics are reported in Table 2. There was an approximately even split
10 between genders and a representative distribution of education levels. Greater London
11 residents have higher levels of education compared to non-London residents (17.5 percent
12 more London residents report obtaining a bachelor's degree). The non-London subsample is
13 significantly older in comparison to the Greater London area sub-sample (31.0 percent more
14 non-London residents reported an age of at least 45 years old). Overall, about an eighth (12.4
15 percent) of all respondents have lived in their community for less than five years, while
16 approximately half (49.1 percent) reported to have lived 20 years or more in their current
17 community. While relatively few (6.2 percent) UK residents reported listing P2P
18 accommodations, over a fifth (21.4 percent) of all respondents claimed to have previously
19 stayed in P2P accommodation. When comparing sub-samples, slightly more London
20 residents (26.9 percent) use P2P accommodation compared to non-London residents (15.9
21 percent).

22 **Table 2 about here**

23 The descriptive statistics for model measurement items are reported in Table 3. Among the
24 UK residents sampled (n=780), the perceived level of P2P accommodation development

1 within their communities was just below the midpoint of the 11-point scale (mean=4.59,
2 sd=2.72). Likewise, the means of the individual items measuring the perceived positive and
3 negative impacts of P2P accommodation on community were all near the midpoint value,
4 ranging from a low of mean=4.06 (sd=2.55) for Negative Social Impact_4 (increases in
5 illegal gambling) to a high of 5.72 (sd=2.53) for Positive Economic Impact_3 (contributes to
6 income and standard of living). Mean values for the items measuring well-being and life
7 satisfaction all ranged well above the midpoint, ranging from a low of 6.74 (sd=2.92) for
8 Economic Well-being_1 (satisfaction with job) to a high of 8.14 (sd=2.43) for Social Well-
9 being_1 (satisfaction with the amount of leisure time).

10 **Table 3 about here**

11 ***4.2 Measurement Model***

12 Prior to testing the hypothesized relationships of P2P accommodation perceptions with
13 community residents' well-being, it is necessary to evaluate the measurement model. A valid
14 measurement model requires convergent and discriminant validity. The average variance
15 extracted (AVE) is used to evaluate convergent validity, with values of .50 or greater deemed
16 acceptable (Hair et al., 2011). As shown in Table 4, the AVE values of all constructs exceed
17 the minimum acceptable value. All the composite reliability values are larger than the
18 minimum recommended value of 0.70, which confirms convergent validity (Fornell &
19 Larcker, 1981). Most of the Heterotrait-Monotrait Ratios (HTMT) between different
20 constructs are smaller than 0.9, meaning that the discriminate validity is also confirmed
21 (Henseler, Ringle, & Sarstedt, 2014).

22 **Table 4**

1 ***4.3 Structural Model and Hypothesis Testing***

2 In PLS, path coefficients, R-squared (R^2) and f-squared (f^2) are used to evaluate the strength
3 of relationships among latent variable constructs. R-squared is the primary criterion used to
4 assess the explanatory power of a structural model, and, according to Chin (1998, 323), R-
5 square values of 0.19, 0.33, and 0.67 demonstrate “weak,” “moderate,” and “substantial”
6 explanatory power, respectively. Statistical significance of relationships was determined
7 using the SmartPLS bootstrapping procedure, with 10,000 subsamples used to calculate the t-
8 statistic for each path coefficient (Streukens & Leroi-Werelds, 2016). The explanatory power
9 of exogenous constructs on endogenous constructs is measured with f-squared, with values of
10 0.02, 0.15 and 0.35 representing weak, median and strong effect size, respectively (Cohen,
11 1992). The overall results of hypothesis testing are shown in Figure 2. The total effects for
12 the structural model are also summarized in Table 5. For the sample of UK residents, the R^2 s
13 of perceived level of P2P accommodation development within a community on perceived
14 positive economic, social and environmental impact are 0.173, 0.174 and 0.178, respectively.
15 The corresponding f^2 s are 0.210, 0.211 and 0.217, respectively. Interestingly, the perceived
16 level of P2P accommodation development has much weaker explanatory power for the
17 perceived negative economic, social, and environmental impacts compared to the perceived
18 positive economic, social, and environmental impacts.. The R^2 s and f^2 s are all around 0.02 for
19 each of these latent constructs. While the explanatory power of perceived P2P
20 accommodation development level varies for each class of impacts, the path coefficients are
21 all statistically significant with medium or large effect sizes. The same moderate positive path
22 coefficients are found between perceived P2P accommodation development level and
23 perceived positive economic ($B=.42$, $p<.001$, $f^2=.210$), positive social ($B=.42$, $p<.001$,
24 $f^2=.211$), and positive environmental ($B=.42$, $p<.001$, $f^2=.217$) impacts, while weaker effects
25 are observed for perceived negative economic ($B=.16$, $p<.001$, $f^2=.025$), negative social

1 (B=.14, $p<.001$, $f^2=.0021$), and negative environmental (B=.15, $p<.001$, $f^2=.020$) impacts.
2 Wald tests show that perceived positive economic ($Z=5.02$, $p<.001$), social ($Z=5.29$, $p<.001$)
3 and environmental ($Z=5.39$, $p<.001$) impacts of P2P accommodation in the community are
4 significantly larger than the perceived negative impacts, indicating H_1 to H_3 cannot be
5 rejected.

6 **Figure 2 about here**

7 **Table 5 about here**

8 In addition, overall life satisfaction (QOL) is found to have significant influence on
9 economic, social and environmental well-being. The path coefficients of life satisfaction to
10 each of the three well-being constructs are all equal to 0.71 with the effect sizes close to one.
11 Interestingly, only perceived negative social impact (B=-.06, $p=.079$, $f^2=.003$) and perceived
12 negative environmental impact (B=-.07, $p=.020$, $f^2=.009$) are found to have small but
13 statistically significant negative relationships with social and environmental well-being
14 respectively. Since f^2 s are less than 0.02, it further suggests that P2P's perceived negative
15 social and perceived negative environmental impacts on the community will have limited
16 influence on individual well-being, but perceived positive community impacts of P2P
17 accommodation (including perceived economic, social and environmental impacts) will not
18 influence individual well-being at all. The perceived negative economic impacts of P2P
19 accommodation on a community are also found to have a non-significant relationship with
20 economic well-being.

21 Lastly, the direct and moderating effects of the perceived level of P2P accommodation
22 development on the three dimensions of well-being were examined while evaluating H_4 to
23 H_6 . Perceived level of P2P accommodation was found to have no significant direct impact on
24 well-beings. Perceived P2P accommodation development level in a community is only found

1 to have partial moderating effects on the relationship between perceived negative economic
2 impact and economic well-being ($B=.06$, $p=.028$, $f^2=.01$) and perceived negative social
3 impact and social well-being ($B=.06$, $p=.021$, $f^2=.008$). Since the path coefficients of
4 perceived negative economic and social impact on the corresponding well-being are negative,
5 a positive interaction term between perceived P2P accommodation level and perceived
6 impact indicates that as the perceived development of P2P accommodation increases, the
7 negative path coefficient will become smaller. Thus, it appears that perceived P2P
8 accommodation level actually weakens the negative relationships between well-being and
9 perceived negative impacts, rather than strengthen them as hypothesized. Therefore, H_{4a} , H_{5a} ,
10 H_{6a} and H_{4b} are rejected whereas H_{5b} and H_{6b} cannot be rejected. Importantly, although the
11 structural model shows good explanatory power for economic ($R^2=.520$), social ($R^2=.510$)
12 and environmental well-being ($R^2=.522$), f^2 's indicate weak explanatory power of perceived
13 P2P community impacts on well-being and the variance of well-being are mostly explained
14 by overall life satisfaction. These results suggest that perceived P2P accommodation level
15 and perceived P2P community impacts have relatively little influence on individuals' well-
16 being.

17 **5. Discussion and Conclusion**

18 The results of this study demonstrate that the perceived level of P2P accommodation
19 development in the community has both positive and negative impact on residents' well-
20 being. Interestingly, the relationships of perceived P2P accommodation development with
21 perceived positive community impacts are more pronounced than that of the perceived
22 negative community impacts. The perceived development of P2P accommodation has
23 moderating effects on the relationships between perceived negative social and environmental
24 impacts on individuals' social and environmental well-being, respectively.

1 ***5.1 Impact of Perceived P2P Accommodation on Community Residents' Economic***
2 ***Well-being***

3 Residents' perception of the level of P2P accommodation development highly positively
4 influences the perceived positive economic impact of P2P accommodation on the community.
5 This indicates that residents in general are supportive of the development of P2P
6 accommodation in their community and believe that P2P accommodation brings
7 improvements to investment, employment, income and infrastructure. However, this
8 perceived positive economic impact is not strong enough to improve their economic well-
9 being. Although lower in magnitude, a significant relationship between P2P accommodation
10 development and negative economic impact is also identified. Results show a weak link from
11 the perceived level of P2P accommodation development and how residents consider P2P
12 accommodation to bring economic costs to the community, be it from real estate prices and
13 property taxes or from cost of living due to increased prices of goods and services. This
14 indicates that the highly debated issue of increased housing prices as a negative outcome of
15 P2P rentals in previous literature (Barron et al., 2017; Horn and Merante, 2017) is rather
16 weak in this study context. This study reveals the economic impact of P2P accommodation
17 development from residents' perspectives. While residents who rent property may suffer from
18 increased rent costs, those residents who own property are likely to see the same increase in
19 rent as a positive economic impact. Thus, overall speaking, no significant relationship
20 between negative economic impact and well-being is identified in this study. Future research
21 is needed to better understand the relationship between property ownership and perceived
22 economic impact of P2P accommodation within a community.

23 ***5.2 Impact of Perceived P2P Accommodation on Community Residents' Social***
24 ***Well-being***

1 The perceived development of P2P accommodation leads to stronger perceived positive
2 social impacts than perceived negative impacts. This indicates residents appreciate P2P
3 accommodation development as it facilitates the availability of recreation and entertainment,
4 cultural activities, and public facilities in the community, even though it may also cause
5 crime, traffic accidents and exploitation of local residents. Although relatively low in
6 magnitude, a statistically significant negative relationship between perceived negative social
7 impacts and social well-being was found. That is, a high level of perceived negative social
8 impacts, such as increased crime and accidents, leads to lower social well-being amongst
9 residents. However, an increased level of P2P accommodation development may lessen the
10 negative impact on social well-being. As the development of P2P accommodation intensifies,
11 negative impacts such as congestion and exploitation of local residents can be mitigated by
12 economic development and more comprehensive regulations (Nieuwland & van Melik,
13 2018).

14 ***5.3 Impact of Perceived P2P Accommodation on Community Residents'***

15 ***Environmental Well-being***

16 Residents also perceived stronger positive environmental impacts than negative ones; this
17 indicates that residents recognize that compared with positive impacts such as the
18 improvement of community appearance, the damages to the natural environment and
19 increases in pollution (Garau-Vadell et al., 2019; Gutiérrez-Taño, Garau-Vadell & Díaz-
20 Armas, 2019) are limited. However, while no significant positive influence of perceived
21 positive environmental impacts on environmental well-being was identified, perceived
22 negative environmental impacts of P2P accommodation do lead to a lower environmental
23 well-being of residents. The level of P2P accommodation development moderates the
24 relationship between the perceived negative environmental impact and environmental well-
25 being, such that increases in P2P accommodation may diminish the effect of perceived

1 negative impacts on individuals' environmental well-being. This unexpected finding could
2 possibly be explained by residents' eventual tolerance of negative environmental impacts
3 (Haukeland, Veisten, Grue and Vistad, 2013), but further research is needed to better
4 understand this phenomenon.

5 ***5.4 Relationship of P2P Accommodation with Community Residents' Well-being***

6 The findings of this study indicate that the direct effects of perceived P2P accommodation
7 development on a community residents' well-being are rather marginal. There are no
8 significant relationships between perceived positive impacts to the community and well-
9 beings. Although significant relationships between perceived negative impacts and social and
10 environmental well-beings are identified, the magnitude is limited. This may be due to the
11 fact that residents see the stronger benefits of P2P development in their community when
12 compared to its costs, or that neither the benefits nor the costs of P2P accommodation
13 development bring notable changes to their lives.

14 The path coefficients between these variables are weak, indicating that while playing a role in
15 residents' well-being, P2P accommodation impacts can be considered almost negligible in
16 supporting or lessening residents' well-being. The interaction effects also demonstrated
17 similar patterns as above. By the end of 2018, there were 75,700 Airbnb listings in London
18 and 147,500 listings outside the London region (Airbnb, 2018). Meanwhile, there were a
19 corresponding 141,000 hotel rooms in London and 700,000 hotel rooms outside the London
20 region(PWC, 2019). The emergence of P2P accommodation does not significantly expand the
21 capacity of the hospitality industry in the UK. Limited expansion of accommodation capacity
22 will not stimulate a sharp increase in visitor numbers and, thus, will not generate a noticeable
23 impact on well-being. Even the variation of impact is observed by the resident, if her own
24 well-being is not at stake, the impact of P2P accommodation on resident's well-being cannot

1 be perceived. Thus, the path coefficients between perceived P2P accommodation level and
2 well-being are trivial. This may be an indication that the development of P2P accommodation
3 in Greater London and other areas within the UK are still within the remit of residents'
4 support in that further development at this stage does not lead to significant changes in
5 residents' well-being, positive or negative.

6 It is evident that residents have a more positive attitude toward P2P accommodation
7 development, as indicated by higher path coefficients of perceived P2P development on
8 perceived positive impacts compared to perceived negative impacts. Therefore, according to
9 SET, residents will still support the development of P2P accommodation in their
10 communities. However, in order to ensure sustainable business models, the industry must
11 maintain the social appeal of P2P accommodation, which is the allure of more meaningful
12 interactions with local residents (Paulauskaite et al., 2017; Tussyadiah and Pesonen, 2016).
13 P2P platforms and peer providers (e.g. Airbnb hosts) face as significant challenge in
14 satisfying visitors with localness and interactions, while at the same time avoiding the
15 exploitation of residents and community resources to endure minimal negative social,
16 economic, and environmental impacts on residents and the neighborhood.

17 After about 12 years since the introduction of Airbnb, the development of P2P
18 accommodation seems to be affecting the community rather weakly, at least from the
19 residents' perspectives. On one hand, this could be an indication that euphoria around the
20 disruptive innovation has slowly subsided, followed by tolerance of local residents toward the
21 development of this business model. On the other hand, this could be an indication that
22 current regulation of P2P accommodation enforced in Greater London and the UK (e.g. 90
23 day bans) is working properly to optimize the impacts of P2P accommodation on the
24 community. What is common between these two roots is the importance of ensuring that
25 negative impacts are avoided and positive impacts continue to be felt by residents to achieve

1 the sustainable development of the P2P accommodation sector. In particular, perceived
2 negative social and environmental impacts seem to be significant in lessening residents' well-
3 being. Therefore, policymakers are to pay more attention to enacting regulations to reduce
4 damages to the environment and to curtail crime, vandalism, prostitution, and other crimes
5 brought to the community by visitors staying in P2P accommodation. This is of utmost
6 importance to ensure the alignment of P2P accommodation development with the sustainable
7 development goals across different destinations.

8 This study contributes to literature by explicating the impacts of P2P accommodation on the
9 community as perceived by residents. Previous literature on this topic has concentrated on the
10 disruptive nature of P2P accommodation and how it has generated significant impacts on the
11 accommodation industry as it has affected the (performance of) traditional hotel companies
12 (Guttentag and Smith, 2017; Xie and Kwok, 2017; Zervas, Proserpio, and Byers, 2017). Its
13 impacts on the community have been a focus of interest to scholars particularly with regards
14 to increasing housing prices/rent (Barron et al., 2017; Horn and Merante, 2017). However,
15 these previous studies were not comprehensive in their analyses of P2P accommodation
16 impacts on residents. This study provides a holistic view of the perceived impacts of P2P
17 accommodation development in the community on residents' well-being, from the subjective
18 perspective of residents. Therefore, this study offers an important layer of analysis from a
19 significant stakeholder (residents), in addition to the industry and visitors' perspectives,
20 contributing to a more exhaustive understanding of P2P accommodation as a socio-economic
21 phenomenon and a force of community development. The results of the study also contribute
22 to a better understanding of industry challenges to ensure the sustainability of its businesses
23 as well as challenges for policymakers to align the development of P2P accommodation with
24 the overall sustainable development goals of the destinations. The fact that the study context
25 includes residents in Greater London, one of the fastest growing markets of P2P

1 accommodation, and other UK areas allows the results of this study to directly inform
2 stakeholders in the areas under study and indirectly inform those in areas with similar
3 characteristics and level of development, as well as those in less developed areas to anticipate
4 future economic, social, and environmental impacts and thus prepare to mitigate them.

5 Despite its contribution, this study has several limitations, which should be accommodated in
6 future studies. This study offers a snapshot of impacts of P2P accommodation on residents'
7 well-being at a particular point in time. Therefore, it does not capture the changes in
8 residents' well-being as the development of P2P accommodation follows different
9 development stages suggested by Doxey's Iridex model (Doxey, 1975). It does not offer
10 insights on peaks and troughs, or the dynamics of impacts as the actual number of listings
11 changes. Therefore, a longitudinal study with larger sample size in different regions will
12 allow for analyzing these dynamics in the future and capture the heterogeneity across regions
13 to explicate the stages of development of P2P accommodation in the community and the
14 stages of residents' attitudes as they are influenced by the impacts of this development. Also,
15 in addition to measuring residents' subjective perception of the development level, it will be
16 beneficial for future studies to use quantitative data from the area, such as actual number of
17 listings, density of listings, prices, etc., to verify the extent of P2P accommodation
18 development. Lastly, this study treats all residents equally in the model and includes those
19 who currently reside in the area under study, hence offers general attitude toward P2P
20 accommodation development (instead of extreme cases) and may have missed those who had
21 to leave their old neighborhood due to P2P accommodation development. Future studies
22 should develop ways to identify a group of residents who are marginalized (worse off) due to
23 P2P accommodation to better understand those who suffered extreme effects of P2P
24 accommodation expansion.

25

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Table 1: Research Model Measurement Items

Construct	Scale Items	Literature
Perceived level of P2P accommodation in community (P2P)	P2P: How would you characterise the present number of peer-to-peer accommodations available in your community?	(Vargas-Sánchez et al., 2015)
Positive economic impacts of P2P in community (POS_ECON)	Peer to peer accommodation in my community... POS_ECON_1: Improves investment, development, and infrastructure in the economy POS_ECON_2: Increases employment opportunities POS_ECON_3: Contributes to income and standard of living POS_ECON_4: Improves my community's overall tax revenue	(Ko & Stewart, 2002)
Negative economic impacts of P2P in community (NEG_ECON)	Peer to peer accommodation in my community... NEG_ECON_1: Unfairly increases real estate cost and property taxes NEG_ECON_2: Increases the cost of living NEG_ECON_3: Increases the price of goods and services	(Ko & Stewart, 2002)
Positive social impacts of P2P in community (POS_SOC)	Peer to peer accommodation in my community... POS_SOC_1: Increases availability of recreational facilities and entertainment POS_SOC_2: Improves understanding and image of different cultures POS_SOC_3: Increases demand for historical and cultural exhibits POS_SOC_4: Encourages variety of cultural activities	(Ko & Stewart, 2002)
Negative social impacts of P2P in community (NEG_SOC)	Peer to peer accommodation in my community... NEG_SOC_1: Increases traffic accidents NEG_SOC_2: Increases crime/robberies/vandalism NEG_SOC_3: Increases alcoholism, prostitution, and sexual permissiveness NEG_SOC_4: Increases gambling/illegal games NEG_SOC_5: Increases exploitation of local residents	(Ko & Stewart, 2002)
Positive environmental impacts of P2P in community (POS_ENV)	Peer to peer accommodation in my community... POS_ENV_1: Preserves the environment and improves the appearance (and image) of the area POS_ENV_2: Improves the living, utilities infrastructure (supply of water, electric, and telephone, etc.)	(Ko & Stewart, 2002)

	POS_ENV_3: Improves the public facilities (pavement, traffic network, and civic center)	
Negative environmental impacts of P2P in community (NEG_ENV)	Peer to peer accommodation in my community... NEG_ENV_1: Damages the natural environment and landscape NEG_ENV_2: Destroys local ecosystems NEG_ENV_3: Increases environmental pollution (litter, water, air, and noise)	(Ko & Stewart, 2002)
Sense of economic well-being (WB_ECON)	How satisfied are you with... WB_ECON_1: Your job WB_ECON_2: Your financial situation	(Dolan et al., 2011)
Sense of social well-being (WB_SOC)	How satisfied are you with... WB_SOC_1: The amount of leisure time you have WB_SOC_2: The way you spend your leisure time WB_SOC_3: Your social life	(Dolan et al., 2011)
Sense of environmental well-being (WB_ENV)	How satisfied are you with... WB_ENV_1: Your health WB_ENV_2: Your housing WB_ENV_3: The environment around you	(Dolan et al., 2011)
Quality of Life (QOL)	QOL: Overall, how satisfied are you with your life nowadays?	(Dolan et al., 2011; Kim, Uysal, & Sirgy, 2013)

Table 2. Sample Characteristics, n=780

		All UK Residents (n=780)	Greater London Residents (n=390)	Outside London Residents (n=390)
Gender	Male	50.5%	53.8%	47.2%
	Female	49.5%	46.2%	52.8%
Age	18-24 years	5.8%	7.7%	3.8%
	25-34 years	13.2%	15.4%	11.0%
	35-44 years	15.5%	17.2%	13.8%
	45-54 years	19.2%	17.7%	20.8%
	55-64 years	23.8%	18.7%	29.0%
	65 year or older	22.4%	23.3%	21.5%
Education	No qualifications	5.6%	4.1%	7.2%
	GSCE or equivalent	20.6%	16.2%	25.1%
	A levels or equivalent	21.8%	20.0%	23.6%
	Apprenticeship	2.3%	1.8%	2.8%
	Bachelor's degree	30.8%	36.9%	24.6%
	Master's degree	9.0%	10.8%	7.2%
	Other qualifications	6.3%	5.9%	6.7%
	Doctorate degree	3.6%	4.4%	2.8%
Stayed in P2P	No	78.6%	73.1%	84.1%
	Yes	21.4%	26.9%	15.9%
Listed with P2P	No	93.8%	92.8%	94.9%
	Yes	6.2%	7.2%	5.1%
Years Living in Community	Less than 5 years	12.4%	13.3%	11.5%
	5 to 9 years	15.3%	15.6%	14.9%
	10 to 19 years	23.2%	21.8%	24.6%
	20 or more years	49.1%	49.2%	49.0%

(Stienmetz, et al., 2019)

Table 3. Descriptive Statistics for Measurement Items and Model Constructs

Construct	Item	Mean	SD	Cronbach's alpha
P2P	P2P	4.59	2.72	1.00
NEG_ECON	NEG_ECON_1	5.43	2.72	0.90
	NEG_ECON_2	5.15	2.72	
	NEG_ECON_3	4.89	2.60	
NEG_SOC	NEG_SOC_1	4.55	2.61	0.94
	NEG_SOC_2	4.80	2.70	
	NEG_SOC_3	4.31	2.70	
	NEG_SOC_4	4.06	2.55	
	NEG_SOC_5	5.11	2.69	
NEG_ENV	NEG_ENV_1	4.53	2.60	0.92
	NEG_ENV_2	4.50	2.58	
	NEG_ENV_3	5.10	2.67	
POS_ECON	POS_ECON_1	5.02	2.54	0.91
	POS_ECON_2	5.18	2.55	
	POS_ECON_3	5.72	2.53	
POS_SOC	POS_SOC_1	4.98	2.62	0.91
	POS_SOC_2	5.58	2.52	
	POS_SOC_3	5.36	2.56	
	POS_SOC_4	5.56	2.58	
POS_ENV	POS_ENV_1	4.71	2.48	0.93
	POS_ENV_2	4.61	2.54	
	POS_ENV_3	4.58	2.55	
WB_ECON	WB_ECON_1	6.74	2.92	0.70
	WB_ECON_2	6.88	2.73	
WB_ENV	WB_ENV_1	7.33	2.42	0.76
	WB_ENV_2	8.10	2.33	
	WB_ENV_3	7.58	2.21	
WB_SOC	WB_SOC_1	8.14	2.43	0.85
	WB_SOC_2	7.90	2.29	
	WB_SOC_3	7.38	2.51	
QOL	QOL	7.75	2.23	1.00

Table 4. Measurement Model Convergent and Discriminant Validity

Composite Reliability	Average Variance Explained	Construct	Heterotrait-Monotrait Ratio (HTMT)												
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		
1.000	1.000	P2P (1)													
0.935	0.827	NEG_ECON (2)	0.161												
0.947	0.857	NEG_ENV (3)	0.147	0.885											
0.952	0.799	NEG_SOC (4)	0.139	0.889	0.961										
0.935	0.783	POS_ECON (5)	0.436	0.184	0.178	0.188									
0.954	0.873	POS_ENV (6)	0.438	0.285	0.302	0.315	0.939								
0.934	0.779	POS_SOC (7)	0.438	0.281	0.176	0.199	0.970	0.915							
0.867	0.766	WB_ECON (8)	0.140	0.054	0.060	0.065	0.083	0.054	0.050						
0.859	0.671	WB_ENV (9)	0.122	0.084	0.091	0.095	0.127	0.126	0.017	0.931					
0.907	0.765	WB_SOC (10)	0.092	0.101	0.079	0.095	0.060	0.053	0.045	0.871	0.947				
1.000	1.000	QOL (11)	0.137	0.006	0.029	0.039	0.119	0.111	0.099	0.852	0.822	0.759			

Table 5. Total Effects within Structural Model

	Total Effect	T Statistic	f-squared
P2P → POS_ECON	0.42	12.04***	0.210
P2P → NEG_ECON	0.16	4.00***	0.025
P2P → POS_SOC	0.42	12.79***	0.211
P2P → NEG_SOC	0.14	3.55***	0.021
P2P → POS_ENV	0.42	12.19***	0.217
P2P → NEG_ENV	0.15	3.67***	0.020
POS_ECON → WB_ECON	-0.02	0.58	0.001
NEG_ECON → WB_ECON	-0.04	1.38	0.003
POS_SOC → WB_SOC	-0.00	0.11	0.000
NEG_SOC → WB_SOC	-0.06	1.76*	0.006
POS_ENV → WB_ENV	0.04	1.11	0.002
NEG_ENV → WB_ENV	-0.07	2.31**	0.009
P2P → WB_ECON	0.03	0.81	0.001
P2P → WB_SOC	0.01	0.53	0.001
P2P → WB_ENV	-0.03	1.00	0.002
P2P*POS_ECON → WB_ECON	-0.00	0.10	0.000
P2P*NEG_ECON → WB_ECON	0.06	2.42**	0.010
P2P*POS_SOC → WB_SOC	0.01	0.51	0.000
P2P*NEG_SOC → WB_SOC	0.06	2.19**	0.008
P2P*POS_ENV → WB_ENV	0.01	0.25	0.000
P2P*NEG_ENV → WB_ENV	0.02	0.74	0.001
QOL → WB_ECON	0.71	32.05***	1.012
QOL → WB_SOC	0.71	31.47***	0.986
QOL → WB_ENV	0.71	29.09***	1.018

Note: ***=p<.001, **=p<.05, *=p<.10