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SHARING ECONOMY DEVELOPMENT PATHS IN NON-URBAN AREAS. THE CASE OF HOSPITALITY PRODUCT IN POLISH NATIONAL PARKS

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ABSTRACT: Although the recent rise of sharing economy platforms revolutionized hospitality market around the world, its impact is unevenly distributed, as a majority of new P2P accommodation providers emerged in urban areas. The aim of this study is to provide sharing economy development paths in areas surrounding all 23 national parks in Poland. This study is conducted basing on data from online observation of 2 sharing economy platforms development with data gathered from official census. Results show that (1) sharing economy is still in its nascent stage in non-urban areas; (2) there is a strong positive relationship between sharing economy accommodation establishments and both the population density and income per capita, (3) population density and income per capita have no effect on the ratio between the number of traditional and sharing economy accommodation establishments. This study contributes to existing literature in following areas: (1) it assesses the sharing economy phenomenon in areas with natural attractions, (2) it validates the relationship between area population density and sharing economy proliferation, (3) it examines the connection between area economic performance and sharing economy proliferation.

KEY WORDS: sharing economy, non-urban areas, airbnb, homeaway, national parks

Introduction

The sharing economy, described by peer-to-peer transactions, has seen an immense growth lately. These marketplaces are defined by direct transactions between individuals (buyers and sellers), while the marketplace itself is provided by a third party which is called sharing economy platform (Botsman, Rogers, 2010). A recent research in Barcelona revealed that the number of beds offered via Airbnb alone, the major sharing economy platform, almost equals 70% of hotel accommodation capacity (50 969 vs. 73 158) (Gutiérrez, García-Palomares, Romanillos, Salas-Olmedo, 2017). For that reason a dramatic growth of sharing economy hospitality platforms that has less than 10 years history has often been called 'eruption'.

The emergence of sharing economy has profoundly changed the supply structure of the hospitality market mainly in urban areas. The sole fact that rental of private apartments poses a real threat to established hotel enterprises with qualified staff, experience and capital resources, questions the very foundations of hospitality marketing such as the importance of target marketing (Karapuda, Sidorkiewicz, 2014), branding, classification, economies of scale and many others. The changes that hospitality industry contemporary faces, can only be compared with the introduction of hotel chains concept in the early 50s, the proliferation of internet in 90s and rise of online travel agents in the early 2010s. Dealing with new, first disregarded than dreaded, competitors requires from hotel managers adjusting almost all marketing instruments (Sidorkiewicz, Pawlicz, 2015), while destination marketers face numerous new challenges connected with regulation and incorporation of sharing economy to the area product. It is especially important for city marketing as, up to date, sharing economy is very often credited to be an urban phenomenon (Deng, 2016; Ranchordás, 2015; Sans, Domínguez, 2016).

Sharing economy soon after its proliferation became a subject of scientific research. Still, as this phenomenon is naturally based on internet technology, also research areas chosen by scholars seem to be limited to highly developed countries with high internet literacy. As the sharing economy phenomenon grows, it can be assumed that it reaches new areas and destinations. This study attempts to address this research gap, by exploring the sharing economy phenomenon in nature-based areas in Poland.

Literature overview

Tourism economic research on sharing economy divided by the subject of study, can be roughly grouped into three main areas: peers, platforms and destinations (figure 1). Still, there are numerous studies that may cover more than one area (e.g. literature review studies). The first group covers the issues of peers, which interestingly covers usually both demand and supply side of the market (Hamari, Sjöklint, Ukkonen, 2015). Besides demographic characteristics (Wiechoczek, 2015) this research pillar covers also participating rationale and consumer behaviour issues (Tussyadiah, Pesonen, 2016).

The second main research area are sharing economy platforms. In this field, there are issues of business concept (Guttentag, 2013; Kathan, Matzler, Veider, 2016; Richardson, 2015), competition between platforms (Weber, 2016) and vogue issues of its regulation (Quattrone, Proserpio, Quercia, Capra, Musolesi, 2016).

Finally, the third main research part is destinations and impact of sharing economy. Usually it covers estimation of sharing economy activity in general in destinations, but can also cover new tourism expenditure (Zervas, Proserpio, Byers, Proserpio, Zervas, 2013) and hectic competition between traditional hospitality business and new accommodation establishments powered by the strength of platforms (Nguyen, 2014; Salvioni, 2016). Very often research is focused on the side effects of sharing economy which is reflected by bringing new tourists to urban environment causing new social contact between tourists and local community (Malhotra, Van Alstyne, 2014). This paper contributes to destination part of sharing economy research by examining the presence of sharing economy in the hospitality product in communes in Polish national parks.

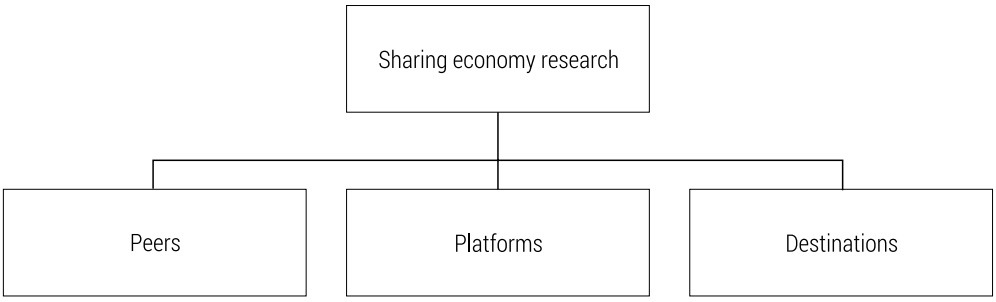

Figure 1. Sharing economy academic research areas

Source: authors' own work.

Previous research on adoption of internet technologies in public administration shows that more densely populated units, i.e. cities tend to use technology much more frequent and better use its potential (Pawlicz, Kubicki, 2016). This is also true in sharing economy research where a majority of research seem to be concentrated in the metropolis (Deng, 2016; Gutiérrez et al., 2017; Oskam, Boswijk, 2016; Rauch, Schleicher, 2015) while rural areas, in particular, seem to be neglected. Although cities are intuitively chosen as a research area (Comp. Wang, Nicolau, 2017), there is little evidence that sharing economy proliferation is related to population density. This study aims to contribute to this research gap which leads to the first hypothesis:

H1. In areas with higher population density, the ratio of accommodation establishments distributed via sharing economy platforms vs. traditional distribution channels is higher than in areas with lower population density.

Sharing economy platforms by definition base on electronic distribution channels. Therefore they can operate only in areas where both providers and customers are highly technology savvy, i.e. in areas with high access to the internet and new technologies and high internet literacy. New technologies and internet literacy are highly dependent on GDP per capita and indeed previous research was conducted mostly in developed countries with high GDP per capita.

H2. In areas with the high economic performance, the ratio of accommodation establishments distributed via sharing economy vs. traditional distribution channels is higher than in those with low economic performance.

Methodology

In order to investigate the effects of population density and economic performance on the sharing economy listings we compared data from 119 communes that are situated (at least partly) in any of all 23 national parks in Poland (hereinafter national parks communes – NPC). A commune is the lowest administrative unit in Poland and according to Central Statistical Office of Poland (*Area and Population in the territorial profile in 2016*, 2016), there are 2478 communes in Poland. 119 national parks communes represent 4,8% of all Polish communes and 6,2% of Poland's area and 3,1% population. Hence, their population density is much lower than Polish average (see table 1). The average and median income per capita, which we used as a proxy for economic performance, is also lower than Polish average but the differences are slight (ca. 5%).

Table 1. Basic information about research area

	NPC – 119 national parks communes (research area)	All communes in Poland
Average population	9929,52	15 511,4
Median population	7073	7543
Average area [km^2]	162,8	126
Median area [km^2]	137,4	112
Average population density [pop/km^2]	90,97	123
Median population density [pop/km^2]	59,2	54
Average income per capita [PLN/pop]	3459,59	3539,01
Median income per capita [PLN/pop]	3296,59	3345,91

Source: authors' own work based on (*Area and Population in the territorial profile in 2016,* 2016).

In order to collect information about the proliferation of accommodation establishments that sharing economy platforms have in their inventory we manually collected information about their availability from two major sharing economy platforms Airbnb and HomeAway. Table 2 depicts basic statistics about the availability of sharing economy platforms in national parks communes. All data have been collected between August 24 and 28, 2017.

Table 2. Basic statistics of usage of sharing economy platforms in 119 national parks' communes

	Airbnb	HomeAway
Average number of units	2,28	1,57
Median number of units	0	0
Number of communes with 0 units	78	103

Source: authors' own work.

The proliferation of sharing economy platforms in national parks' communes is still very weak as any Airbnb listings can be found only in 34% communes while HomeAway is even less popular.

Traditionally, accommodation base is assessed using the data from two main sources. The first is the official register of accommodation establishments in Poland and the second is popular in Poland web service nocowanie.pl, where accommodation providers might buy an advertisement and be included in the database. This usually covers small, non-registered in official

census, accommodation establishments. Similarly to sharing economy this data was also collected manually.

Table 3. Basic statistics of traditional accommodation establishments in 119 national parks' communes (NPC)

	Official register – GUS	Nocowanie.pl
	beds	units
Average	867,19	72,47
Median	178	9

Source: authors' own work.

In order to verify both hypotheses, we divided all communes into two groups based on their population density and income per capita. As a threshold we used a median value as both population density and income per capita data are characterized by strong positive skewness (the values of A_1 are 2,96 and 1,61 respectively). A_1 values of more than 1,00 indicate strong positive skewness (the majority of values are below the average). Skewness has been calculated according to following formula (Middleton, 2004):

$$A_1 = \frac{n}{(n-1)(n-2)} \sum_{i=1}^{n} \frac{(x_i - \bar{x})^3}{S^3}.$$

Then we calculated the ratio of sharing economy (dividend) by traditional accommodation establishments (divisor). As we have two groups of data for both sharing economy and traditional hospitality the outcome will consist of four ratios (2x2=4).

Results

Population density

The median value of population density (pop. per sq km) among NPC was 59,2. Communes with the population higher than median value will be hereinafter referred as high while other as low population density communes. The average number of accommodation units in all four analyzed databases is depicted in table 4.

Table 4. The average number of accommodation units in communes with high and low population density

	GUS	nocowanie.pl	Airbnb	HomeAway
Low	316,49	54,25	0,3	0,97
High	1409,72	91,02	2,86	3,68
Pearson	0,23	0,21	0,24	0,09

Source: authors' own work.

Table 4 indicates that there are substantially more accommodation establishments (both traditional and sharing economy based) in communes with higher population density, although the Pearson correlation numbers show weak relationship. Still the penetration of sharing economy measured as a ratio of sharing economy vs. traditional accommodation establishments is more complex (table 5).

Table 5. The sharing economy vs. traditional accommodation establishments ratios across communes with high and low population density

Ratio	Airbnb / GUS	Airbnb / nocowanie.pl	HomeAway / GUS	HomeAway / nocowanie.pl
Low	0,0031	0,0416	0,0008	0,0352
High	0.0015	0,0279	0,0004	0,0142
Spearman	0,30	0,31	0,43	0,42

Source: authors' own work.

In all 4 ratios from table 5 there are relatively more sharing economy accommodation establishments in low-density areas. Spearman coefficients are positive but relatively weak (Airbnb/GUS or nocowanie) or moderate (HomeAway/GUS or nocowanie). This clearly contradicts with the assumption of a positive relationship between sharing economy development and population density.

Income per capita

The median income per capita (in PLN) among NPC were 3296,59. Communes with the population above median value will be hereinafter referred as high while other as low income per capita communes. The average number of accommodation units in all four analyzed databases is depicted in table 6.

Table 6. The average number of accommodation units in communes with high and low income per capita and Pearson correlations between income per capita and number of accommodation units

	GUS	nocowanie.pl	Airbnb	HomeAway
Low	326,48	27,87	0,08	0,73
High	1417,07	117,85	3,08	3,92
Pearson	0,367	0,287	0,159	0,111

Source: authors' own work.

Table 6 shows that there are, similarly to table 4, substantially more accommodation establishments (both traditional and sharing economy based) in communes with higher income per capita. Pearson coefficients calculated between income per capita and number of accommodation units are, however, moderate and do not show a strong positive relationships.

Still, the penetration of sharing economy measured as a ratio of sharing economy vs. traditional accommodation establishments does not provide substantial differences (table 7).

Table 7. The sharing economy vs. traditional accommodation establishments ratios across communes with high and low income per capita

Ratio	Airbnb / GUS	Airbnb / nocowanie.pl	HomeAway / GUS	HomeAway / nocowanie.pl
Low	0,0036	0,0503	0,0011	0,0321
High	0,0032	0,0498	0,0014	0,0328
Spearman	0,27	0,24	0,49	0,49

Source: authors' own work.

All 4 ratios from table 7 have very similar values as differences do not exceed 25%. Hence it can be assumed that there is no relationship between income per capita and sharing economy proliferation. Similarly to population density relationship is positive but either weak or moderate.

Limitations and conclusions

In general, the proliferation of sharing economy in the research area is very low as it (still) represent only a fraction of traditional accommodation base. The reason for the slow development of sharing economy in areas

where tourism product is based on natural attractions may be manifold. First of all, traditional P2P accommodation markets existed in those areas before the Internet revolution as they base on traditional word of mouth, while in cities before the advent of sharing economy there were almost no P2P rental possibilities. Secondly, sharing economy platforms are particularly successful in areas where repeated purchase ratio is relatively low. For that reason, sharing economy platforms that were designed to intermediate craftsmen markets actually ceased to exist. As tourism in natural areas is characterized by higher repetition rate and longer average period of stay, a hospitality product there is less likely to be distributed via sharing economy platforms. Finally, the characteristics of the product play a role. The city break tourism is characterized by a clear separation between accommodation and attractions provision. Tourists simply spend their time in the city and just sleep in accommodation establishment, while in nature-based areas more important are additional amenities in the lodging such as swimming pools, animations etc. Those services cannot be provided on the P2P market and could hardly be promoted via sharing economy platforms.

Contemporary the major research and economic activity related to sharing economy is focused in metropolises in developed countries. Still, the paper's results show that there is no relationship between economic prosperity and population density and sharing economy development. This indicated that the future development of sharing economy platforms will not be focused on the trajectories: metropolis – cities – towns and villages or developed countries – developing countries etc.

This study suffers from major limitations connected with small sample research. Especially small number of Airbnb and HomeAway listings with low income and low population density communes indicates that results should be interpreted with caution. Future research should address those gaps and focus on other paths of sharing economy development in the hospitality market.

The contribution of the authors

Adam Pawlicz – conception, literature review, methodology – 50%
Robert Kubicki – acquisition of data, analysis and interpretation of data – 50%

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