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The complexity of consumer experience formulation in the sharing economy

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ABSTRACT

The study examines the complexity of the factors that influence overall perception among tourists who use peer-to-peer accommodation during their vacations. More specifically, it employs fuzzy-set Qualitative Comparative Analysis to analyse data from a sample of 712 peer-to-peer holidaymakers visiting Athens, Greece, and examines the socio-demographics of age and income along with the simple attributes of perceived risks, marketing and advertising, social aspects, and price and quality issues. The findings reveal three sufficient configurations that are able to influence the overall experience: (i) the price-quality nexus, (ii) risk perspective, and (iii) social interaction. The research also compares nonlinear analysis with the dominant parametric methods in tourism and hospitality research (regression; Cramer's V), highlighting the suitability of the former for complexity examination. It further progresses from fit to predictive validity for the examined models, and contributes to both theoretical and methodological domains.

1. Introduction

The sharing economy in the accommodation industry represents a transformative innovation revolutionized by new internet and mobile technologies (Guttentag et al., 2018). These aspects have allowed the sharing economy to scale-up dramatically by facilitating virtual markets where trust and communication are established between hosts and guests (Guttentag, 2015). This exponential dynamic has led traditional accommodations to increasingly view sharing economy establishments as a significant threat (Martin, 2016), since peer-to-peer (P2P) not only shapes and evolves the sharing economy's related accommodation market, but is also able to provide a commercialised 'authentic' hospitality experience (Sigala, 2018).

The dominant P2P short-term rental firms such as Airbnb, and HomeAway, and Widu have transformed within a few years from entrepreneurial start-up companies into multi-billion turnover internationally operating corporations (Konrad and Mac, 2014; Lashinsky, 2015). More specifically, in peer-to-peer accommodation rentals there were more than 3.7 million listings until the beginning of 2017, having an estimated value of US\$34 billion, and operating in more than 190 countries (EPRS, 2017). As a result, development of the sharing economy is likely to transform the global tourism system and the way it serves societal needs (Martin, 2016). Several factors, such as social interaction with locals and its generated authenticity (Lamb, 2011; Tusseyadiah and Personen, 2016), P2P product awareness and

marketing (Wilhelms et al., 2017), and price efficiency (Morgan Stanley, 2015; Tusseyadiah, 2015), have been identified as the drivers of this success, while P2P rentals appear to have higher risks than traditional accommodation establishments (Pappas, 2017). Although a rapidly increasing number of clients are turning their backs on traditional establishments, the literature fails to identify the formulation of the overall customer experience in P2P accommodation.

Within the last decade, sharing economy businesses have evolved from simple P2P lending initiatives to complex platforms and networks of companies and people, strongly interacting for new resources or collective use (Muñoz and Cohen, 2017). Despite the increasing interest of policy makers in the complex transformation of networks, empirical studies have not yet addressed these dynamics of the sharing economy (Mair and Reischauer, 2017). Therefore, it is necessary to focus on our understanding of complexity in this field.

Against this backdrop, this article examines the complexity of attribute configurations that affect consumers' formulation of overall experience in P2P accommodation and the sharing economy in Athens, Greece. Tourism is the largest economic sector of the country generating more than 18 per cent of its GDP (17 billion Euros [52% of tourism revenues] come from the accommodation sector), while its tourism related sharing economy for 2017 is estimated to worth between 1.71 and 1.75 billion Euros, half of it concerning accommodation/short term rentals, and the other half other tourism services (Krinis, 2017). More specifically the study evaluates the influence of the

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perceived risks, marketing and advertising, social aspects, and price and quality issues that influence the perceived experience of adult holidaymakers who have selected P2P accommodation in Athens. The research contributes to both the theoretical and methodological domains. Literature-wise, it provides an understanding of the complexity of formulation of consumers' overall experience, with special reference to the sharing economy. Methodologically, the research employs fuzzy-set Qualitative Comparative Analysis (fsQCA) which is new to the study of hospitality and tourism, also comparing its suitability for examining complexity aspects with regression and Cramer's V, the most commonly used linear methods of correlational analysis. It further progresses from fit to predictive validity for the suggested models.

2. Chaos and complexity

Chaos is considered to be a phenomenon of long-term disorderly-looking evolution occurring in a deterministic nonlinear system (Williams, 1997). The theory of chaos was introduced in 1963 (Lawrence et al., 2003) and extensively used for the analysis of complex systems (Mahmoudabadi, 2015). The theory suggests that seemingly random events can result from normal equations due to the complexity of the systems involved (Ravi et al., 2017), while even small behavioral differences can generate significant diverging outcomes to dynamic systems making long-term patterns impossible to predict (Kellert, 1993). The theory of chaos recognizes the unpredictable, random, complex, and dynamic nature of systems, and although it denies the predictability of those systems, it does not suggest that they are inevitably disordered and random (Speakman and Sharpley, 2012).

The theory of complexity has evolved from chaos theory and focuses on complex systems that operate with nonlinear dynamics, and are characterized by emergence, self-organization and evolution (Arévalo and Espinosa, 2015). It actually “deals with systems that have many interacting agents and although hard to predict, these systems have structure and permit improvement” (Zahra and Ryan, 2007, p. 855). The theory is used to examine and explain the nonparametric, heterogeneous, and dynamic processes of complex phenomena in various disciplines (Olya and Al-ansi, 2018). It has the ability to justify complex systems in which approaches dealing with linearity cannot adequately describe the interactions of a large number of components (Baggio, 2008).

Both, chaos and complexity theories deal with nonlinearity with a high level of sensitivity to initial conditions (Hock, 1999). In a business and management context, complexity is considered synonymous with the theory of chaos, and in some cases, chaos theory is introduced as a manifestation of complexity (Daryani and Amini, 2016). The difference between them is that in chaos theory there can be no forecast, while in complexity theory this unpredictability of behavioral patterns may be framed as quasi-stable (Olmedo and Mateos, 2015). In generic management studies, chaos and complexity have been extensively implemented, but their examination in tourism and hospitality remains limited (Pappas and Papatheodorou, 2017).

2.1. Complexity in tourism and the sharing economy

The complexity in tourism arises from a series of conflicting elements, including the heterogeneity of actors, translocal relationships and multilocality, the globalization of places and governance, the extreme diversity of practices, and the processes of civilization (Darbellay and Stock, 2012). Moreover, tourism is characterized by complex policies involving multiple actors, and multi-level and multi-sector coordination, in an international context of constant change (Lai et al., 2016; Stens et al., 2016). However, the traditional tourism research approach assumes substantial stability, and mainly employs linear analysis as the appropriate profile for stable systems (Papatheodorou and Pappas, 2017) even if tourism initiates sustained instability since it is in constant flux with outliers (Russel and Faulkner, 2004). In reality,

tourism and hospitality research has failed to adequately examine chaos and complexity theories since it has followed, until now, a predominantly reductionist approach (McDonald, 2009). The unpredictable and, as a result, uncontrollable nature of tourism, alongside the failure of most organizations and businesses to effectively plan for the future, constitutes a chaotic system (McKercher, 1999). Moreover, tourist behavior can be systemically affected by numerous endogenous and exogenous factors (Boukas and Ziakas, 2014) although these factors seem to have stable features as some kind of order exists in their configuration (Olmedo and Mateos, 2015). Therefore, the degree of complexity of behavioral patterns renders Newtonian (linear) thinking inadequate and suggests the need for nonparametric (nonlinear) analysis (Laws and Prideaux, 2005).

Sharing economy involves the sharing of private goods, automobiles, and services (Benkler, 2004). The growing complexity of the sharing economy lies in the growing diversity of sharing businesses since they are quite disparate (Muñoz and Cohen, 2017). According to Belk (1988, 2010) the growing market commoditization challenges the sharing in aspect, since the latter dissolves interpersonal boundaries influenced by the possession attachment and nowadays materialism. The sharing economy is contingent and complexly articulated, since it has the potential to both further entrench and shake up ‘business-as-usual’ through an ongoing reconfiguration of a divergent range of activities (Richardson, 2015). The systemic complexity of markets and social provisioning is considerably high in the sharing economy since the sharable goods and services in reference are capable of being provisioned and exchanged either through markets or through social systems (Benkler, 2004). As a result, it has the paradoxical potential to construct economic activities characterized by diversity, while it invites the deconstruction of ongoing dominant practices (Gibson-Graham, 2008). For example, the study of Bardhi and Eckhardt (2012) in car sharing revealed identified several different dimensions such as lack of identification, negative reciprocity resulting in a big-brother model of governance, varying significance of use and sign value, and a deterrence of brand community. Concerning sharing economy in hospitality several aspects can generate higher levels of complexity. For example, uncertainty levels are higher when tourists book peer-to-peer accommodation than traditional establishments (Pappas, 2017). As the study of infographics (2016) reveals, 67.6% of visitors are reluctant renting a room in someone else's house, whilst 51.4% have no trust for renting a property for vacations from someone else. Moreover, the decision-making complexity of tourists also increases due to the uncertainty of transactions. This is because in the sharing economy the transaction platform owner (i.e.: Airbnb) operates as the exchange intermediary, providing trust through its reputation for sharing transactions among unknown counterparts (client and peer-to-peer accommodation provider) (Akbar and Traconga, 2018).

Several studies such as Olya and Altinay (2016) and Papatheodorou and Pappas (2017) focus on tourism complexity, while some others (i.e.: Ordanini et al., 2014; Pappas, 2018) examine the complexity in the accommodation sector. However, the sharing economy complexity is under-researched even if – as indicated by the study of Pappas (2017) – the decision-making of people participating in such activities is influenced by the higher risks and uncertainty, ultimately generating higher complexity. Meyer et al. (2005) suggest that the sharing economy market processes include complex adaptive systems, self-organizing networks, and autocatalytic feedback. Thus, the complexity of the sharing economy tests and challenges the boundaries of economic and social life, and therefore warrants theoretical and empirical scrutiny (Mair and Reischauer, 2017).

3. Study tenets

When the term ‘tenet’ is used in service industry research it concerns testable precepts dealing with the identification order of conditions characterized by complexity (Papatheodorou and Pappas, 2017).

Consistency metrics and statistical hypotheses are not usually involved where outcome scores are being used for the determination of adequacy in complex configurations (Wu et al., 2014). As configuration theory indicates, concerning factor arrangement, the same set of causal factors can lead to different outcomes (Ordanini et al., 2014). This study evaluates the formulation of overall experience in P2P accommodation holidaymakers, as highlighted by the relevant literature (Papatheodorou and Pappas, 2017; Pappas, 2017; Sanchez et al., 2006; Sincovics et al., 2010; Tarnanidis et al., 2015; Tussyadiah and Personen, 2016; Wu, 2016). Thus, the current research examines the presence or absence of issues (binary states) concerning consumer experience in P2P accommodation. Along with the socio-demographic characteristics (age; income) of holidaymakers the examined attributes were: risk, marketing and advertising, social aspects, price issues, and quality issues. The study formulated six tenets:

T1: The same attribute can determine a different decision for overall experience depending on its interaction/configuration with other attributes.

T2: Recipe principle: The creation of a complex configuration with two or more simple conditions leads to an outcome condition that can have a consistently high score.

T3: Complex configurations/interactions are likely to influence the overall experience of P2P accommodation holidaymakers.

T4: Different combinations of the simple conditions of configurations/interactions are likely to positively or negatively influence the overall experience of P2P accommodation holidaymakers.

T5: Equifinality principle: A sufficient overall experience does not always result in a high outcome score.

T6: When the Y scores are high, a given recipe for the overall experience is not relevant for all cases.

4. Method

4.1. Participants

The study examined adult holidaymakers who booked P2P accommodation in Athens, Greece. The research period was June to August 2017. Structured questionnaires written in English were distributed to respondents. This was perceived to be the most appropriate method of obtaining the primary data, due to built in anonymity, the potential response rate, and the opportunity to examine a considerable number of people in a short period of time (Sekaran and Bougie, 2013). Following research by Pappas (2017), the questionnaires were left at the properties offered as P2P accommodation before the arrival of the guests. Holidaymakers were asked to fill them in during their stay and leave them at the property when they left. The selected properties were situated in the historical center of Athens (area enclosed by Stadiou Ave., Ermou Rd. and Piraeus Ave.), Exarxeia, Koukaki, and Neos Kosmos, because these are the most popular areas for P2P accommodation in Athens city center; almost half of several thousand rentals offered in the wider city center are located there (Rousanoglou, 2017). Listwise deletion (exclusion of the entire record from the analysis) was adopted as the least problematic method for missing data handling (Allison, 2001).

4.2. Sample determination and collection

Following Akis et al. (1996), when the proportions of a population are unknown, a conservative response format of 50/50 (negative perceptions exist among 50% of the respondents, and 50% have positive ones) should be chosen for sample size determination. A 95% confidence level and 5% sampling error were selected. The cumulative probability (Z) from a t-table was 1.96 (Sekaran and Bougie, 2013). According to Akis et al. (1996), the appropriate sample size is:

$$N = \frac{Z^2(\text{hypothesis})}{S^2} \Rightarrow N = \frac{1.96^2(0.05)(0.05)}{0.05^2} = 384.16 \text{ Rounded to } 400$$

The sampling size calculation is independent of the overall population size, since the error is determined by the sampling size (Aaker and Day, 1990). In total, 712 useful questionnaires were collected, generating a statistical error of 3.67%.

4.3. Measures

The research consisted of 34 items, measured using Likert Scale (1 strongly disagree/5 strongly agree) statements, and two socio-demographic (age; income) questions. The questionnaire was based on prior research by Pappas (2017) [four statements for risks], Papatheodorou and Pappas (2017) [five statements for marketing and advertising], Tussyadiah and Personen (2016) [four statements for social aspects], Sanchez et al. (2006) [four out of eight statements for price issues; four out of six statements for quality issues], Tarnanidis et al. (2015) [four out of eight statements for price issues], Sincovics et al. (2010) [two out of six statements for quality issues], and Wu (2016) [seven statements for overall experience]. According to Trading Economics (2017), for 2016 the GDP per capita in the European Union is estimated to have been US\$35,632.22 (nearly US\$3000 per month), which was set as the grouping threshold for income.

The study employs fuzzy-set Qualitative Comparative Analysis (fsQCA) for the examination of complex configurations. This method evaluates the potential of relationships to have a bearing upon the outcome of interest, and identifies any potential combinations of binary sets generated from its predictors (Longest and Vaisey, 2008). QCA is considered to be a mixed-methods technique, since it is based on the combination of quantitative empirical testing (Longest and Vaisey, 2008) and qualitative inductive reasoning through the analysis of specific cases (Ragin, 2000). The logical complexity is based on the fact that different combinations of characteristics are able to generate different results through their combination with other events or conditions (Kent and Argouslidis, 2005). Following Woodside and Zhang (2013), the research also estimated negated sets (presence or absence of a given condition). In these sets, the calculation of a membership is made by taking in the original fuzzy-set one minus the score of membership of the examined case (Skarmas et al., 2014). The symbol “~” was used to indicate an attribute’s absence.

According to Ordanini et al. (2014), in set theory a sub-relation with fuzzy measures is consistent when in a specific attributional causal set the membership scores are consistently less or equal to the membership scores in the outcome set. Accordingly, the coverage entails the assessment of the sufficient empirical importance of the configurations (Ordanini et al., 2014). Thus, consistency and coverage have to be calculated as follows:

$$\text{Consistency}(X_i \leq Y_i) = \sum_i [\min(X_i; Y_i)] / \sum_i (X_i)$$

$$\text{Coverage}(X_i \leq Y_i) = \sum_i [\min(X_i; Y_i)] / \sum_i (Y_i)$$

where, for holidaymaker i , X_i is the membership score in the X configuration and Y_i is the membership score for the outcome condition.

As Skarmas et al. (2014) indicate, a general asymmetry towards the respective relationships is present when the absolute values of all correlated coefficients are lower than 0.60. Table 1 presents the correlation values, which are all less than 0.60, thus the causal conditions produced by the alternative combinations can lead to the same outcome condition (Woodside, 2013). The research aim is to examine, through fsQCA, the formulation of overall experience by P2P holidaymakers. This is achieved through the estimation of complex antecedent conditions (causal recipes) leading to high membership in the following conditions: (i) risks (ii) marketing and advertising (iii) social aspects

Table 1
Correlation matrix.

	1	2	3	4	5	6
1 Risks	1					
2 Marketing & Advertising	0.064	1				
3 Social Aspects	−0.109**	−0.038	1			
4 Price Issues	0.171**	0.075*	−.086*	1		
5 Quality Issues	0.036*	0.037	−0.012	0.024*	1	
6 Overall Experience	−0.084*	−0.044	0.154**	−0.038	−0.075	1

* Correlations are significant at 0.05 level.

** Correlations are significant at 0.01 level.

(iv) price issues, and (v) quality issues. It also considers the socio-demographic characteristics of respondents concerning age and income. In a membership score of a recipe the case is the membership degree to which simple causal conditions of fuzzy-sets intersect and include the recipe (Woodside and Zhang, 2013). In the causal recipe, this intersection is the minimum score between the simple conditions that have been selected (Skarmas et al., 2014). Through the combination of complexities this research assumes that nonlinear (non-parametric) relationships exist contrary to having Newtonian (linear) net effects.

Woodside (2014, p. 2499) suggests that the nonlinear consistency metric is analogous to the linear correlation metric, while the nonlinear coverage metric is analogous to the linear “coefficient of determination”. A solution is informative and acceptable when the solution coverage of the model(s) is between 0.25 and 0.75 and the respective consistency is above 0.74 (Skarmas et al., 2014).

4.4. Implementation of fsQCA algorithms

The current research aims to achieve a holistic view of its antecedents by employing fsQCA. It examines the complex antecedent conditions (causal recipes) that can provide a high membership. The research was calibrated using a group of 47 randomly selected individual cases. For the evaluation of the holidaymakers' overall experience (f_{oe}) the calibrated fuzzy-sets used were ‘f_a’ for age, ‘f_i’ for income, ‘f_r’ for risks, ‘f_{ma}’ for marketing and advertising, ‘f_{sa}’ for social aspects, ‘f_{pi}’ for price issues, and ‘f_{qi}’ for quality issues.

5. Results

As previously highlighted in the ‘Methods’ section, the research includes responses from 712 P2P accommodation holidaymakers visiting Athens during the summer of 2017. The socio-demographics of the sample are presented in Table 2, while Table 3 shows the descriptive statistics of the study.

5.1. Sufficient complex statements

Three sufficient configurations have been generated through the implementation of fsQCA (Table 4). The first complex solution (f_a*f_i*~f_r*~f_{ma}*~f_{sa}*f_{pi}*f_{qi}) indicates that the inclusion of

both examined socio-demographics (age; income) with high price and quality issues can lead to high membership scores concerning overall experience. This configuration has both the highest coverage (0.488392) and consistency (0.884572). The second sufficient configuration (f_a*~f_i*f_r*~f_{ma}*~f_{sa}*~f_{pi}*f_{qi}) suggests that the inclusion of age with high risks and quality issues is able to influence the overall experience of P2P accommodation holidaymakers. This solution has the lowest coverage (0.418653) of the three sufficiently complex statements. The third sufficient configuration produced by this research (~f_a*~f_i*f_r*f_{ma}*f_{sa}*~f_{pi}*~f_{qi}) does not include any of the examined socio-demographics, but is based on high risks, marketing and advertising, and social aspects. This complex solution appears to have the lowest consistency (0.825736) compared with the other two.

6. Discussion

The study findings form the basis for an interesting discussion. According to the research results, the first sufficient configuration indicates that in P2P accommodation the price-quality nexus defines the overall experience of consumers. The price-quality nexus supports “the generalized belief across product categories that the level of the price cue is related positively to the quality level of the product” (Lichtenstein et al., 1993, p. 236), and suggests that customers use price in order to holistically evaluate product superiority or excellence (Zeithaml, 1988). As a result, the price-quality nexus significantly influences the purchasing decisions of consumers, highlighting its importance. Moreover, age and income are integral parts of this configuration, showcasing the significance of the examined socio-demographics in the formulation of P2P overall experience.

Risk aspects are highlighted in numerous studies as factors affecting consumer tourism decision-making and experience (Yonghwan Chang and Ko, 2017; Le and Arcodia, 2018; Singal, 2015), and also concerning the sharing economy (Cheng, 2016) and P2P accommodation (Ert et al., 2017; Martin-Fuentes et al., 2018; Pappas, 2017). The second solution indicates that perceived risks, along with quality issues, influence the formulation of overall experience. As a result, the risk perspective seems to play a considerable role in the formulation of consumer experience. In addition, age constitutes a factor affecting risk perspective, something that has also been highlighted in previous tourism research (the older people become, the more they are susceptible to perceived risks) (Lawson et al., 2013; Bruwer et al., 2017). This is also confirmed by the study's descriptive statistics (Table 1) since the influence of the examined perceived risks increases in all related statements (R1–R4) as we progress from younger to older age groups.

The third sufficient configuration concerns social interaction. It has long been established that the context of social interaction intersects with vacation experiences (Yarnal and Kerstetter, 2005). This solution connects the social aspects with the expectations created by marketing activities and with perceived holiday risks, highlighting that the associated social interaction, with its respective expectations and uncertainties, can significantly influence the overall experience of visitors. The potential to provide a significant social interaction is also considered to be a pivotal benefit of the sharing economy (de Riveraa et al., 2017). This sufficient configuration highlights the importance of societal aspects in the sharing economy and provides foundations for our further understanding of tourist behavior with special reference to the formulation of overall experience.

6.1. Confirmation of tenets

The findings indicate that the coverage of the three fsQCA sufficient configurations is high (0.442) (Table 4). Moreover, all five simple conditions evaluated by this research appear at least once in the generated solutions. As a result, the first tenet is confirmed: T1: The same attribute can determine a different decision for overall experience depending on its interaction/configuration with other attributes.

Table 2
Socio-demographics.

	N	%
Age		
18–35	345	48.5
36–50	326	45.8
Over 50	41	5.8
Income		
< \$3000	522	73.3
> \$3000	190	26.7

Table 3
Descriptive statistics.

Statements		SD	Means					
			Total	18–35	36–50	50 +	< \$3000	> \$3000
<i>Risks</i>								
R1	I think about the risk of not having made a good purchase bearing in mind the price I pay	0.561	4.09	3.91	4.26	4.29	4.10	4.07
R2	When booking peer-to-peer accommodation I consider the risks in the way the product is organized	0.604	3.97	3.74	4.19	4.17	3.96	4.01
R3	When booking peer-to-peer accommodation I consider the risk that I will not receive what I expected	0.602	4.17	3.99	4.32	4.56	4.18	4.14
R4	When booking peer-to-peer accommodation I consider its quality compared with other relevant accommodation products	0.611	4.13	3.89	4.32	4.66	4.14	4.10
<i>Marketing and Advertising</i>								
MA1	Direct marketing activities (i.e. direct mail and e-mails) influence my purchasing decisions	0.717	3.49	3.49	3.46	3.76	3.31	3.99
MA2	The 'above the line' promotional activities (i.e. TV and radio advertisements) influence my purchasing decisions	0.836	3.36	3.34	3.35	3.61	3.20	3.81
MA3	The tourism product's branding influences my purchasing decisions	0.920	3.28	3.26	3.30	3.24	3.03	3.95
MA4	Promotional activities undertaken by tourist agencies/operators influence my decision to select the accommodation I intend to book	0.776	3.62	3.57	3.63	3.93	3.46	4.07
MA5	Promotional activities undertaken by destinations influence my decision to select the tourist product/package I intend to buy	0.885	3.94	3.93	3.91	4.24	3.86	4.15
<i>Social Aspects</i>								
SA1	I use peer-to-peer accommodation rentals because I like to get to know people from the local neighbourhood	0.812	3.81	4.11	3.63	2.78	3.90	3.56
SA2	I use peer-to-peer accommodation rentals because I like to have a meaningful interaction with the hosts	0.892	3.90	4.23	3.72	2.63	3.99	3.65
SA3	I use peer-to-peer accommodation rentals because I like to support local residents	0.778	3.62	3.78	3.54	2.80	3.67	3.47
SA4	I use peer-to-peer accommodation rentals because I like to get insider tips on local attractions	0.809	3.85	4.19	3.61	3.02	3.94	3.62
<i>Price Issues</i>								
PI1	The higher the price of the product, the better its quality	0.858	3.38	3.06	3.60	4.24	3.34	3.46
PI2	I prefer to book the best-selling accommodation	0.866	3.52	3.25	3.71	4.34	3.50	3.60
PI3	I buy as many of my tourist products as possible at sale prices	0.846	3.44	3.26	3.54	4.05	3.44	3.42
PI4	The price is the main criterion for my purchasing decision	0.882	3.66	3.52	3.74	4.24	3.69	3.58
PI5	I look carefully to find the best value-for-money	0.916	3.96	3.95	3.93	4.34	4.00	3.86
PI6	I usually choose lower priced accommodation	0.924	4.02	4.01	3.98	4.46	4.04	3.98
PI7	I think about the risk of not having made a good purchase bearing in mind the price I pay	0.892	3.61	3.31	3.82	4.44	3.60	3.64
PI8	The accommodation I book should be reasonably priced	0.873	4.14	4.06	4.20	4.41	4.13	4.18
<i>Quality Issues</i>								
QI1	When booking accommodation, I consider the potential quality in the way the relevant product is organized	0.612	3.83	3.78	3.86	4.10	3.83	3.84
QI2	When booking accommodation, I consider the potential risk that I will not receive what I expected	0.682	3.97	3.90	4.00	4.34	3.97	3.98
QI3	When booking accommodation, I consider its quality compared with other relevant available accommodation choices	0.650	3.92	3.92	3.90	4.10	3.93	3.89
QI4	I have very high standards and expectations with regard to the accommodation I book	0.756	3.68	3.54	3.77	4.15	3.68	3.67
QI5	In general, I try to buy the best overall quality	0.670	3.88	3.84	3.88	4.22	3.87	3.92
QI6	When it comes to booking accommodation, I try to get the very best, or perfect, choice	0.667	4.04	4.02	4.03	4.32	4.03	4.08
<i>Overall Experience</i>								
OE1	My experience of using peer-to-peer accommodation was as I expected	0.752	4.02	4.11	3.96	3.76	4.11	3.78
OE2	The visit made me happy	0.741	4.14	4.26	4.04	3.95	4.20	3.96
OE3	My decision to use peer-to-peer accommodation was a wise one	0.750	4.09	4.22	4.01	3.61	4.18	3.84
OE4	I would recommend peer-to-peer accommodation to others	0.730	4.09	4.21	4.02	3.61	4.17	3.88
OE5	I will use peer-to-peer accommodation in the future	0.732	4.06	4.13	4.05	3.59	4.11	3.92
OE6	Peer-to-peer accommodation is my first choice among accommodation types	0.770	4.10	4.21	4.06	3.51	4.20	3.82
OE7	I will say positive things about peer-to-peer accommodation	0.774	4.16	4.29	4.09	3.73	4.26	3.89

Table 4
Complex solutions for overall experience.

Complex Solution	Raw Coverage	Unique Coverage	Consistency
Model: $f_{oe} = f(f_a, f_i, f_r, f_{ma}, f_{sa}, f_{pi}, f_{qi})$			
$f_a \sim f_i \sim f_r \sim f_{ma} \sim f_{sa} \sim f_{pi} \sim f_{qi}$	0.488392	0.158285	0.884572
$f_a \sim f_i \sim f_r \sim f_{ma} \sim f_{sa} \sim f_{pi} \sim f_{qi}$	0.418653	0.129571	0.842028
$\sim f_a \sim \sim f_i \sim f_r \sim f_{ma} \sim f_{sa} \sim \sim f_{pi} \sim \sim f_{qi}$	0.438527	0.134820	0.825736
Solution Coverage: 0.442158	Solution Consistency: 0.858372		

The sufficient configurations presented in Table 4 reveal that at least two simple conditions are included in each generated solution. More specifically, the first solution ($f_a \sim f_i \sim f_r \sim f_{ma} \sim f_{sa} \sim f_{pi} \sim f_{qi}$) includes price and quality issues, the second one ($f_a \sim f_i \sim f_r \sim f_{ma} \sim f_{sa} \sim f_{pi} \sim f_{qi}$) embeds risks and quality issues, while the third sufficient configuration ($\sim f_a \sim \sim f_i \sim f_r \sim f_{ma} \sim f_{sa} \sim \sim f_{pi} \sim \sim f_{qi}$) consists of risks, marketing activities and social aspects. This is a finding also confirmed by previous studies such as Olya

and Altinay (2016) and Pappas (2017), leading to the confirmation of the second tenet: T2: Recipe principle: The creation of a complex configuration with two or more simple conditions, leads to an outcome condition that can have a consistently high score.

The generated sufficient configurations deal with (i) an outcome concerning the way the related variables are combined, and (ii) the association of the groups of variables within the combination. This is because fsQCA is based on cases instead of variables (Ordanini et al., 2014). As presented in Table 4, the first solution focuses on the price-quality nexus, the second one on the risk perspective and the third configuration deals with social interaction. Therefore, the third tenet is confirmed: T3: Complex configurations/interactions are likely to influence the overall experience of P2P accommodation holidaymakers.

Contrarian case analysis (inclusion/exclusion of the examined attributes) was employed. For example, none of the simple conditions appears in all sufficient configurations, although they all appear in at least one solution. This supports the view that the formulation of positive or negative overall experience in the sharing economy is determined by the extent to which a simple condition is present or absent.

This is also evidenced in previous research (Brauer and Leischnig, 2016; Woodside, 2014) and confirms the fourth tenet: T4: Different combinations of the simple conditions of configurations/interactions are likely to positively or negatively influence the overall experience of P2P accommodation holidaymakers.

The literature suggests that “different paths usually do not occur with the same frequency among the set of paths” (Woodside, 2014, p. 2499). The equifinality principle indicates that, for the prediction of an outcome, multiple sufficient causal configurations can occur (Olya and Altinay, 2016). As presented in Table 4 the outcome scores of the generated solutions are not high. Thus, the fifth tenet is also confirmed: T5: Equifinality principle: A sufficient overall experience does not always result in a high outcome score.

Finally, the coverage of the three complex solutions varies from 0.419 to 0.488, suggesting that none of the generated configurations applies in all cases (Pappas, 2017). Therefore, the last (sixth) tenet is confirmed: T6: When the Y scores are high, a given recipe for the overall experience is not relevant for all cases.

6.2. Fit and predictive validity

The vast majority of studies dealing with the evaluation of specific models employ model fit in an effort to ensure that the data are able to create substantial grounds for the inclusion of factors among the observed variables and in their respective relationships (Pappas and Papatheodorou, 2017). Therefore, only a handful of studies concentrates on predictive validity (Wu et al., 2014), suggesting that a good model is not necessarily dependent on a relevant good fit to observations (Gigerenzer and Brighton, 2009). This study proceeds from fit to predictive validity for the examined models, and follows the process described by Wu et al. (2014), and Olya and Altinay (2016). It divides the sample into equally sized holdout and modeling subsamples, on the basis that the patterns of tourism decision-making are a consistent indicator of high score generation. The holdout sample's configurational models were evaluated using the modeling subsample. The holdout sample's algorithm combination was similar to that found from fsQCA for the whole sample. Finally, the modeling subsample was used to test the holdout sample. The overall consistency was 0.817 ($C1 > 0.74$) and the coverage was 0.452 ($0.75 > C2 > 0.25$). The findings suggest that the predictive validity of the model is good.

6.3. fsQCA versus linear analysis

Structural Equation Modeling (SEM) was used to examine the linear relationships between model constructs. Confirmatory Factor Analysis was implemented since all the examined items are based on previous analytic research, and were adopted from previous studies. An examination of the structural model was conducted in order to determine the structural model fit, and identify the causal relationships among the constructs. The most common measure of SEM fit is χ^2 (Martens, 2005), and in a good fitting model it should be non-significant (Hallak et al., 2012). Since the research sample was large ($N = 712$), for a better estimate of goodness-of-fit the χ^2 ratio was divided by the number of degrees of freedom (χ^2/df) (Chen and Tsai, 2007). The research estimated the value of χ^2 , the Comparative Fit Index [CFI], Root-Mean-Square Error of Approximation [RMSEA], and Standardised Root-Mean-Square Residual [SRMR], since these are considered to be the four most important indices, from among numerous others (Kline, 2010). The model fit is as follows: $\chi^2 = 548.921$, $df = 307$, $\chi^2/df = 1.723$ (acceptable value $0 \leq \chi^2/df \leq 2$ [Schermelleh-Engel et al., 2003]), CFI = 0.918 (acceptable value is when CFI is close to 1.0 [Weston and Gore, 2006]), RMSEA = 0.436 (acceptable value is when RMSEA < 0.5 [Browne and Cudeck, 1993]), and SRMR = 0.759 (acceptable value is when SRMR < 0.8 [Hu and Bentler, 1999]).

Factor analysis was used for the study's important components. Following Norman and Streiner (2008), the minimum acceptable value

Table 5
Validity and reliability analysis.

Statement	Cronbach A	Loadings	AVE	CR
R1	0.803	0.948	0.85	0.71
R2		0.844		
R3		0.979		
R4		0.900		
MA1	0.802	0.935	0.80	0.73
MA2		0.878		
MA3		0.824		
MA4		0.875		
MA5		0.955		
SA1	0.805	0.946	0.83	0.70
SA2		0.859		
SA3		0.836		
SA4		0.989		
PI1	0.796	0.777	0.82	0.97
PI2		0.738		
PI3		0.841		
PI4		0.841		
PI5		0.799		
PI6		0.799		
PI7		0.762		
PI8		0.722		
QI1	0.803	0.954	0.74	0.70
QI2		0.825		
QI3		0.897		
QI4		0.794		
QI5		0.837		
QI6		0.865		
OE1	0.797	0.879	0.85	0.83
OE2		0.950		
OE3		0.975		
OE4		0.933		
OE5		0.937		
OE6		0.865		
OE7		0.938		

is 0.4. Therefore, absolute values below 0.4 were suppressed in an effort to evaluate higher coefficients. Internal consistency was measured using Cronbach's A where the overall reliability was 0.805 (minimum value 0.7; Nunnally, 1978). The study also examined the Average Variance Extracted (AVE). In all cases AVE was higher than 0.5 indicating that the research has an adequate convergent validity level (Kim, 2014; Lee et al., 2013). Moreover, all constructs generated a composite reliability (CR) of 0.7 or above, (minimum acceptable value: 0.7; Huang et al., 2013). The factor loadings, Cronbach A, AVE, and CR are presented in Table 5.

The model explaining the study's endogenous variables is illustrated in Fig. 1. The overall R^2 value was 0.386. Age, as a grouping variable appears to have a much stronger influence than income on most of the research constructs (with the exception of ‘marketing and advertising’).

As the findings highlight, regression analysis is limited to the consideration of a single pathway, i.e. the linear influence of grouping variables (age; income) on the five constructs and the joint influence of these constructs (risks; marketing and advertising; social aspects; price and quality issues) on overall experience. As a result, parametric analysis cannot fully encapsulate the range of alternative combinations and influences that are able to lead to the same outcome. This is, however, a permanent and inseparable element of decision-making complexity. For example, the first fsQCA solution ($f_{a^*f_i^*} \sim f_{r^*} \sim f_{ma^*} \sim f_{sa^*f_{pi^*}f_{qi}}$), while including both grouping variables and price and quality issues, does not include any of the other three examined conditions required by the linear analysis (SEM). In addition, the grouping variables (age; income) are absent from the third sufficient configuration ($\sim f_{a^*} \sim f_{i^*}f_{r^*}f_{ma^*}f_{sa^*} \sim f_{pi^*} \sim f_{qi}$), while in SEM the formulation of overall experience appears to be considerably dependent on those two aspects. Furthermore, SEM suggests that marketing and advertising

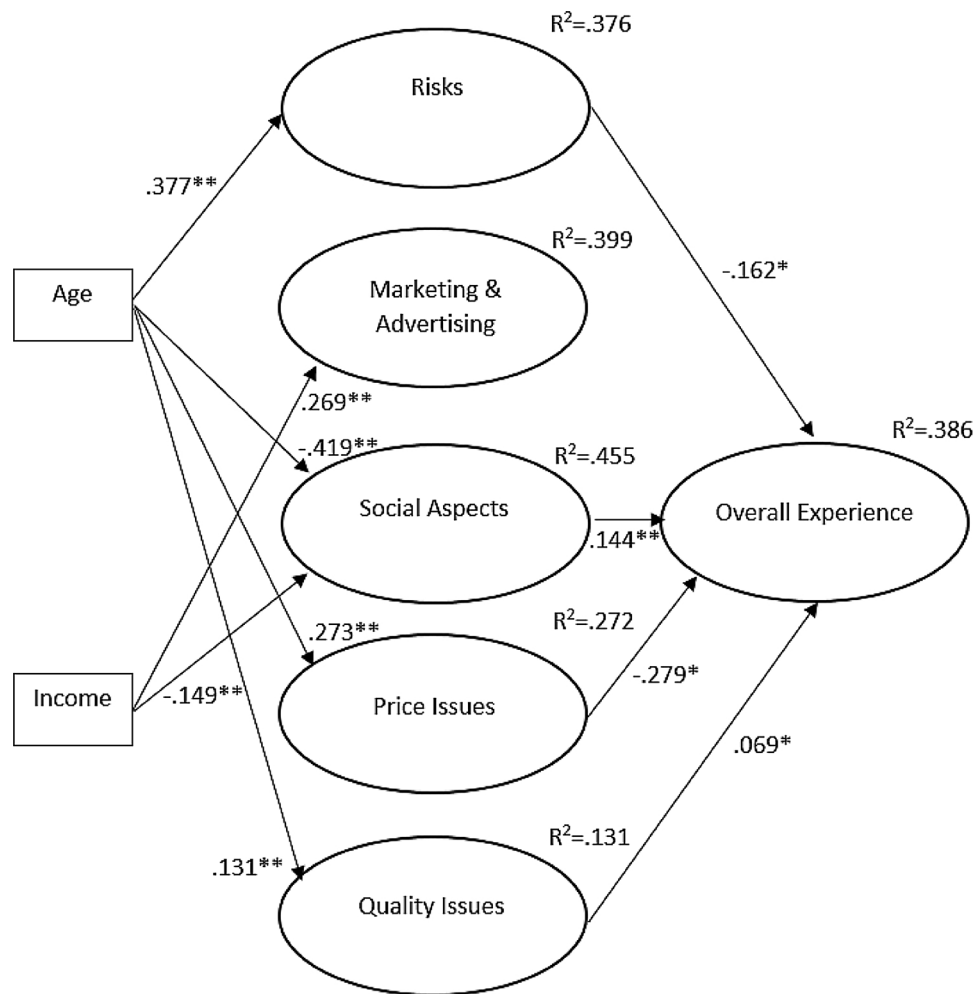


Fig. 1. Formulation of sharing economy experience.

*Coefficient is significant at 0.05 level.

**Coefficient is significant at 0.01 level.

have no impact on overall experience. On the other hand, this condition is included in the third solution generated by fsQCA. It is also important to highlight that all three sufficient configurations have a higher row coverage (over 0.4) than the overall R^2 (0.386), which is also characterized by high consistency (over 0.8).

The study also implemented Cramer's V tests (Table 6). Cramer's V varies from 0 (no association) to 1 (complete association) (Burns and Burns, 2008). The research findings suggest that a qualifying statistical significance does not exist in all tests, since $\text{Sig.} > 0.05$ for in quality issues ($V = 0.166$; $\text{Sig.} = 0.555$). As a result, fsQCA appears to be more efficient than Cramer's V when examining the overall experience of P2P holidaymakers, since it better presents the influence of the constructs under examination.

Table 6
Cramer's V tests.

	χ^2	V	Sig.
Overall Experience*Risks	396.005	0.249	0.000
Overall Experience*Marketing & Advertising	412.536	0.211	0.000
Overall Experience*Societal Aspects	495.613	0.231	0.000
Overall Experience*Price Issues	688.530	0.220	0.000
Overall Experience*Quality Issues	295.985	0.166	0.555

7. Managerial implications

The research focuses on the overall experience of consumers who selected P2P accommodation for their vacation. At its heart is the evaluation of fsQCA as a means of examining complex conditions. The findings reveal three sufficiently complex solutions dealing with: (i) the price-quality nexus (ii) the risk perspective, and (iii) social interaction. The outputs of the study can assist traditional accommodation providers. By employing a similar study to traditional accommodation holidaymakers and comparing the results of the current research, the hotel owners/managers will be able to further understand the decision-making complexity of consumers, and the differences, disparities and similarities of perspectives between traditional and sharing economy tourists. This will provide them the tools to further comprehend this emerging market and appropriately reorientate their products and services, helping them to cope with the challenges of the sharing economy. Concerning P2P accommodation, the research provides evidence with regard to understanding the complexity of conditions that formulate holidaymakers' overall experience, and the creation of competitive advantage for their businesses. Moreover, destinations can benefit from the research findings since they showcase the complex reshaping of holidaymakers' decision-making and the reorientation of purchasing patterns from traditional establishments to P2P accommodation, also affecting destination image and marketing.

Concerning the formulation of overall experience, fsQCA appears to be a method able to assist in the clarification of complex evaluations by

holidaymakers and define the pathways that could lead to the same outcome, despite the associated risks and drawbacks that might derive due to its current limited implementation in the related field. The ability of this analysis to generate multiple solutions that take into account the different options and selection criteria considered by consumers could provide hoteliers with insights into this rapidly changing business environment that enable them to make better decisions. The study also illustrates the superiority of asymmetric analysis when compared to the dominant conventional linear methods (regression; Cramer's V). The results highlight the importance of risks and quality issues (both appear in two out of three complex configurations), and indicate that when the examined attributes are appropriately combined they can lead accommodation providers to make good decisions, even when some of the studied aspects are missing. These aspects are of paramount importance to the tourism and hospitality industry since complexity and uncertainty in the sector are likely to increase, due to the associated risks (Williams and Baláz, 2015), and to the rapidly changing patterns of consumer decision-making and perception of their vacation experience (Spielmann et al., 2012). Therefore, the provision of better quality products and services based on the competitiveness that can be achieved through the price-quality nexus, the sufficient management of consumers' perceived risks, and the encouragement of higher levels of interactivity between holidaymakers and locals should be prioritised by both destinations and accommodation providers.

The ever-changing environment of modern business and destinations, and the complexity generated by consumer decision-making patterns, heavily influence the evaluation of the overall tourist experience. The exponential transformation of the current business environment has led to a change in dynamics across the global tourism and hospitality spectrum (Papatheodorou and Pappas, 2017). fsQCA has the ability to improve our understanding of decision-making by both tourists and stakeholders. The enterprising ability of the latter to adequately employ environmental scanning and identify the relevant signals is crucial to their survival (Paraskevas and Altinay, 2013). Moreover, it is important that both traditional and P2P accommodation providers identify the complex formulation patterns of overall tourist experience, and ultimately, the extent of holidaymakers' satisfaction with their visit to the destination. This could result in the strengthening of competitive advantage, and better designed marketing and advertising activities for both hospitality stakeholders and the destination, leading not only to larger tourist flows and higher repeat visit rates, but also a substantial improvement in the destination image.

8. Conclusion

The study examined the make-up of the overall experience of holidaymakers who selected P2P accommodation for their vacation. The theoretical contribution of the study lies in its interpretation of the complex formulation of perceived experience in the sharing economy. In the methodological domain, the research contributes through its implementation of fsQCA, which is considered to be an innovative technique for the examination of complex conditions in the wider tourism spectrum. Furthermore, the results showcase the suitability of fsQCA for the evaluation of nonlinear aspects, also revealing that the dominant parametric methods (regression; Cramer's V) can only partially explain the relationships that exist. It also progresses from fit to predictive validity for the examined model, something that only a handful of studies employ in the service sector.

Despite the study's contribution to the theoretical and methodological domains, several limitations need to be highlighted. The main limitation concerns the actual strength of the study, since fsQCA has not been extensively tested in the tourism and hospitality domain, or the service sector in general (Pappas and Papatheodorou, 2017). Therefore, its full potential has yet to be realized, under conditions which will allow the further evaluation of tourism and hospitality complexity. The second limitation deals with the examination of more simple conditions

(also concerning different socio-demographic characteristics such as travel and P2P accommodation booking frequency), since their inclusion may generate different outcomes. Thus, caution should be exercised when generalizing the findings. Another limitation derives from the characteristics of the examined destination (Athens), since the outcomes may differ in other destinations offering P2P accommodation. They might also differ if the study is repeated during different time periods (i.e. Christmas; legal holidays; low tourist season) at the same destination. Finally, the study only examines the perspectives of sharing economy holidaymakers. A comparison between these subjects and visitors selecting traditional establishments could enhance our comprehension of overall experience formulation and the factors that determine the selection between traditional and P2P accommodation rentals.

The generation of sufficient complex configurations through the use of fsQCA could be combined with the implementation of different analysis modes such as conjoint analysis. Furthermore, by employing fsQCA we can further understand the rapidly changing dynamics in tourism and hospitality, the complexity of factors influencing the perceived visitor experience, the development of the sharing economy, and consumer decision-making. This highlights the need for a more extensive evaluation of fsQCA as a tool in tourism and hospitality research.

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