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Unraveling the diverse nature of service quality in a sharing economy: A social exchange theory perspective of Airbnb accommodation

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Abstract

Purpose- This study investigates customers' perceptions of the service quality facets of Airbnb accommodation using social exchange theory as a suitable conceptual framework to explain aspects of interactivity between guests and hosts.

Design/methodology/approach- A self-administered questionnaire consisting of 25 accommodation-specific service quality attributes, structured according to Akbaba's (2006) measurement scale and based on the service quality hierarchical conceptualization described by Brady and Cronin (2001) and Cronin and Taylor (1992), was distributed to Airbnb international guests visiting Phuket, Thailand. The sample was chosen through a two-stage sampling process and the PLS-SEM technique was used for data analysis.

Findings- The results showed that convenience and assurance are critical contributors to the measurement of service quality in remote Airbnb lodgings. The findings further revealed that Airbnb guests are mainly interested in lodgings which have access to certain tourist sights, and in

easily accessible information and efficient resolution of problems during their stay. We also found that guests greatly value the convenience and flexibility offered by Airbnb, and that they particularly appreciate the warm hospitality provided by the hosts. Finally, Airbnb guests have very low expectations of the amenities and services available at the lodgings.

Research limitations/implications-Airbnb is one of the most well-known examples of hospitality in the sharing economy and results cannot be generalized to similar accommodation providers in sharing economies. Despite the appropriateness of using the measurement tool provided by Akbaba (2006), it is only one option among others for measuring service quality.

Practical implications- The current study can assist hosts in gaining better knowledge of guests' decision making processes and in designing effective marketing strategies by focusing on guests' requirements in terms of service quality. The effective use of competitive strengths and the prioritization of business resources would potentially enhance guests' positive experiences at the accommodation and at the destination.

Originality/value-Limited numbers of studies have focused on the sharing economy and hospitality and in particular on Airbnb and this is the first study with a focus on service quality issues in terms of Airbnb accommodation.

Keywords: Sharing economy, Airbnb, Service quality, Social Exchange Theory

Paper type: Research paper

1. Introduction

The sharing economy is an emerging phenomenon facilitated through online platforms, (Heo, 2016; Richardson, 2015), in which broad segments of the population can collaboratively make use of under-utilized inventory via monetary exchange sharing (Zervas *et al.*, 2014). Over the past few years, the sharing economy has developed quite rapidly in different ways, from free to commercial, amateur to professional, and local to global (Shuford, 2015). In the tourism and hospitality sector the rise of the sharing economy is particularly evident (Ert *et al.*, 2016; Heo, 2016; Richard and Cleveland, 2016) and it is predicted that the challenges and changes for traditional hospitality and hospitality in general will be significant in the foreseeable future (Cheng, 2016; Guttentag, 2015; Oskam and Boswijk, 2016; Richard and Cleveland, 2016; Sigala, 2014).

The most well-known example of the sharing economy in the hospitality industry is the Airbnb online business model (Ert *et al.*, 2016; Oskam and Boswijk, 2016; Richardson, 2015). In the last few years, Airbnb has rapidly emerged in the hospitality industry. In 2014 it averaged 425,000 guests per night and more than 155 million guests in total per year- which is about 22% more than Hilton International (Price Waterhouse Coopers, 2015).

The service experience at Airbnb, like other parts of the hospitality industry, is perceived more as an experience than a utilitarian transaction (Johns *et al.*, 1997). Service quality has been recognized as an important theme in the service industries and particularly in the hospitality sector (Dedeoglu and Demirer, 2015; Wilkins *et al.*, 2007) and as an essential factor for the survival of hospitality providers. It plays an important role in customer satisfaction and in the ultimate outcomes such as loyalty, commitment and repurchase intention (Akbaba, 2006; Chen and Chen, 2014; Cronin and Taylor, 1992, Hu and Juwaheer, 2009; Petrick, 2004; Wilkins *et al.*,

2007). Accommodation providers operate in a highly competitive business environment (Yang *et al.*, 2011) and an excellent quality of service is imperative for their success, since it reflects their standard and creates a positive image of their product and service (Mohsin and Lockyer, 2010).

Given the importance of service quality for companies, the purpose of this study is to explore service quality in the sharing economy and in particular Airbnb accommodation from the guests' point of view. In order to do so, first, service quality is conceptualized as a multifaceted, hierarchical construct to reflect the fact that "customers form their service quality perceptions on the basis of an evaluation of performance at multiple levels and ultimately combine these evaluations to arrive at an overall service quality perception" (Brady and Cronin, 2001, p. 37). Second, the research examines the service quality perceptions of Airbnb guests as formulated by their aggregate evaluations of the five-factor hospitality-specific model proposed by Akbaba (2006). Third, it seeks to unravel the relative influence that each of the five facets has on overall service quality perceptions in an attempt to offer deeper insights regarding priorities setting for a high quality Airbnb lodging experience.

This study contributes to the hospitality discipline and in particular extends our knowledge of the sharing economy and particular of Airbnb accommodation in the following ways. First, since the exploration of marketing in the sharing economy is in its infancy (Hellwig *et al.*, 2015; Chen, 2016; Heo, 2016), and since there is a lack of empirical studies on Airbnb accommodation, this study responds to relevant calls (Chen, 2016; Guttentag, 2015; Heo, 2016; Tussyadiah, 2016). Second, the current study is the first to explore service quality issues in Airbnb accommodation. Mohsin and Lockyer (2010) assert that service quality continues to be an issue to debate and research and Dedeoglu and Demirer (2015) assert that studies on service quality which focus on the hotel industry are limited. Richard and Cleveland (2016) support this

view by pointing out the need for more research on service quality from the consumers' point of view given the new reality (sharing economy) of the hospitality industry. Moreover, Rauch *et al.* (2015) mentioned that most of these studies explore service quality in upscale (4-star) and luxury (5-star) hotels and more studies which focus on other hotel/accommodation segments are needed. The exchange process in service encounters is a dynamic process, due to the evolving interaction between service providers and their customers. Accommodation providers have an opportunity to offer the quality that customers are looking for and to offer a memorable service, thereby increasing the likelihood of that customer returning (Mitchell and Lewis, 1990; Rahimi and Kozak, 2016; Rahimi and Gunlu, 2016; Shostack, 1977). Hence the current study, seeks to explore customers' perceptions of service quality facets in Airbnb accommodation, using Akbaba's (2006) proposed scale and the lens of Social Exchange Theory (SET). Third, it investigates the topic in Thailand, one of the most popular tourist destinations worldwide (UNWTO, 2015) where studies on hospitality are limited (i.e. Kang *et al.*, 2015; Narangajavana and Hu, 2008). Finally, our findings could be of value to both academics and practitioners and could serve as reference for future studies within the online network hospitality field and particularly for the Airbnb accommodation sector (Germann Molz, 2011).

2. Literature review

2.1. Sharing Economy and Airbnb

While "sharing" is an old concept (Belk, 2010, 2014), the sharing economy, also known as the Peer to Peer (P2P) or collaborative economy (Tussydiah, 2016), is a contemporary phenomenon (Hellwig *et al.*, 2015; Tussydiah, 2016). It emerged in the past few years with the development of the internet (Belk, 2014) and it was driven by economic and societal factors (Botsman and

Rogers, 2011; Tussyadiah and Pesonen, 2016), technological advancements (i.e. smart phones), the global economic downturn which created a need for economic benefits (i.e., less spending and cheaper prices for guests), the need for social connection, and a greater awareness of environmental issues (Botsman and Rogers, 2010; Gansky, 2010).

Scholars from different disciplines provide various definitions and terminologies for the sharing economy concept (Belk, 2014; Richardson, 2015; Tussyadiah, 2016) but there is no agreement on a universal definition (Dredge and Gyimothy, 2015). However, Richardson (2015) by examining various definitions of the sharing economy concluded that Airbnb has three key elements of the sharing economy: 1) the company is paradigmatic in offering an online ‘platform’: a digital intermediary that reduces the costs of connecting a diverse array of potential consumers and producers; 2) it is peer-to-peer. This means that Airbnb ‘hosts’ are also ‘travelers’, or more generally that client and service provider are (theoretically) interchangeable; 3) Airbnb is access-based: it is premised upon the ability to buy access to (rather than ownership of) a resource or service (in this case, hospitable space) for a period of time.

Airbnb is the most prominent example of the sharing economy in hospitality and it is becoming an important player in the hospitality sector (Ert *et al.*, 2016; Oskam and Boswijk, 2016; Richardson, 2015). Airbnb was listed in the world’s 50 most innovative companies by Fast Company Organization in 2013 (Carr, 2013) and since its formation in 2008 has significantly increased its sales volume and expanded considerably. Today, Airbnb has a global presence and reaches over 34,000 cities in 190 countries. Valued at an estimated \$10 billion, it is worth more than major hotel corporations (Shuford, 2015). For Guttentag (2015) Airbnb has been successful because it offers access to low-cost accommodation and direct interaction with the local community, while Oskam and Boswijk (2016) assert that it has been successful because of the

authenticity of the P2P contact in the accommodation experience, and the economic benefits for both hosts and guests. Thus, social interaction is of paramount importance in the Airbnb business model and greatly affects guests' experiences and level of satisfaction, as it is described in SET. In other words, satisfaction and perception of service quality within the sharing economy context are the result of social interactions and reciprocity and not the outcome of personal internal processing, as it is outlined in SET (Choo and Petrick, 2014; Emerson, 1976).

According to Ikkala and Lampinen (2015), there are two main styles of hosting through Airbnb. The first one is called remote hospitality for hosting situations wherein the host is not physically sharing the home (or other property he or she manages) with the guest. Here, the interaction with the guest is typically limited to messages exchanged through the Airbnb service, e-mail, SMS contact, phone calls, and the occasional quick encounters in which the keys to the apartment are handed over and final details of the stay are discussed. The second one is labeled on-site hospitality where the host is physically present and sharing the apartment with the guest. An example of this is renting out a spare bedroom or one's living room.

2.2. Service Quality and Social Exchange Theory

Service quality has been receiving attention from researchers since the 1970s due to the ground breaking articles published by Gronoos (1982), Lehtinen and Lehtinen (1982), Lewis and Booms (1983), and Sasser *et al.* (1978). These studies highlighted the complexities associated with evaluating service quality; the contribution of service process delivery on service outcomes which results in the perception of service quality. Social exchange theory proposes that social behavior is the result of an exchange process (Emerson, 1976; Skidmore, 1975) and interpersonal interactions include exchanges of resources. Satisfaction is primarily influenced by the economic

and social outcomes of these exchanges. Therefore, service quality and its perceptions can be influenced by different internal processes and interpersonal variables. According to Sierra and McQuitty (2005), in the case of a close interaction between a service employee and a customer, the manner in which the service is performed is often more important than what is actually delivered (Ozment and Morash, 1994). In social exchange, for which customers and employees perceive some degree of shared responsibility, and the success or failure of the outcome produces an emotional response (Sierra and McQuitty, 2005).

Existing service quality measurement methods can be broadly classified into incident based or attribute based methods (Stauss and Weinlich, 1977). Incident based techniques classify events or critical events into satisfactory or unsatisfactory customer experiences in service contact situations. Attribute based techniques tend to provide a global view of quality by capturing customer perceptions of quality through a structured questionnaire. Service quality literature received widespread attention after the seminal work by Parasuraman *et al.* (1988) wherein they proposed the gap model and developed SERVQUAL (an attribute based technique) as a tool for measuring service quality. They suggested three underlying themes after reviewing the previous work on services: 1) service quality is more difficult for the consumer to evaluate than the quality of goods, 2) service quality perceptions result from a comparison of consumer expectations with actual service performance, and 3) quality evaluations are not made solely on the outcome of service; they also involve evaluations of the process of service delivery (Parasuraman *et al.*, 1985).

They defined service quality as “*a global judgment, or attitude, relating to the superiority of the service*” (Parasuraman *et al.*, 1988, p.16). Asbonterg *et al.* (1996) undertook a critical review of SERVQUAL by reviewing the core SERVQUAL scale, the tests for validity, reliability

and identified past SERVQUAL studies that measured service quality in a variety of settings (Healthcare, retail, banking, fast food restaurants etc.). They concluded that SERVQUAL scores well for reliability face validity and concurrent validity but found little proof for convergent validity. Seth et al. (2004) undertook a comprehensive review of service quality models and identified 19 different service quality models. Upon evaluation they concluded that service quality models have evolved and highlight the changes from conventional to IT based services. Further research has established the role of service quality as the antecedent for customer satisfaction and customer satisfaction as an antecedent to loyalty. Hallowell (1996) identified the relationship that exists between customer satisfaction and loyalty and customer loyalty and profitability. Storbacka *et al.* (1994) provided a comprehensive framework that links service quality, customer satisfaction and customer retention, and company profitability. Given its importance, it can be argued that service quality plays a critical role in gaining a competitive advantage.

2.3. Service Quality in Lodging Industry

In order to enhance customer satisfaction, organizations tend to adopt a service standardization approach in order to provide uniform service quality. However, demand for services in hotels are clustered around a specific time of the day or months of a year, making it difficult to provide a uniform service experience. Moreover, there are some aspects of service such as friendliness, helpfulness etc. which are difficult to standardize. Sierra and McQuitty (2005) mentioned that service employees' performance is critical for the success/failure of the service exchange (Bowen, 1990; Levitt, 1981; Puay *et al.*, 1999), and employees' behaviors and

attitudes can influence a customer's perception of the quality of that service (Brady and Cronin, 2001).

The importance of service quality in the lodging industry is well documented (e.g. Akbaba, 2006; Wu and Ko, 2013; Yang *et al.*, 2011). In the hospitality context, there are numerous empirical studies examining and conceptualizing the construct of service quality (Briggs *et al.*, 2007). Johns and Lee-Ross (1996) propose the use of free response questionnaires and term it as a 'profile accumulation technique'. Other scholars proposed service quality instruments specifically for the hospitality sector based on SERVQUAL. For example, Knutson *et al.* (1990), developed LODGSERV, a model developed for the Lodging industry. This model is based on the five original SERVQUAL dimensions and contains 26 items. Getty and Thompson (1994) designed the LODGQUAL instrument which contained only three dimensions i.e. Tangibles, reliability and contact. Mei *et al.* (1999) developed the HOLSERV model containing 27 items, a 7-point scale with three dimensions i.e. employees (behavior and appearance), tangibles and reliability. Getty and Getty (2003) developed the "Lodging Quality Index" (LQI)—a 45 item measurement tool containing tangibility, reliability, responsiveness, confidence and communication. This instrument was validated by Ladhari (2010) by applying it to the context of Canadian tourists. The service quality literature in the lodging industry asserts that the evaluation of service quality is multidimensional, (Ekinci, 2002) and that the recommended factors could not be generic (Akbaba, 2006) since some of these can be different in different hotel settings (i.e., resort hotels, business hotels, motels) and cultures (Yang *et al.*, 2011). Table 1 provides a summary of some of the major research studies on service quality measurement that focused on the hotel industry.

[Table 1 here]

From Table 1, it can be inferred that customers give more importance to the factors that are classified into tangibles and reliability. Moreover, different factors are used to measure service quality, highlighting the lack of a universal measurement model. Hence, despite the criticisms that exist of SERVQUAL dimensionality, Akbaba (2006) based his analysis on SERVQUAL to extract a service quality instrument for the hospitality industry, as it is still regarded as a valuable generic tool for producing industry-specific ones. In order to measure service quality in the Turkish hotel industry, Akbaba (2006) identified 25 service quality attributes from the initial 29 SERVQUAL attributes and utilized five service quality dimensions, namely “tangibles”, “adequacy in service supply”, “understanding and caring”, “assurance”, and “convenience”. The fact that Akbaba (2006) devised a set of measurement items to evaluate the quality of hotel units may indicate the suitability of those measures to other areas of the hospitality industry too. Additionally, a number of studies (e.g. Maghzi *et al.*, 2011; Raza *et al.*, 2012) have used Akbaba’s scale in different countries, following the original or devising modified versions of it, to measure service quality in hotels. Echoing the views of Akbaba (2006), this research will adopt his recommendations on measuring guests’ service quality perceptions in Airbnb accommodation, while employing Cronin and Taylor’s (1992) conceptualization of service quality formulation to overcome the critique regarding the weaknesses of SERVQUAL implementation.

The theoretical support for the use of performance-based only measures of service quality is provided in the relevant literature, demonstrating that perceived service quality is best conceptualized as an attitude (Brady, Cronin & Brand, 2002; Churchill & Suprenant, 1982). The

attitude-based operationalization of service quality developed by Cronin & Taylor (1992) was based on both the theoretical and empirical evidence that the performance-only service quality instrument “outperforms the disconfirmation-based SERVQUAL scale...” (Brady *et al.*, 2002; p. 18). Then, although Cronin and Taylor (1992) question both the theoretical basis and the five-component structure of SERVQUAL, they still make use of the 22 performance items proposed by Parasuraman et al. (1988) to define service quality, as validated and supported by the relevant development procedures. In this vein, though we do not apply the expectations-and-performance perceptions of Akbaba’s scale, we do make use of the perception measurement items suggested, as per the recommendations of Cronin and Taylor (1992).

Taken together, we expect that the tangibles, adequacy in service supply, understanding and caring, assurance and convenience, which originate from Akbaba’s scale, may have some impact on the service quality perceptions of Airbnb guests. This is further supported by the fact that hospitality services are generally based on a set of processes carried out by a variety of tangible items that aim to create favorable guest experiences. Therefore, based on the recommendations provided in the published literature the following hypothesis will be examined:

H1: The five facets have significant and positive effects on shaping Airbnb guests’ overall perceptions of service quality.

3. Methodology

3.1 Data collection process

All lodgings involved in the survey were of the remote hospitality type and we focused only on whole apartments rented out. The lodgings were chosen through a two stage sampling process. In the first, Airbnb accommodation was identified using the web search facility.

Accommodation (Quality, amenities, location and price range) was chosen by applying the following filters: House type = apartments / flats, Location = Phuket, price range: less than £45 per day. Regarding quality criterion, the property description and pictures were used to assess the quality of the property. Based on these search criteria the Airbnb online platform returned 400 apartments listed in a random order, with the number of bedrooms per apartment varying from 1 to 4, although the majority of them were of one or two bedrooms only. All apartments were considered to be in the same category based on the facilities offered (e.g. furniture, electric appliances and support services). Then, based on the search results, the first eighty 1-2 bedroom apartments listed due to the randomness generated by Airbnb search engine were chosen and their hosts were contacted to seek permission to undertake this research. Finally, fifty-six hosts gave permission to undertake this research.

The required data were collected via a self-administered multi-item structured questionnaire in Phuket, during March 6-20, 2015. Four appropriately-trained field researchers were recruited in order to secure a reliable data collection process. A total number of 301 prospective participants were approached and 265 agreed to fill out the questionnaire distributed to them the day before their departure date. This date varied according to their return flights to their home countries (spread almost uniformly throughout the seven days of the week). In this way the largest possible portion of respondents' experience was captured and at the same time they were provided with enough time to complete the survey. The respondents handed in their responses during check out, between 12:00 and 15:00 hours. The questionnaire included questions aimed at obtaining behavioral information regarding Airbnb usage and demographic details. In order to measure the contributing factors or dimensions of service quality, the 25 items suggested by Akbaba (2006) were used, whereas the overall service quality perception of Airbnb

guests was measured by the three-item scale proposed by Taylor and Baker (1994). The last section's questions explored tourists' demographic details. To test the items of the questionnaire a pilot study was carried out, which only resulted in improvements in the questionnaire format. The survey questionnaire was pre-tested on 30 visitors during March 2-3, 2015 and after few grammar amendments it was ready for final distribution. In total, a non-probability sample of 217 international English speaking tourists in Thailand resulted from this process. Of those, 3 cases representing guest perceptions of 3-4 bedroom apartments were excluded to create a pool of data focusing on guests staying in 1-2 bedroom apartments only. Nonetheless, a thorough examination of the data after inputting it into SPSS revealed 12 cases that seemed to have an extreme response style; these cases were removed to avoid distortion of the data quality and the final results. Consequently, the final usable sample consists of 202 in total.

3.2 Data preparation for analysis

In designing and conducting the main study, we took several steps to eliminate potential errors (Davidshofer and Murphy, 2005). In particular, a) we ensured that only Airbnb guests participated so as to reduce the coverage error (Groves, 2004), and b) we achieved a 76.22% final (202/265) response rate, which suggests that the non-response error is not an issue (Johnson and Owens, 2003). Then, possible measurement errors were prevented through a balanced formulation of measurement scales (5-point Likert scales). Acquiescence was controlled by avoiding any usage of vague or ambiguous wording (Knowles and Condon, 1999) and midpoint responding was also taken into account during the construction of the questionnaire by including an extra point of response to the 5-point Likert scale, namely "0 = I don't know/I cannot reply" (Baumgartner and Steenkamp, 2001).

Sample size considerations were taken into account according to Hair *et al.* (2011) and Cohen's (1992) recommendations. The minimum sample size was determined based on a statistical power of 80%, with minimum R^2 equal to 0.25, the maximum number of arrows pointing to a latent variable (i.e. overall service quality) is 5, and at a 1% level of significance. The a-priori minimum sample size estimation was 98. As the final usable sample collected through the survey was 202 respondents, it can be safely concluded that the minimum sample size requirements were satisfied.

A series of research actions was applied to enhance the content validity and reliability of the measurements. The potential dangers of response bias were treated through specific procedures before, during and after data collection by a) providing a convenient setting for the respondents, thus reducing situational pressure (Paulhus, 1991) and b) shuffling the order of the questions for half of the questionnaires distributed (Danaher and Haddrell, 1996).

It is well known that studies examining the relationships among behavioral constructs using self-reported data (e.g. survey questionnaires) could be affected by common method bias (MacKenzie and Podsakoff, 2012). Thus, a common latent factor (CLF) was introduced to check the common variance among all observed variables (Williams *et al.*, 2010). This was performed by comparing the standardized regression weights among the model constructs before and after introducing CLF (Sreekumar Nair and Ladha, 2014).

Regarding normality of the data, Esposito-Vinzi *et al.* (2010) suggested that for sample sizes larger than 200, the multivariate normality assumption is relaxed via an asymptotic distribution-free estimation offered by PLS algorithm. Nevertheless, to draw safe conclusions about it, both univariate and multivariate normality were assessed. The results provided in Appendix B show that univariate normality of the dataset should not be considered as an issue,

since both skewness and kurtosis were within acceptable limits for all indicators as proposed in the literature (Thode, 2002). Similarly, multivariate normality was examined by checking for outliers via Cook's distance (CD). The analysis did not indicate any outliers that could have a significant impact, as in all cases CD was found to be less than 1 (Stevens, 1984).

3.3 Demographic profile

In the total sample of 202 tourists, 51.5% were male and 48.5% were female, out of which 34.1% were 26-35 years old, 31.2% were 36-45 years old, and 19.8% were 18-25 years old. Concerning their occupation, 41% were private sector employees, 15.2% students and 14.8% entrepreneurs. In terms of their educational level, 48.5% had a bachelor's degree, 28.7% had a high school diploma, and 13.9% had vocational training qualifications. Concerning their marital status, 63.3% were married, while 34.6% were single. Regarding the tourists' area of residence, 44.5% of respondents came from Asia, 22.8% from Europe, 18.8% from the Middle East, and 12.9% from the USA. 89.1% of the tourists had already used service apartments provided by Airbnb, and the highest rate of usage was 3 to 4 times per year (57.4%) Finally, more than half of the respondents (51.5%) spent as much as £501 to £600 for staying in Airbnb service apartments, followed by those who paid between £401 and £500 (26.7%).

4. Results

A sequence of data analysis steps was taken in order to safely attain the goals of this study. First, missing values analysis (MVA) was employed to deal with any missing data. The results of MVA indicated that missing values are completely random ($\chi^2 = 65.353$, $df = 94$, $Sig. = 0.989$) (Little, 1988).

During data analysis three distinct actions were taken through implementation of the PLS-SEM technique to guarantee the best possible statistical outputs (Loureiro and González, 2008). First, construct reliability and validity were examined; secondly, a factor analysis was employed in order to prune the indicators that make a small contribution to explaining the latent constructs; finally, a path analysis with bootstrap generation was implemented to check on the significance of the relationships between the five facets and the overall perception of service quality.

The factorial scheme of SmartPLS 3.0 was used to conduct a confirmatory factor analysis (CFA) (Esposito-Vinzi *et al.*, 2010) in order to explicitly specify the pattern of loadings of the measurement items on the latent constructs in the model. Based on the results obtained from CFA in the outer model, the convergent validity, discriminant validity, and reliability of all the multiple-item scales were assessed against the guidelines published in previous literature (Hair *et al.*, 2010). Internal consistency, composite reliability and average variance extracted (AVE) were used as measures of reliability and validity, respectively. Cronbach's alpha values were found to vary between 0.933 and 0.978, while composite reliability values ranged from 0.957 to 0.982, both satisfying the condition for alpha, $CR > 0.70$ (Bagozzi and Kimmel, 1995; Hair *et al.*, 2010;) and AVE values ranged from 0.866 to 0.901, which is higher than the cut-off value of 0.5 ($p < 0.01$) (Fornell and Larcker, 1981). As shown in Table 2. Discriminant validity is checked through comparing the AVE value of each construct to the square of the correlations between that same construct with the rest of the latent variables.

Shared variance may lead to relationship inflation between independent and dependent variables (Lindell and Whitney, 2001). To test for common method variance a PLS common method bias test was employed (Podsakoff *et al.*, 2003). A common method factor was included in the model which linked all indicators of the theoretical constructs. As a result, all CLF factor

loadings were non-significant at a 0.05 level of significance and the indicators' variances obtained were essentially greater than their method variances. The average substantive variance of the indicators was 0.64, whereas the average method-related variance was equal to 0.013, resulting to a ratio of 49:1, respectively. Consequently, it is reasonable to conclude that common method variance should not create serious problems for the validity of our results.

Table 3 presents the square root of AVE in the diagonal, whereas the rest of the values correspond to the correlations for each pair of constructs. As an outcome, the correlation coefficients for the inter-constructs were found in all cases to be smaller than the square root of AVE for each construct. The variance inflation factor (VIF) values were also processed in SmartPLS 3.0 and found to range between 2.867 and 3.284. Consequently, multicollinearity should not be of concern for this study since all values are lower than the cut-off value of 3.3 (Ali *et al.*, 2016) and essentially lower than the ceiling of 10.0 (Altınay *et al.*, 2016). Moreover, coefficient of determination (R^2), effect size (f^2) and predictive relevance (Q^2) values are important for quantifying the predictive capabilities of the structural model. The quality heuristic criteria that were employed show that the model is of high predictive power. The resulting R^2 adjusted value for service quality is 0.811 or 81.1%, which shows a substantial effect (>0.75) according to Henseler *et al.* (2009); thus, the degree of variance explained for service quality is very high. Then, the changes in R^2 value when exogenous variables are omitted from the model are provided by the f^2 effect size; as shown in Table 4, convenience and assurance represent medium effects, whereas tangibles, understanding & caring, as well as adequacy in service supply have small ones. Finally, using the blindfolding procedure for executing the Stone-Geisser test with an omission distance $D=7$, we conclude that the proposed model has high predictive relevance for the service quality construct, since $Q^2=0.700>0$ (Hair *et al.*, 2014).

[Table 2 Here]

The use of an iterative application of CFA has refined the proposed list of 25 items for the five antecedents of service quality to a final collection of 23 items, after pruning the indicators that appeared to have low communalities and factor loadings below 0.70 (Hair *et al.*, 2010). One item (tan3) has been pruned from “Tangibles” and another one (ade20) from “Adequacy Service Supply” with loadings 0.236 and -0.504, respectively. All three “Service Quality” indicators have been found to satisfactorily reflect the underlying construct.

After the CFA procedure and relevant pruning and confirmation of the scales had been completed, PLS-SEM multivariate technique was employed in order to reveal the influence of the five service quality components on overall quality perception of Airbnb lodgings. To test hypothesis H1 the inner model illustrated in Figure 1 was developed. The significance of the paths was tested using regression weights and t-statistics (Table 2) to calculate the corresponding p-values, based on a bootstrapping technique readily available from SmartPLS 3.0.

[Table 3 Here]

Hence, path loadings (regressions weights) have been calculated in order to quantify the significance and direction of the relationship between the quality dimensions and service quality overall. As shown in Figure 1 and Table 4 the influences of tangibles and adequacy service supply are not significant at a 0.05 level of significance ($\beta=0.187$ and -0.270 , $p>0.05$, respectively). The most significant and most positive effects resulted from the convenience and assurance constructs, with path coefficients of 0.859 and 0.643, respectively ($p<0.001$). The understanding & caring construct exerts a negative influence on service quality that is significant at a 0.05 level of significance ($\beta=-0.504$, $p<0.05$). In all, hypothesis H1 is partially supported,

since a) not all the facets contribute significantly to service quality formulation, and b) the direction of one of the effects is negative instead of positive. Table 4 summarizes regression weights, t-statistics and p values for the structural (inner) model calculated based on a 5000-subsamples bootstrap generation.

[Figure 1 Here]

[Table 4 Here]

5. Discussion and Conclusion

The current study adopted social exchange theory and Akbaba's proposed scale in order to explore customers' perceptions of the service quality components of Airbnb accommodation. Our findings indicated that convenience has the highest relative importance among the service quality factors included in Akbaba's measurement scale. The results showed that Airbnb guests are mainly interested in lodging which has access to certain tourist sights, and in how easy it is to acquire information and how efficiently problems can be resolved during their stay. Assurance has been ranked as the most important contributor to service quality in various studies of the hotel industry (i.e., Blešić *et al.*, 2014; Juwaheer and Ross, 2003), while in the study by Knutson *et al.* (1990) it ranked second in the hierarchy of importance for evaluating service quality, thus supporting our findings (see Table 1). Adequacy in service supply is a factor that appears only in Akbaba's setting for service quality, which incorporates items related to reliability and responsiveness according to SERVQUAL dimensionality. This factor's influence on service quality perception is not significant, due to the difference between the Airbnb service mix and that of hotels. Different guest priorities and behavioral changes (Tussyadiah and Pesonen, 2015), as well as the absence of employed personnel to serve guests' needs during their stay are deemed

to be distinctive Airbnb traits (Lampinen and Cheshire, 2016). Although, the tangibles dimension has been reported to be a very important service quality contributor in previous studies (Akbaba, 2006, Ladhari, 2012), it does not exert a significant effect on Airbnb service quality perceptions.

This finding confirms that household equipment and furniture are not of high importance in formulating Airbnb service quality perceptions (Guttentag, 2015), whereas it is the most important one in the case of hotel accommodation (Ladhari, 2012). Thus, guests choose Airbnb accommodation not due to the quality of fixtures, but to experience a more authentic local experience which is offered at affordable prices (Guttentag, 2015; Richardson, 2015). However, hotels are run by professionals and guests expect an impersonal ‘corporate’ type experience. Finally, utilization of PLS-SEM technique showed that understanding and caring have a significant effect on service quality, a factor which is also significant in the case of hotels. This last finding reveals guests’ desire to deal with courteous landlords who will offer a pleasant stay and some minimum services, e.g. in case there is any failure of household equipment that needs to be fixed. At the indicators level of analysis, all items of the service quality measurement model tested have factor loadings above 0.90. Among these items, the ones that make the highest contribution to their respective factors are “atmosphere and equipment comfortable and appropriate” (tan8, 0.975), “provision of services at promised times” (ade13, 0.969), “understanding the specific needs of guests” (und19, 0.960), “convenient operating hours” (ass22, 0.971), “reaching information” (con27, 0.960), and “*the quality of Airbnb services is...*” (sq35, 0.954). The importance of service quality in the accommodation business, regardless of the scale used to measure it, has been supported in several studies (i.e., Akbaba, 2006; Juwaheer and Ross, 2003; Saleh and Ryan, 1991).

5.1 Theoretical Implications

Acknowledging the vital role tourists' service quality perceptions play in the accommodation business, and taking into account the development and growing popularity of emerging business models in the hospitality industry such as Airbnb (Bocken, 2015; Guttentag, 2015; Symons, 2013), this study delineated the factors that influence service quality in social networking type lodgings. Thus, the current investigation goes one step further in capturing guests' service quality perceptions by illustrating the integration of digital technologies in transforming a traditional sector of the tourism product. This transformation is merely driven by the social environment dynamics that are reflected in the relationships built between Airbnb hosts and guests. These dynamics could potentially lead to loyalty and commitment, thus making SET a proper explanatory framework (Choo and Petrick, 2014; Wayne *et al.*, 1997).

From a theoretical prism, the current study offers some important theoretical insights. It examined the service quality concept in the sharing economy context and particularly in Airbnb accommodation, where empirical findings are scant. In addition to indicating the significant and non-significant factors influencing the formation of overall quality perceptions, this study explored the relative importance of the factors, thus resulting to a specific ranking of them. The findings indicated that among the five service quality factors, 'convenience' and 'assurance' followed by 'understanding and caring' have been indicated by the respondents as the most critical contributors to their service quality perceptions of Airbnb two-bedroom flats. Most items supporting measurement of these three factors are mainly related to maintaining the functional aspects of accommodation high standards, implying that guests would possibly place less importance on the tangible elements of the lodging itself and more on using the Airbnb flat as a

springboard to discover the destination. Our findings confirmed the manifold structure of the service quality construct, as well as the interactive nature of service quality perceptions, thus corroborating the applicability of SET in theoretically supporting the operationalization of the service quality concept in Airbnb accommodation. The social interactions between guests and hosts seem to play a decisive role in shaping overall service quality perceptions.

The contribution of this study in unraveling the complex nature of service quality in Airbnb accommodation is of utmost importance. From a consumer standpoint, the services provided by the specific Airbnb lodgings, are perceived as quite distinctive to those of hotels and are potentially associated with different expectations and different kinds of service evaluation by guests (Tussyadiah, 2016). In a similar vein, although travelers' motives for using the Airbnb business model are merely financial, it has been argued that they are very much interested in developing meaningful social interactions with their hosts (Tussyadiah and Pesonen, 2015). Thus, in the area of social networking hospitality a household approach instead of a corporate one seems to be particularly valued by those guests who are in constant search of authentic experiential services (Symons, 2013). This could partly explain why tangibles are not considered to be significant for guests' evaluation of service quality when considering the Airbnb rented flats. This observation implies that guests perceive their stay in Airbnb lodgings as a pivotal part of their holistic travel experience, due to the flexible, friendly and practical style of Airbnb accommodation.

5.2 Managerial Implications

Since service quality has a significant effect on guests' satisfaction and retention, as well as on lodgings' financial performance and competitive advantage (Chen and Chen, 2014; Stylos

and Vassiliadis, 2015; Wu and Ko, 2013; Yang *et al.*, 2011), the current research study has some key managerial implications for networking hospitality and one-to-two-bedroom Airbnb flats in particular. Hence, in addition to its theoretical importance, this study sought to offer valuable advice to hospitality practitioners interested in Airbnb. Focusing on apartments with the selected set of attributes makes our findings of interest to hosts listing apartments for rental in similar tourism destinations. Thus, managers and hosts of this specific type of accommodation would potentially benefit from prioritizing the implementation of the Airbnb-specific service quality factors into their marketing activities (Kamenidou *et al.*, 2009).

Specifically, given that convenience is a critical quality factor, hosts in cooperation with Airbnb managers need to have a customer complaints management system in place e.g. in the form of user-friendly software. Furthermore, it is of utmost importance to facilitate guests' access to the Airbnb lodging at any time by providing an online information package to avoid confusion and disappointment, especially when trying to locate it for the first time. In relation to assurance, it does not come as a surprise that guests are particularly interested in getting some form of affirmation that the lodgings' furniture, equipment and household supplies are in good condition. Information regarding the safety of the areas or neighborhoods surrounding the lodgings should also be included in the information provided to prospective guests through the Airbnb platform. In a similar vein, it is likely that the existence of any additional lodging safety features such as integrated security systems (intrusion detectors, alarms and other electronics) would be positively evaluated by prospective guests in selecting the right lodging for their needs. Furthermore, information about any sophisticated safeguard features at the Airbnb lodgings should also be well provided in the Airbnb listings.

Regarding the 'understanding and caring' factor of service quality, Airbnb hosts should

treat their guests in a friendly manner. This could possibly motivate tourists to select an Airbnb lodging instead of a hotel room/suite. For example, contacting the guests after a reservation has been made to ask about individual needs, arrangements and preferences upon their arrival at the lodging would be viewed as outstandingly hospitable behavior. Moreover, hosts should be keen to enable their guests to have an unforgettable experience during their stay at the Airbnb lodgings and the tourist destination. This could happen in various ways, such as offering their guests hints and tips about sightseeing, restaurant options, and smart transportation. This would potentially help the guests make optimum use of their time spent at the tourist destination, as well as increase the value/money rate. Overall, the findings of our study could assist hosts of Airbnb flats in better understanding how each of the service quality dimensions can contribute to a pleasant experience, which in turn would possibly affect intention to revisit the same lodgings, as well as intention to recommend (e.g. positive word of mouth).

5.3. Limitations and Future Research

Although the study revealed meaningful results and provides some important insights into the current literature, it is not without limitations. Airbnb is the largest network for renting private properties to tourists, but it is not the only one. Despite the appropriateness of using the measurement tool provided by Akbaba (2006), it is not the only tool for measuring service quality. Ladhari (2009) identified SERVQUAL as the most useful instrument for service-quality research. In this vein, the current study used Akbaba's (2006) model which is based on SERVQUAL. Similar studies can be done with other types of service quality instruments and the results might be different in different contexts with different models. Therefore, the aforementioned findings should be cross-validated using other measurement instruments, such as

LQI. Also, it would be useful to examine the service quality dimensions of lodgings rented through the social networking industry with respect to locations other than Thailand. Moreover, future research should include lodgings promoted by various social networking channels. This research has set the path for further studies in the service quality domain. Further research could be conducted on other types of Airbnb accommodation such as on-site hospitality, since this research focused only on remote hospitality. Furthermore, future studies on service quality in the hospitality industry could aim to compare guests' experience at Airbnb accommodation with their experience at hotels. Finally, forthcoming research studies could consider other factors such as the location of the flat and particular amenities, and also explore Airbnb hosts and guests' perceptions of service quality.

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Table 1 Summary of the main studies on service quality measurement in the hotel industry.

Authors	Sample	Dimensions of service quality	Customer's Emphasis
Knutson <i>et al.</i> (1990)	LODGSERV Model N=200 adults/hotel users USA Hotels/motels (unidentified stars)	Tangibles Reliability Responsiveness Assurance Empathy	Reliability
Akan (1995)	N=228 guests 4 & 5star hotels Istanbul, Turkey	Courtesy and competence of the personnel Communications and transactions Tangibles Knowing and understanding the customer Accuracy and speed of service Solutions to problems Accuracy of hotel reservations	Courtesy and Competence of the personnel.
Juwaheer (2004)	N=410 international tourists Different categories of beach hotels Mauritius	Reliability Assurance Extra room amenities Staff communication and additional amenities sought Room attractiveness and décor Empathy Staff outlook and accuracy Food and service related Hotel surroundings and environmental	Reliability
Akbaba (2006)	N=234 business travelers Business hotel Turkey	Tangibles Adequacy in service supply Understanding and caring Assurance Convenience	Tangibles
Albacete-Saez <i>et al.</i> (2007)	N=172 accommodation users Variety of rural establishments Spain	Personnel response Complementary offer Tourist relations Basic demands Tangible elements Security Empathy	Tangible elements

Wilkins <i>et al.</i> (2007)	N=664 guests 8 First class and Luxury hotels Queensland, Australia	Stylish comfort Quality staff Personalization Room quality Speedy service Added extras Quality food and beverage	
Ladhari (2012)	LQI (validated) N=200 tourist and business travelers Canada	Tangibility Reliability Responsiveness Confidence Communication	Tangibility Communication
Rauch <i>et al.</i> (2015)	N=2500 guests 11 not brand affiliated mid-scale hotels (3-star) USA	Service product Service delivery Service environment	Service environment

Source: created by the authors

Table 2: Assessment of the final measurement model

Constructs/ Items	Mean (SD)	Loadings	Std. Error	T-statistic	Cronbach's alpha	CR	AVE
Tangibles					0.971	0.978	0.897
tan4	2.86 (1.05)	0.959	0.005	189.67			
tan5	3.37 (1.22)	0.957	0.004	230.16			
tan6	2.76 (1.23)	0.939	0.008	108.86			
tan7	2.84 (1.02)	0.910	0.008	105.99			
tan8	2.71 (1.03)	0.971	0.004	276.76			
Convenience					0.933	0.957	0.882
con14	3.07 (1.22)	0.909	0.012	76.38			
con26	3.79 (1.03)	0.952	0.006	159.82			
con27	3.74 (0.87)	0.956	0.005	201.02			
Assurance					0.963	0.973	0.901
ass22	3.95 (0.99)	0.970	0.004	251.67			
ass23	4.08 (0.96)	0.959	0.005	206.17			
ass24	3.52 (1.12)	0.917	0.009	103.62			
ass25	3.16 (1.05)	0.951	0.007	129.01			
Understanding & Caring					0.961	0.970	0.866
und15	3.59 (0.87)	0.932	0.010	89.67			
und17	2.71 (0.98)	0.935	0.009	97.72			
und18	3.89 (1.12)	0.905	0.010	89.62			
und19	3.56 (1.09)	0.960	0.004	259.64			
und21	2.86 (1.10)	0.921	0.010	88.99			
Adequacy Service Supply					0.978	0.982	0.901
ade9	3.85 (0.65)	0.903	0.012	74.22			
ade10	3.22 (0.88)	0.952	0.005	195.32			
ade11	3.37 (1.17)	0.963	0.004	214.89			
ade12	3.38 (1.20)	0.955	0.005	194.37			
ade13	2.99 (1.27)	0.963	0.004	228.64			
ade16	3.06 (1.24)	0.956	0.006	166.52			
Service Quality					0.933	0.957	0.881
sq33	4.15 (0.52)	0.927	0.017	55.86			
sq34	3.83 (0.86)	0.941	0.011	87.70			
sq35	4.10 (0.65)	0.948	0.010	96.99			

Source: created by the authors

Table 3: Discriminant validity of measurement instrument.

	Adequacy Service Supply	Assurance	Convenience	Service Quality	Tangibles	Understanding & Caring
Adequacy Service Supply	0.843					
Assurance	0.644	0.851				
Convenience	0.594	0.531	0.855			
Service Quality	0.481	0.583	0.628	0.822		
Tangibles	0.444	0.435	0.538	0.509	0.800	
Understanding & Caring	0.473	0.537	0.577	0.562	0.405	0.854

The bold diagonal shows the square root of the average variance extracted (AVE).

Source: created by the authors

Table 4: Check for model quality and statistical significance of relationships between dimensions and service quality

No.	Path	f^2	Std. Regression Weights	Standard Error (S.E.)	Critical Ratio (t-statistic)	p-value
1	Tangibles · S.Q	0.012	0.187	0.248	0.753	0.454
2	Convenience · S.Q	0.173	0.859	0.176	4.866	0.000
3	Assurance · S.Q	0.143	0.643	0.142	4.519	0.000
4	Understanding & Caring · S.Q	0.025	-0.504	0.249	2.021	0.040
5	Adequacy Service Supply · S.Q	0.014	-0.270	0.188	1.432	0.155

Source: created by the authors

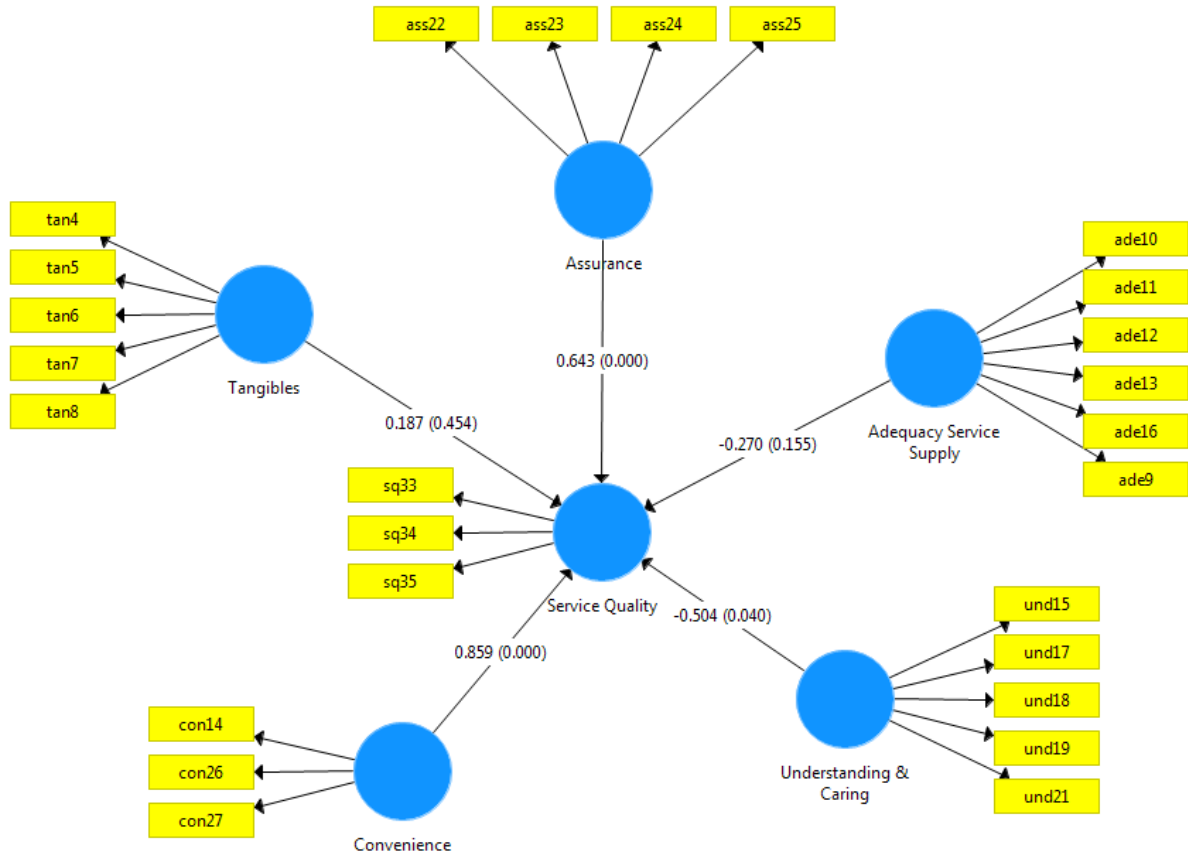


Figure 1: Structural model for service quality with standardized regression weights and p-values in parentheses.

Source: created by the authors

Appendix A. Measurement items for study constructs

Construct	Measurement items
Tangibles (Strongly disagree [1] – Strongly agree [5])	Food and beverages served (tan3) Adequate capacity (tan4) Modern looking equipment (tan5) The equipment of the lodging works properly (tan6) Materials associated with the services are adequate and sufficient (tan7) Atmosphere and equipment comfortable and appropriate (tan8)
Adequacy Service Supply (Strongly disagree [1] – Strongly agree [5])	Providing the services as they were promised (ade9) Performing the services right the first time (ade10) Airbnb owners are always willing to serve (ade11) Airbnb owners are always available when needed (ade12) Provision of services at promised times (ade13) Consistency in services (ade16) Providing prompt service (ade20)
Understanding & Caring (Strongly disagree [1] – Strongly agree [5])	Flexibility in services (und15) Providing assistance in other required areas (und17) Treating guests in a friendly manner (und18) Understanding the specific needs of guests (und19) Individualized attention (und21)
Assurance (Strongly disagree [1] – Strongly agree [5])	Convenient operating hours (ass22) Providing a safe and secure place (ass23) Instilling confidence in guests (ass24) Occupational knowledge of Airbnb owners (ass25)
Convenience (Strongly disagree [1] – Strongly agree [5])	Resolving guest complaints (con14) Ease of access to the lodging (con26) Reaching information (con27)
Service Quality (Strongly disagree [1] – Strongly agree [5] or Poor [1] – Excellent [5])	I believe that the general quality of Airbnb services is low (sq33) Overall, I consider Airbnb services to be excellent (sq34) The quality of Airbnb services is generally _____ (sq35)

Source: created by the authors

Appendix B. Skewness and Kurtosis measures for the indicators

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
tan4	202	-.268	.172	-.717	.342
tan5	202	-.606	.172	-.565	.342
tan6	202	.114	.172	-.733	.342
tan7	202	.264	.172	-.535	.342
tan8	202	.166	.172	-.677	.342
con14	202	-.392	.172	.419	.342
con26	202	.115	.172	-.632	.342
con27	202	-.622	.172	-.593	.342
ass22	202	-.140	.172	-.710	.342
ass23	202	-.017	.172	-.670	.342
ass24	202	-.278	.172	-.550	.342
ass25	202	-.170	.172	-.738	.342
und15	202	-.226	.172	-.814	.342
und17	202	.117	.172	-.393	.342
und18	202	-.536	.172	.774	.342
und19	202	-.639	.172	-.344	.342
und21	202	.036	.172	-.644	.342
ade9	202	-.726	.172	.656	.342
ade10	202	-.654	.172	.515	.342
ade11	202	-.699	.172	.264	.342
ade12	202	-.288	.172	-.341	.342
ade13	202	-.543	.172	-.344	.342

ade16	202	-.647	.172	.420	.342
sq33	202	-.474	.172	.749	.342
sq34	202	-.522	.172	.693	.342
sq35	202	-.609	.172	.845	.342

Source: created by the authors