



# The uniqueness of entrepreneurship in the sharing accommodation sector: Developing a scale of entrepreneurial capital

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## ABSTRACT

Hosts on sharing lodging platforms are viewed as an emerging form of entrepreneurs. This study aims to define entrepreneurship and entrepreneurial capitals and generate a multidimensional scale of entrepreneurial capitals for sharing accommodations (ECSA). A rigid procedure with three steps was followed to develop and validate this scale. An initial pool of items was provided through content analysis of 59 written surveys and literature review in Step 1. In Step 2 exploratory factor analysis (n = 150) was applied to further purify and refine this preliminary item pool. The 17-item ECSA scale was validated using confirmatory factor analysis (n = 328) in Step 3. Results support ECSA which covers four perspectives (i.e., financial, social, intellectual, and human capitals). The ECSA scale enriches the research body of entrepreneurship by examining an emerging business phenomenon. And it prepares practitioners for becoming micro-entrepreneurs on sharing lodging platforms.

## 1. Introduction

The proliferation of the internet has allowed people to access peer-to-peer (P2P) marketplaces for sharing products/services and obtaining temporary rentals, and this area is termed “sharing economy” (Fraiberger and Sundararajan, 2015). Sharing economy platforms have emerged in diverse fields, such as urban transportation (e.g., Uber), crowdfunding (e.g., Kickstarter), coworking (e.g., The Coop), and others (Sundararajan, 2013). Particularly, sharing accommodations have rapidly become competitors and supplements of traditional hotels in the hospitality industry. For example, as a leading platform of collaborative accommodations, Airbnb has attracted 150 million travelers to stay at its over five million listings in 191 countries (Airbnb, 2018). The valuation of Airbnb (\$38 billion) in 2018 exceeded the market capitalization of all the leading hotel companies except Marriott (\$41.6 billion) (Trefis, 2018). The growth of sharing lodging players is anticipated to significantly influence the entire industry’s future (Agarwal et al., 2018).

Academic studies on sharing accommodations have only sporadically appeared until 2014 (e.g., Ert et al., 2016; Priporas et al., 2017). Sharing accommodations is defined as a process that the owner of a real estate property provides his/her empty space for others to rent in a short term (Wu et al., 2017). Previous research could be classified into three streams. The first stream focuses on economic and social

impacts and investigates listing performance (e.g., Agarwal et al., 2018), pricing (e.g., Chark, 2019), and residents’ perceptions (e.g., Mody et al., 2019). The second stream examines marketing and customer behavior (e.g., Lee et al., 2019). The third stream assesses competition, substitution, and regulations/laws between hotels and sharing accommodations (e.g., Dogru et al., 2019). However, Baumol (1968, p. 66) suggests that business administration research in a specific economic form without a discovery of entrepreneurship is similar to the work of Shakespeare, in which “the Prince of Denmark has been expunged from the discussion of Hamlet.” Unfortunately, entrepreneurship, as a dominant topic in business, has never been investigated in sharing accommodations.

Entrepreneurship is a purposeful activity of an individual or a group meant to establish and develop a venture along with risks to earn profits (Kallmuenzer et al., 2019; Learned, 1992). As an emerging business form, entrepreneurship in sharing accommodations (ESA) should be investigated as a separate topic from traditional entrepreneurship for three reasons. First, the existing forms of entrepreneurship in other contexts (e.g., manufacture and agriculture) are neither applicable nor demonstrable of unique characteristics of sharing accommodations. The present authors identify five entrepreneurship forms with similarities to ESA, as shown in Table 1, by comprehensively reviewing over 30 forms proposed in previous studies (e.g., Gutterman, 2008; Stokes et al., 2010). However, none of them pinpoints the nature of the sharing

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**Table 1**  
Comparison between ESA and Peer Entrepreneurship Forms.

Peer entrepreneurship form	ESA
<b>Mass entrepreneurship</b> is a wide range of entrepreneurship among the general public due to a favorable climate of inspiration and support (Zhang and Zhang, 2016).	Mass entrepreneurship only covers the population-related feature of ESA.
<b>Digital entrepreneurship/e-entrepreneurship/technology entrepreneurship</b> is composed of all new businesses and the transformation of existing businesses facilitated with digital technologies (Nambisan, 2017).	Digital entrepreneurship/e-entrepreneurship/technology entrepreneurship covers ESA from the perspective of technology adoption.
<b>Opportunistic entrepreneurship</b> discovers, explores and executes business opportunities in the first hand (Chell, 2000; Korsgaard et al., 2016).	Opportunistic entrepreneurship only addresses the hosts who are pioneers of sharing lodging platforms in earlier years.
<b>Individual entrepreneurship</b> is accomplished by an individual or his/her family with personal initiative (Yan and Yan, 2016).	Individual entrepreneurship only covers the sharing lodging businesses operated by an individual or family, rather than those by professional real estate property management companies.
<b>Informal entrepreneurship/informal sector entrepreneurship</b> means launching and operating a business which does not register and/or declare part or all of its production to the authorities for tax, benefit and labor law (Thai and Turkina, 2014).	The hosts are obliged to register in sharing lodging websites. Moreover, since 2015 sharing lodging websites started to collect tax on behalf of local authorities. The tax regulations and laws have become more and more specific and thorough.

economy.

Second, Kirzner (1979) suggests that entrepreneurship is a mechanism that identifies and alleviates spatial and temporal inadequacy in a specific economic form. Sharing accommodations, as an evolving economic form, provide infinite business opportunities but face unprecedented challenges in the fields of laws, culture, and politics (Alrawadieh, and Alrawadieh, 2018; Kassar and Orsi, 2012). Therefore, entrepreneurship needs to be reviewed in the specific sharing lodging context. Third, investigation on entrepreneurship is a foundation of sharing lodging research. Zhao (2005) states that entrepreneurially driven innovativeness in products/services, among the diverse causes of shifts in capitalist societies is the vital motive of the changing process. Therefore, the lack of entrepreneurship conceptualization based on the collective theories of marketing, psychology, and sociology causes inadequate comprehension of sharing lodging.

Entrepreneurial capitals have long been viewed as the entrance of research examining traditional forms of entrepreneurship (McGowan et al., 2015). Previous studies agree that identifying an appropriate combination of capitals in different aspects (e.g., financial, social) is critical for an entrepreneur (Alvarez and Busenitz, 2001; Hmieleski et al., 2015). Thus, the present authors emphasize the urgency of examining entrepreneurial capitals in the emerging context of sharing accommodations. Developing a scale of entrepreneurial capitals of sharing accommodations (ECSA) is recommended, given that generating measurement for a social phenomenon is viewed as a scientific venue for obtaining insights (Vandenabeele, 2008). Furthermore, the deficiency of the scale may denote a type of measurement error, which leads to the failure of capturing the theoretical features of a construct (DeVellis, 2016; Federer, 1991). Therefore, generation of the ECSA scale would be a foundational phase in advancing knowledge for entrepreneurship in the innovative economy.

This study aims to 1) conceptualize ESA, 2) conceptualize ECSA, and 3) develop and validate a multidimensional scale of ECSA. This research could contribute to the knowledge body of sharing accommodations and even sharing economy in general. To the knowledge of the present authors, this study is a pioneer of investigating ESA and ECSA, which addresses the uniqueness and difference of these definitions in sharing economy from those in traditional businesses. The scale of ECSA could assist micro-entrepreneurs in sharing lodging platforms to systemically assess capitals for business development.

## 2. Literature review

### 2.1. Entrepreneurship of sharing accommodations (ESA)

Entrepreneurship has been interpreted by many researchers from various standpoints and emphases (e.g., Ahmetoglu et al., 2011; Eisenhardt et al., 2000). Goals (i.e., profit-seeking) and actions (innovativeness) are two essential ingredients of the entrepreneurship

definition. Profit-seeking, as a driving force of entrepreneurship, addresses new employment opportunities and income growth (Hisrich et al., 2005; Manish, and Sutter, 2016). Innovation, as the nature of actions for entrepreneurship, contributes to the sustainable competitive advantages of businesses (Eisenhardt et al., 2000; Schaltegger et al., 2016). ESA satisfies both the requirements of making money through renting spare spaces and taking advantage of P2P platforms as innovators (Sundararajan, 2014).

ESA is an emerging phenomenon driven by technical, social, economic, and political revolutions, and it has unique features that distinguish itself from traditional entrepreneurship forms (e.g., corporate entrepreneurship). Shane and Venkataraman (2000) develop a framework of entrepreneurship based on a set of empirical phenomena in emerging economic and social contexts. Three caveats of their framework could explain the distinctive features of ESA from traditional entrepreneurship forms: lack of corporation establishment, transitory entrepreneurial behavior, and grassroots entrepreneurship. Traditional entrepreneurship is generated in new corporations (Casson, 1982). However, Amit et al. (1993) argue that entrepreneurship could also occur within existing organizations. In addition, entrepreneurship opportunities are even sold to other individuals or organizations (Shane and Venkataraman, 2000). P2P lodging websites could be viewed as platforms for delivering or “franchising” micro-entrepreneurship opportunities to individual hosts (Cohen and Sundararajan, 2015).

Second, entrepreneurial behavior may be temporary (Carroll and Mosakowski, 1987). Individuals decide to participate in the transitory process of entrepreneurship based on different situations (Shane and Venkataraman, 2000). In the context of sharing accommodations, hosts may decide to serve as micro-entrepreneurs because their spare spaces are available for short terms only (Kathan et al., 2016). Third, ESA is viewed as grassroots entrepreneurship (Cohen and Sundararajan, 2015). According to the Global Entrepreneurship Monitor report created by Singer et al. (2015), 66% of adults view entrepreneurship as a good career selection, and more than half of the working-age population believe that they are capable of doing businesses. Thus, the number of micro-entrepreneurs in sharing lodging platforms is expected to be substantial.

We propose the following definition of ESA based on the discussions above.

ESA includes innovative activities on P2P platforms, which allow the general mass to share spare spaces with other individuals in short or long terms for the purpose of profit.

### 2.2. Entrepreneurial capitals of sharing accommodations (ECSA)

Resource-based theory (RBT) is used to explain the resources/capitals required for entrepreneurship. RBT describes a venture as a heterogeneous collection of exclusive and hard-to-imitate resources

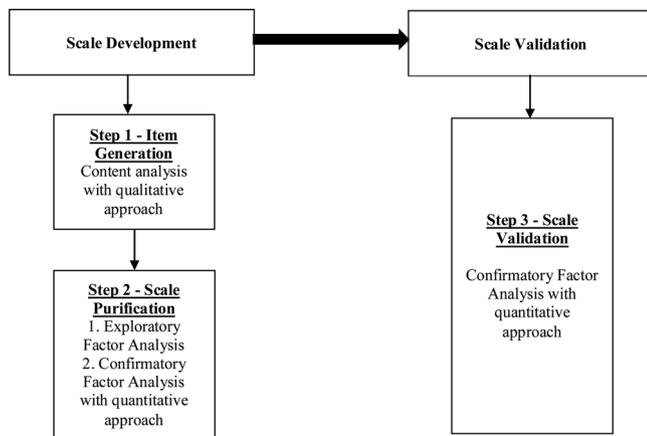


Fig. 1. Research procedure.

(Barney, 1991; Kellermanns et al., 2016). Alvarez and Busenitz (2001) further indicate that entrepreneurs' beliefs and values regarding diverse resources significantly influence their capabilities to recognize and exploit business opportunities. Therefore, examining people's perceptions of ECSA is important.

Previous studies classify entrepreneurial capitals with different approaches, depending on distinct business contexts (e.g., Cheng, 2012; Duba, 2017). For example, Stringfellow and Shaw (2009) suggest four capitals in small professional service firms: economic, cultural, symbolic, and social capitals. García-Pereiro and Dileo (2015) suggest that three capitals (financial, social, and human capitals) determine nascent entrepreneurial activities. Duba (2017) only focuses on the access to financial and human capitals of entrepreneurship from the government perspective. In summary, three dominant dimensions of entrepreneurial capitals have been widely accepted in previous studies: financial, social, and human capitals. Accordingly, the investigation on an inclusive scale of ECSA in the present study starts with these three perspectives.

### 2.2.1. Financial capital (FC)

FC is defined as a venture's financial capability to secure internal and external capitals (Coleman, 2007). Internal capital comprises private financial resources, whereas external capital covers debts that firms can and are willing to apply for (Kim et al., 2006). Optimization of capital mix determines a venture's survival, performance, and sustainable development (Chandler and Hanks, 1998; Siqueira et al., 2018; Yang et al., 2016). FC in traditional entrepreneurship includes loans and credits, investment opportunities, tax structure, tax incentives, and grants (McGehee et al., 2010). The hosts in sharing accommodations require internal and external capitals to pay mortgage, prepare hotel amenities, hire cleaners, claim tax benefits, and others.

### 2.2.2. Social capital (SC)

SC comprises entrepreneurs' actual and potential social resources embedded in the relationships of a group or community (Payne et al., 2011). These intangible assets can connect members closely, which influence their mental status of whether or not to maintain a current relationship (Chiu et al., 2006). Nahapiet and Ghoshal (1998) suggest three dimensions of SC: social interaction ties, trust, and shared values and visions. Social interaction tie refers to the tendency and intensity of making interpersonal relationships and engaging in the same network (Nahapiet and Ghoshal, 1998). Trust captures the accessibility of suggestions and emotional support from other members (DiMaggio, 1992; Venkataramani et al., 2016). Sharing values and visions describe collective illustrations, explanations, and schemes of definitions among parties (Jun et al., 2017; Nahapiet and Ghoshal, 1998). In the case of sharing accommodations, SC describes hosts' relationship with repeat guests, involvement in social communities, and interactions with

customer service staff of P2P platforms, and others.

### 2.2.3. Intellectual capital (IC)

IC describes the capacities and knowledge of organization management, which are crucial intangible assets of a firm (Mouritsen and Larsen, 2005). Puhakka (2010) develops an IC model with four dimensions: domain knowledge, formal knowledge, management experience, and intrinsic motivation and creativity. Domain knowledge refers to the capabilities of knowing competitors, customers, and suppliers, analyzing regulations and policies, and predicting future changes and trends (Gimeno et al., 1997; Montag-Smit and Maertz, 2017). Formal knowledge refers to the entrepreneurs' awareness of the business environment. Management experience embraces previous happenings related to leadership, managerial positions, and other operation perspectives (Puhakka, 2010). Intrinsic motivation includes intention, involvement, and commitment to seek any entrepreneurial opportunities (Carsrud et al., 2017; Kuratko et al., 1997). Creativity describes novel thinking styles of entrepreneurs (Dimov, 2007). In the case of sharing accommodations, IC describes hosts' knowledge of competitors and customers in the same geographic area, awareness of regulation and laws, and motivations to explore new business opportunities.

ECSA is conceptualized based on the discussions above, as follows:

Micro-entrepreneurs' perceptions of diverse resources that they actually possess and/or deem for use in the setup and operation of sharing lodging businesses. These resources are expected to influence their capabilities of identifying and exploring business opportunities.

## 3. Scale development of ECSA

The third objective of the present study is to develop a scale of ECSA. A three-step procedure was adopted by following Hinkin et al. (1997): item generation, scale purification, and scale validation (Fig. 1).

### 3.1. Step 1 — item generation

#### 3.1.1. Data collection

The first step was to generate an initial item pool with a combination of literature review and written interviews (Churchill, 1979). We had group discussions and open-ended individual written interviews with 59 students in the hospitality management program of a university in the Midwestern U.S. between October 18 and November 9, 2016. There were two reasons for choosing students as the interview group. First, the students in this program had knowledge background of the hospitality industry. Second, the students provide higher heterogeneity of feedbacks than the existing business owners because their answers are not limited to previous experience but are open toward career development. Therefore, the student sample was used to generate an effective initial item pool.

The respondents were asked to discuss the forms of resources essential for a successful entrepreneur of sharing accommodations. The open-ended questions in the written interviews were the following. (1) In your opinion, what motivates people to become a host of sharing accommodations (e.g., rent your house on Airbnb)? (2) In your opinion, what types of resources are essential to be a successful entrepreneur in sharing accommodations? Please discuss in detail. (3) In your opinion, what are the differences between entrepreneurs on sharing lodging platforms (e.g., Airbnb) and those operating traditional businesses (e.g., B&B)? and (4) In your opinion, what are the key characteristics of entrepreneurship in sharing accommodations?

#### 3.1.2. Data analysis

Content analysis of written interview transcripts was conducted using QSR's NVivo 11 software package. In accordance with Braun and

**Table 2**  
Summary of EFA Results.

Attribute	Factor 1 (FC)	Factor 2 (SC)	Factor 3 (IC)	Factor 4 (HC)
<b>Financial Capital (FC)</b>				
FC01. On the P2P lodging platform, the financial plan for business startup costs (e.g., family financial sustainability, room available dates and occupancy rates) is important to a host.	0.758			
FC02. On the P2P lodging platform, funds, loans, and credits (e.g., mortgage, social funds) are important to a host.	0.863			
FC03. On the P2P lodging platform, investment opportunities (e.g., pursue extra income with spare space) available are important to a host.	0.690			
FC04. On the P2P lodging platform, cash and other monetary resources (e.g., to purchase initial amenities, to hire cleaners) available are important to a host.	0.686			
FC05. On the P2P lodging platform, governmental support (e.g., tax incentives, legality) is important to a host.	0.627			
<b>Social Capital (SC)</b>				
SC01. On the P2P lodging platform, social relationships (e.g., connections with repeat customers and suppliers) are important to a host.		0.698		
SC02. On the P2P lodging platform, social interactions (e.g., Q&A with customers, communication with the staff of the platform) are important to a host.		0.758		
SC03. On the P2P lodging platform, marketing activities (e.g., communication channels, promotional venues) are important to a host.		0.694		
SC04. On the P2P lodging platform, customers' trustworthiness of products and services (e.g., repeat customers) is important to a host.		0.668		
SC05. On the P2P lodging platform, word-of-mouth of customers (e.g., customers' written reviews, acknowledgment from previous customers) is important to a host.		0.698		
<b>Intellectual Capital (IC)</b>				
IC01. On the P2P lodging platform, creativity (e.g., innovations in marketing activities and service experience) is important to a host.			0.656	
IC02. On the P2P lodging platform, knowledge regarding business operation (e.g., management on the perspectives of customers, products/services, and suppliers) is important to a host.			0.675	
IC03. On the P2P lodging platform, knowledge regarding the business environment (e.g., demand fluctuation of sharing lodging marketplace, changes of relevant regulations and laws).			0.747	
IC04. On the P2P lodging platform, motivation to explore a new business (e.g., need of extra income and self-employment opportunities) is important to a host.			0.693	
<b>Human Capital (HC)</b>				
HC01. On the P2P lodging platform, education relevant to business operation (e.g., management, marketing, accounting/taxation) is important to a host.				0.888
HC02. On the P2P lodging platform, job training (e.g., communication skills, policy and regulations of the platform) is important to a host.				0.916
HC03. On the P2P lodging platform, past sharing lodging experience (e.g., as a host or a guest) is important to a host.				0.801
Cronbach's $\alpha$	0.864	0.829	0.788	0.682
Variance explained (%)	37.13	13.93	8.37	6.45
Composite reliability	0.849	0.83	0.81	0.903
Average variance extracted	0.532	0.495	0.516	0.756
Eigenvalue	6.313	2.369	1.422	1.099
KMO measure of sampling adequacy	0.868			
Bartlett's test of sphericity (significance level)	< 0.001			

**Table 3**  
CFA Results for the Competing Models (Step 2).

Model	$\chi^2$	df	$\Delta\chi^2$	$\Delta df$	Normed $\chi^2$	TLI	CFI	RMSEA
Null model	1182.156	153			7.727	0	0	0.21
One-factor model	374.418	119	807.738	34	3.146	0.681	0.752	0.119
Three-factor model	233.984	116	948.172	37	2.017	0.849	0.885	0.082
Four-factor uncorrelated model	371.959	119	810.197	34	3.126	0.684	0.754	0.118
Four-factor correlated model	194.551	113	987.605	40	1.722	0.893	0.921	0.069
One second-order factor and four sub-constructs	195.11	115	987.046	38	1.697	0.896	0.922	0.068

Clarke (2006), the text associated with each code was examined, re-read, crosschecked, and further categorized into multiple themes of ECSA. The researchers involved in cross-checking of content validity included two faculty members and three p.H.D. students in the hospitality management programs of two American research-oriented universities, one manager in a traditional lodging business and one current Airbnb host.

### 3.1.3. Results

A total of 20 nodes (i.e., items) were identified, covering 442 references (i.e., specific words under each node) from the qualitative analysis. The 20 nodes were conceptually categorized into four dimensions: financial capital (FC, 5 nodes, 66 references), human capital (HC, 2 nodes, 40 references), intellectual capital (IC, 7 nodes, 154 references), and social capital (SC, 6 nodes, 182 references). To generate a sufficient pool, four items identified from extensive literature review were further added to FC and HC. A total of 24 items for four dimensions were generated and used in the survey for scale purification in the subsequent step. FC described purchases of real estate properties, mortgages/loans/credits, funding, and investment, and monetary resources. HC covered entrepreneurship education, training, and previous sharing lodging experience. IC was composed of managerial skills and knowledge, creativity, and motivation, and SC covered social relationship, trustworthiness, and marketing.

## 3.2. Step 2 — scale purification

### 3.2.1. Data collection and analysis

The purpose of Step 2 was to initially assess the 24 nodes generated in Step 1. The item purification process trimmed the initial item pool to a manageable size (Netemeyer et al., 2003). A survey used in Step 2 was distributed among the students from the hospitality management courses at a Midwestern university and a Mideastern university, U.S. The combined student sample in different geographic locations was expected to generate more comprehensive perceptions of ECSA. Participants were invited to complete an online survey by receiving an invitation email and a reminder email between November 21 and December 9, 2016.

At the beginning of the questionnaire, the respondents were asked to imagine a scenario:

Sharing economy is a hybrid market model, which refers to the P2P-based sharing of access to goods and services, such as Uber, Lyft, ZipCar, and Snapgoods. Among them, sharing lodging (e.g., Airbnb) is an innovative platform of sharing economy in the hospitality industry. It allows owners to rent out their real estate properties while the owners are not using them. A host (e.g., rent your real estates to guests) is a new type of “entrepreneurship” in this economic trend. To be an entrepreneur in this innovative economy, we are interested in your opinion regarding the essential resources in entrepreneurship for sharing accommodations.

A seven-point Likert scale, ranging from “not important at all” (1) to “extremely important” (7), was used for the 24 items. Out of 168 collected responses, 150 responses were in a usable format and thus retained (response rate = 82%) for assessing the reliability and validity of

the scale with exploratory factor analysis (EFA) and confirmatory factor analysis (CFA).

### 3.2.2. Results

The KMO index value at 0.901 and the significant result at  $p < 0.001$  for Bartlett’s test of sphericity justified the applicability of EFA. The initial factor analysis resulted in a five-factor solution, accounting for 61.92% of explained variance. Eight items were deleted to achieve a more meaningful solution when they loaded equally and heavily onto more than one factor, and their loadings were smaller than 0.50 (Hair et al., 1998). Accordingly, a clear four-factor structure with 17 items was generated (Table 2).

This solution accounted for 65.88% of the explained variance with four dimensions: FC (37.13%), SC (13.93%), IC (8.37%), and HC (6.45%). Cronbach’s  $\alpha$  of each dimension was greater than 0.68, satisfying the cutoff value of 0.60. The results of factor analysis led to a satisfactory ECSA scale.

The discriminant validity was tested with the chi-square difference test and average variance extracted (AVE) in CFA. Significant results at  $p < 0.01$  were found for all the pairs of latent factors by constraining the estimated correlation parameters between the two constructs of any potential pair. Furthermore, the AVE of each construct exceeded any squared correlations between two variables. Thus, the discriminant validity of this scale was supported. In addition, all the observable indicators loaded significantly onto their latent variables, which supported the convergent validity of all the constructs.

The last part of scale purification was the comparison between the final model derived from CFA and alternative models. As shown in Table 3, TLI (0.896), CFI (0.922), and RMSEA (0.068) satisfied the criteria of Hair et al. (1998). The normed chi-square statistic ( $\chi^2/df$ ) was 1.697, which satisfied the minimum cutoff of 3 (Kline, 1998). Therefore, the second-order model provided a better approximation to the data and generated a significantly better solution than did the other models.

## 3.3. Step 3 — scale validation

### 3.3.1. Data collection

The purpose of scale validation was to examine the test-retest reliability of the ECSA. The 17 items gained in Step 2 were adopted in the survey with minor wording revisions. ResearchNow, a professional organization that provides a panel with pre-qualified respondents, was hired to gain high response rates. Only people who satisfied at least one of the following criteria, as indicated by their answers to the pre-screening questions, were invited for the surveys: (1) had previous experience of servicing as a host on P2P lodging platform(s), (2) currently serving as a host on P2P lodging platform(s), and (3) planning to become a host on P2P lodging platform(s). A total of 372 surveys were distributed during January 13–18, 2017, and 328 responses were collected, with a response rate of 91.9%. The responses collected in Step 3 were analyzed, following a similar procedure of CFA in Step 2, to further identify the underlying structures of each dimension of ECSA and assess the reliability and validity of the entire measurement set.

**Table 4**  
Summary of Reliability and Convergent Validity Tests.

Construct	Step 3 – Scale Validation					
	Mean	SD	Cronbach's Alpha	Standardized Factor Loadings	Composite Reliabilities	AVE
<b>Financial capital</b>			0.91		0.88	0.60
FC01	5.08	1.60		0.80		
FC02	5.03	1.60		0.83		
FC03	4.95	1.51		0.79		
FC04	5.05	1.49		0.79		
FC05	4.71	1.63		0.63		
<b>Social capital</b>			0.92		0.89	0.61
SC01	4.96	1.53		0.69		
SC02	4.84	1.51		0.72		
SC03	5.25	1.50		0.80		
SC04	5.52	1.60		0.84		
SC05	5.50	1.52		0.85		
<b>Intellectual capital</b>	0.91	0.88	0.64			
IC01	5.22	1.45		0.79		
IC02	5.30	1.52		0.85		
IC03	5.14	1.50		0.83		
IC04	5.09	1.48		0.73		
<b>Human capital</b>			0.76		0.87	0.70
HC01	4.59	1.60		0.79		
HC02	4.89	1.54		0.95		
HC03	5.37	0.96		0.75		

3.3.2. Results

The male and female respondents accounted for 45.8% and 54.2% of the total participants, respectively. The dominant age groups were 31–40 (21.8%), 61 or older (21.8%), and 51–60 (18.5%). In terms of ethnicity, whites comprised the majority (79.2%). Over 50% of the respondents attended college (58.7%). In terms of employment status, the top three groups were full-time employed (41.9%), retired (18.2%), and part-time employed (15.9%).

The goodness-of-fit indexes indicated that the model fit the data effectively [ $\chi^2(436) = 908.802, p < 0.001, \chi^2/df = 2.084, CFI = 0.925, TLI = 0.915, \text{ and } RMSEA = 0.063$  (90% CI: 0.057–0.068)]. Standardized factor loadings proved convergent validity (Table 4). The AVE for each construct was also greater than the squared correlation coefficients between constructs. These results confirmed the discriminant validity of the measurement model. Cronbach's  $\alpha$  ranged from 0.75 to 0.95, thereby suggesting satisfactory internal consistency. Therefore, the ECSA scale was validated. The measurement model is illustrated in Fig. 2.

Table 5 shows the comparative results of the competing models. All model fit indices of the second-order model were superior to those of the other models. Therefore, the second-order model provided a better approximation to the data and generated a significantly greater solution than the others.

4. Conclusion and discussions

The present study provides significant theoretical contributions to the literature of sharing lodging, and even sharing economy in general. The academic research on this topic has been very limited because sharing lodging is a relatively new economic phenomenon. Among these limited studies, none of them focused on the entrepreneurship perspective. Through discussing entrepreneurship's nature and diverse forms in a scientific approach, we confirm that hosts of sharing accommodations could be viewed as micro-entrepreneurs, creating a new research venue in the field of sharing lodging. We also suggest that the theoretical background of sharing lodging research could be further

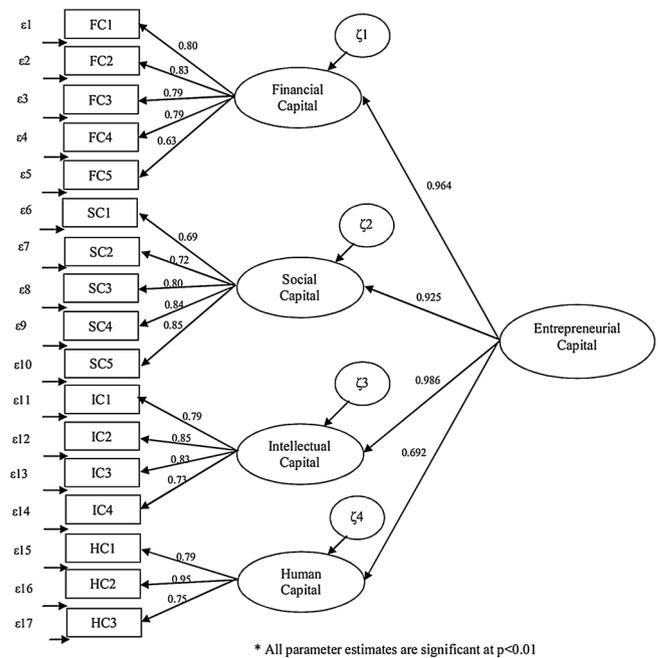


Fig. 2. The measurement model of ECSA in Step 3.

enriched by directly absorbing “nutrition” from the discipline of entrepreneurship. The present study also generates and validates the ECSA scale by using an integrated multi-method approach. The ECSA scale could serve as the initial step and theoretical foundation for future empirical studies relevant to sharing accommodation hosts' attitude and behavior.

Industry practitioners are also expected to gain insights from the 17-item scale of ECSA. We provide suggestions for micro-entrepreneurs, sharing lodging platforms, government offices, and the media through examining the individual aspects of the ECSA (FC, SC, IC, and HC). Particularly, the comparisons of the content covered in each aspect between traditional ventures and sharing accommodations are illustrated in Table 6. Such comparisons are expected to show unique features of ECSA, which would be beneficial for the discussions of each ECSA dimension.

4.1. Financial capital (FC)

Three out of five items of FC (funds, loans, and credit availability [FC02], investment opportunities [FC03], and cash and other monetary resources [FC04]), are consistent with those in traditional businesses proposed by McGehee et al. (2010). The unique features of sharing accommodations are shown in the perspectives of financial plan (FC01) and government support (FC05). A financial plan is a blueprint that generates a road map of financial assets for the startup. Creating an effective financial plan is important but challenging for the general mass, who lacks knowledge, experience, and resources. Therefore, the sharing lodging platforms are advised to provide optional consulting services of preparing financial plans with multi-level rates based on the work scopes. Free information on any topic relevant to financial plans should also be offered through diverse channels, such as online and offline workshops, information sheets sent by emails, and messages shared on social media. Such support is expected to strengthen the micro-entrepreneurs' confidence in participating in sharing lodging businesses.

Government support is also important for arousing the general public's enthusiasm in operating P2P lodging businesses. As an emerging phenomenon, sharing economy does not link well with established laws, regulations, and rules, significantly affecting business operations. For example, tax incentives influence hosts' profits. Therefore,

**Table 5**  
Comparison of measurement models of entrepreneurial capital structure (Step 3).

Model	$\chi^2$	df	$\Delta\chi^2$	$\Delta df$	Normed $\chi^2$	TLI	CFI	RMSEA
Null	3364.59	136			24.73	0	0	0.293
One-factor model	533.851	119	2830.73	17	4.48	0.853	0.872	0.112
Three-factor model	433.329	116		20	3.74	0.885	0.902	0.099
Four-factor Uncorrelated model	1114.75	119	2249.84	17	9.36	0.648	0.692	0.174
Four-factor correlated model	269.857	113	3094.73	23	2.38	0.932	0.941	0.081
Four-factor correlated model re-designed	413.536	113		23	3.66	0.888	0.907	0.098
Second-order model with four first-order factors	302.994	115	3061.59	21	2.63	0.931	0.942	0.077

**Table 6**  
Comparison of each ECSA dimension with entrepreneurial capitals in traditional ventures.

	Traditional Ventures	Sharing Accommodations
FC	<ul style="list-style-type: none"> <li>- Loans and credits</li> <li>- Investment opportunities</li> <li>- Tax structure</li> <li>- Tax incentives</li> <li>- Grants</li> </ul>	<ul style="list-style-type: none"> <li>● Financial plan (FC01)<sup>a</sup></li> <li>● Funds, loans and credit availability (FC02)</li> <li>● Investment opportunities (FC03)</li> <li>● Cash and other monetary resources (FC04)</li> <li>● Governmental supports (FC05)<sup>a</sup></li> </ul>
SC	<ul style="list-style-type: none"> <li>- Social interaction tie</li> <li>- Trust</li> <li>- Shared values and visions</li> </ul>	<ul style="list-style-type: none"> <li>● Social relationships (SC01)</li> <li>● Social interactions (SC02)</li> <li>● Marketing activities (SC03)<sup>a</sup></li> <li>● Trustworthiness (SC04)</li> <li>● Word of mouth (SC05)<sup>a</sup></li> </ul>
IC	<ul style="list-style-type: none"> <li>- Domain knowledge</li> <li>- Formal knowledge</li> <li>- Management experience</li> <li>- Intrinsic motivation and creativity</li> </ul>	<ul style="list-style-type: none"> <li>● Creativity (IC01)</li> <li>● Domain knowledge (IC02)</li> <li>● Formal knowledge (IC03)</li> <li>● Motivation (IC04)</li> </ul>
HC	<ul style="list-style-type: none"> <li>- Education</li> <li>- Training</li> <li>- Context-related experience</li> </ul>	<ul style="list-style-type: none"> <li>● Education (HC01)</li> <li>● Training (HC02)</li> <li>● Past sharing lodging experience (HC03)</li> </ul>

<sup>a</sup> The distinct items between sharing accommodations and traditional ventures.

government offices and sharing lodging platforms are advised to provide clear and straightforward information about the government's outlook and support through diverse communication venues.

#### 4.2. Social capital (SC)

Among the five measurement items of SC for sharing accommodations, social relationships (SC01), social interactions (SC02), and trustworthiness (SC04) are consistent with those of Nahapiet and Ghoshal (1998). Marketing activities (SC03) and word-of-mouth (SC05) are two unique items of ECSA. Most micro-entrepreneurs of sharing accommodations do not expose themselves to dominant marketing outlets (e.g., TV and radio) similar to typical hotel companies, considering the deficiency of resources. Customer reviews on P2P lodging websites, as a type of word-of-mouth (SC05), are often the only channel for customers to gain the information of these micro-ventures (Edelman and Luca, 2014). Apart from the effectiveness of word-of-mouth, the P2P lodging websites are advised to explore new communication channels and promotional venues (SC03) for individual hosts. For example, Facebook sends ads to specific customer groups customized by business owners. Through partnering with P2P lodging websites, Facebook could offer discounted prices for such a service to individual micro-entrepreneurs.

#### 4.3. Intellectual capital (IC)

IC embraces four items: creativity (IC01), domain knowledge (IC02), formal knowledge (IC03), and motivation (IC04). These findings

are consistent with those of Puhakka (2010) and Kivikko (1977). We particularly aim to address the creativity aspect. As a threshold-low economy form, sharing economy provides the general public opportunities to become micro-entrepreneurs to help them unleash creative self and tap into the inner creativity with diverse approaches. To take the idea further, given that the business model of sharing economy is immature, a large space is left for the micro-entrepreneurs to be creative in product/service design (e.g., interior design of rented houses), experience delivery (e.g., adoption of cutting-edge tech solutions), and operation strategies (e.g., hiring professional P2P lodging cleaning services). The creativity of sharing economy should be addressed in the media to influence the general public's perceptions of the emerging phenomena.

#### 4.4. Human capital (HC)

In addition to FC, SC, and IC discussed in the literature review, HC was identified as the fourth dimension of ECSA. HC describes the level of skills and capabilities developed particularly through formal education and training as well as context-related experiences (Becker, 2009). Debates on the relationship between HC and IC are on-going. In the first stream, Bontis et al. (2000) and Youndt and Snell (2004) suggest that HC is a sub-dimension of IC. The second stream supports a reverse relationship between IC and HC. Specifically, Nerdrum and Erikson (2001) argue that IC should be understood under the HC framework. Similarly, Abeysekera (2007) and Abeysekera and Guthrie (2005) indicate that many items of IC are from HC; thus, the two dimensions are combined. In the third stream, Baum and Silverman (2004) and Zahra and Dess (2001) explain that IC and HC are distinctive and are independent dimensions of entrepreneurship capitals. The present study falls into the third stream, and it particularly addresses the importance of context (i.e., sharing accommodations) in the conceptualization of HC. Especially, different from the managerial experience in the conceptualization of IC that contributes to the exploration of venture opportunities, context-related experience in the conceptualization of HC addresses an individual's past experience as a host or a customer on sharing lodging (Ugalde-Binda et al., 2014).

HC covers three dimensions: education (HC01), training (HC02), and past host/guest experience on sharing lodging (HC03). The results are consistent with those of Baum and Silverman (2004) and Zahra and Dess (2001). Specifically, the present scholars suggest that education and training should grasp ESA's feature as grassroots entrepreneurship and allow the general public to easily access the knowledge about marketing opportunities, government laws and regulations, and local communities' support resources. The easy-to-understand and straightforward information could help people realize that sharing accommodations are businesses for everyone rather than professionals.

### 5. Limitation and future research

This study bears several limitations. First, this study used a small number of samples in item generation and purification procedures. Most of the fit indexes are sensitive to the sample size. Thus, a larger sample group would be beneficial in future studies. Second, in the item

generation and scale purification procedures, student samples were used. Future studies must re-purify the scale with the responses collected from participants with diverse backgrounds. Third, in the scale validation stage, the respondents either served as micro-entrepreneurs or planned to become micro-entrepreneurs of sharing accommodations. Future works are advised to separate the two groups of respondents and identify their differences in the perceptions of ECSA. Fourth, the scale developed focused on the context of sharing accommodations. Upcoming research must test the scale's applicability in P2P settings other than that discussed in the present work.

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