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Exploration of Sharing Accommodation Platform Airbnb Using an Extended Technology Acceptance Model

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Abstract: The purpose of this research is to investigate the accountability of the extended technology acceptance model (TAM) in the domain of sharing accommodation platform service. Based on TAM, this research derived attributes such as network externalities, trust, interactivity, ease of use, usefulness, and intention to repurchase. This study selects Airbnb as the context. A survey was adopted as the main instrument of this research. The total number of valid observations is 450. For the data analysis, this study conducted frequency analysis, confirmatory factor analysis, correlation matrix, reliability test, and path analysis using structural equation modeling. The results show that network externalities are essential to account for trust and interactivity. In addition, the results show that interactivity is an influential element to both ease of use and usefulness. Moreover, usefulness is affected by trust and interactivity. Furthermore, this research reveals the positive association between usefulness and intention to repurchase.



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Keywords: Airbnb; extended technology acceptance model; intention to repurchase; trust; ease of use; usefulness

1. Introduction

A sharing economy that uses surplus resources to create value is drawing attention around the world [1,2]. The sharing economy has emerged to solve social problems such as excessive consumption, pollution, and poverty through collaborative consumption [3], for example, sharing, exchanging, or renting goods instead of possessing them [4,5]. Under economic recession and distress, the sharing economy is highly regarded as a solution because suppliers are likely to gain new economic value by using surplus resources, and consumers are likely to use resources at a lower cost than purchasing goods in a sharing economy [1,6–8]. Moreover, previous studies argue that individuals in financial distress, given the economic crisis, have become more attentive to spending, which is the basis for the rapid growth of a sharing economy where resources are available at a lower cost [6,9]. In addition to economic causes, a key attribute in the growth of the sharing economy is the progress of information and communication technologies, including the internet [4,10]. With the unprecedented ease of sharing information, the sharing economy has expanded rapidly based on the internet platform [11,12]. The platform enables a quick and easy connection between individuals who possess more resources than their actual consumption and individuals who should consume them [10]. The process of sharing goods on internet platforms also simplifies the real-world process of sharing goods, particularly encouraging suppliers to participate in sharing without considerable effort [13]. Especially, the sharing economy has been grown through the availability growth of information and communication technologies that simplified the sharing of physical goods and services [4]. Extant literature claims that the platform-based sharing economy

has also brought about changes in the tourism business sector because of the progress of information and communication technology [12,14]. To be specific, the leading tourism platform companies, such as Airbnb, Uber, and Lyft, have reshaped the structure of the tourism industry by obtaining the target number of sales in the market [15,16]. Moreover, scholars documented that the growth of tourism platforms is also changing tourist decision makings, such as the choice of destinations, frequency of travel, duration of stay, and scope of tourism activities [1,2,12,17]. In a similar vein, World Travel Market London [18] announced that alternative accommodation and peer-to-peer (P2P) sharing continue to drive global travel trends.

Airbnb is likely to become a representative sharing accommodation platform in the tourism sector. Founded in 2008, Airbnb has recorded more than 7 million accommodations in 100,000 cities in 220 countries as of 2019, and the average number of daily visitors has grown to more than 2 million [19]. Airbnb, which has achieved remarkable growth, still has high growth potential, and such P2P deals have become a trend in the shared accommodation and tourism industry. Given the revenue growth of Airbnb, scholars have investigated its business-related characteristics, including brand strategy [20], impact on the hotel industry [21], host [2,10], and use intention [22–24]. Even though the focus of research has been on the motivation and satisfaction of hosts and guests, research regarding repurchase intention related to the online environment and platform structure using Airbnb is somewhat sparse [22,25,26]. In online businesses such as Airbnb, users' intention to repurchase is important in gaining the competitive advantage of business [27]. Extant literature also addressed that numerous elements affect the intention to repurchase within this sharing economy system, such as service quality and price sensitivity [22,28,29]. Moreover, transactions in the sharing economy platform can be abused as a crime because offline contact with “strangers” occurs during the service delivery phase [2,11]. Thus, academic consideration of the platform's security and trust in the field of tourism to determine tourists' intention to use sharing accommodation is a crucial domain for research considering the attributes of the platform. Along with security and trust, important platform attributes are network externalities and interactivity. Airbnb, which requires participation by both users and suppliers, is an important platform for participants and is affected by the size of the network participating in the platform. In addition, interactivity is typically directly linked to the experience of using the platform as an important element in the information and communication technology and online environment, thus being addressed as a key element in website and platform research [30–33].

In order to investigate the intention to repurchase Airbnb accommodation, this research is supposed to adopt the theoretical framework of the technology acceptance model (TAM) as the theoretical underpinning. In this model, “perceived usefulness” and “ease of use” play a key role in determining individuals' information technology acceptance and decision making [34]. Since Airbnb's accommodation purchase is conducted in P2P transactions, this could be a new form of the transaction system. Thus, this new form of transaction may change the individual's decision-making process. As a modified version, Davis (1989) presented extended TAM, which considers more diverse elements to account for individual decision-making process [35]. Hence, we apply an extended TAM model structure to examine the association among the above-mentioned platform attributes with “perceived usefulness” and “perceived ease of use,” and intention to repurchase. TAM is a theory where theoretical explanatory power has been proven in numerous empirical studies. TAM is one of the most influential theories in explaining the IT acceptance process at the individual level.

All in all, this study uses the theoretical framework of TAM to understand the relationship between sharing accommodation platform attributes, ease of use, usefulness, and repurchase intention. The results of this study can be meaningful in providing a basic reference for the formation of an efficient sharing economy platform.

2. Literature Review

2.1. Sharing Accommodation Platform Airbnb

The sharing economy, noted as an alternative to overcome the global recession caused by the 2008 financial crisis, is an economic system based on collaborative consumption of shared goods that are produced instead of owning goods [3,36]. In addition, sharing economy services have grown and spread rapidly based on web platforms, and social commerce as information and communication technology (ICT) has made it easier to share information [4,9–12,37,38]. Globally, sharing economy-related industries have grown at an annual rate of nearly 80 percent over the past five years since 2010, with a market size of USD 15 billion in 2014 to USD 355 billion in 2025, a potential value increase of about 20 times [39]. The sharing economy has also brought about numerous changes in the tourism and hospitality industries [12,14–16]. The emergence and growth of sharing economy platforms are having a significant influence on the overall tourism and hotel industry, bringing about changes in tourist travel behaviors and the tourism service environment [2,40]. Airbnb, the most representative platform in the field of tourism and hospitality, has more than 7 million accommodations in 100,000 cities in 220 countries, and the average daily number of passengers is more than 2 million in 2019 [19]. This shows that the platform industry has a huge impact on the tourism environment and is driving change.

Given the growth of Airbnb and its importance in the industry, related research is being actively conducted. For example, Edelman and Geradin (2015) studies suggested the need for new regulations as Airbnb is a new accommodation platform industry [41]. Yannopoulou et al. (2013) focused on Airbnb's brand strategy [20], whereas Neeser et al. (2015) demonstrated its impact on the hotel industry [21]. Moreover, Li et al. (2015) looked at the differences between professional and nonprofessional hosts and revealed the differences between these hosts in terms of sales and share, focusing on transactions made in Airbnb systems [10]. Ert et al. (2016) demonstrated the impact of photos of hosts on users' decisions and found that the trust felt in pictures of hosts affected individuals' willingness to use [2]. Furthermore, So et al. (2018) studied factors such as motivation and attitude to predict the intention of using Airbnb [23]. In sum, various studies on Airbnb are underway, but many of them approached it from a psychological perspective, such as host and guest motivation and satisfaction [22,25,26]. Research on the attributes of sharing platforms is scant.

2.2. Extended Technological Acceptance Model (TAM)

TAM, designed by Davis (1986), is the most influential and widely used theory in explaining personal acceptance of information technology evolving from the theory of reasoned action (TRA) [42,43]. In this study, structural equation model analysis was conducted by adopting the expanded TAM framework to test the causal relationship between platform attributes and intention to repurchase Airbnb accommodation [44].

TAM is suitable for application in the complex process of accepting information technology in that it is easy to modify and expand [42–44]. TAM presupposes that the acceptance and use of new technologies are determined by two leading factors—perceived ease of use and perceived usefulness [38]. In TAM, perceived ease of use refers to the degree of freedom in the use of a certain information system, whereas perceived usefulness is the magnitude of belief for the working efficiency by using an information system [45–47]. This model has been validated in studies in various fields, and the findings show that perceived usefulness and ease of use are important factors in determining user acceptance of the information technology [48–50]. For instance, Chen and Li (2020) used TAM in booking online tours for Chinese college students; they revealed that both perceived usefulness and perceived ease of use affect their attitude toward using and behavioral intention [51]. Moreover, Min, So, and Jeong (2019) used TAM to study the factors affecting attitudes and intentions of Uber mobile application users, demonstrating that all variables including the relative advantage, compatibility, complexity, observability, and social influence have a

significant influence on attitudes and intentions through usefulness and ease of use [52]. Meanwhile, Singh and Srivastava (2019) implemented empirical studies employing Indian outbound leisure tourists using TAM as theoretical underpinning [53]. Since understanding and utilization of IT technologies is essential for shared accommodation transactions through platforms, it will be meaningful to use the theoretical framework of TAM to find out the intentions of behavior against Airbnb.

In numerous studies, perceived ease of use and perceived usefulness in accommodating new technologies are considered important prerequisites [46,47,54,55]. The internet platform has become an important part of the tourism industry, and it is time for academic consideration of the intention to platform acceptance due to its high potential for future growth [56]. Thus, in this work, we mainly investigate the user's intention to accommodate Airbnb platforms in an extended form by considering the platform attributes together in TAM, a highly utilized strong theoretical framework. Sharing accommodation transactions through the platform will also be meaningful as an activity using IT technology and as a new type of accommodation, it will be meaningful to learn the intentions of behavior against Airbnb through TAM. Accordingly, this study also presents the following hypotheses:

Hypothesis 1 (H1). *On the Airbnb accommodation platform, perceived ease of use has a positive effect on perceived usefulness.*

Hypothesis 2 (H2). *On the Airbnb accommodation platform, perceived usefulness has a positive effect on the intention to repurchase.*

2.3. Network Externalities

Network externality refers to the increase in the utility gained from the network due to the increase in users using similar or compatible products [57,58]. Network externalities are divided into two types—direct and indirect [58]. Direct network externalities are relevant to the number of network participants [59], and as more users join the network, they have the advantage of providing additional opportunities to interact with more individuals [57,60,61]. The growing demand for indirect network externalities indicates the value associated with the increase in complementary services and functions and ancillary benefits that arise as the network grows [59,62,63]. The supplier's side mainly causes direct network externality, whereas the consumer's side mainly brings about indirect network externality [61]. In particular, Airbnb, which exists in both supplier and consumer markets, is a double-sided platform, and indirect network externality regarding consumer sides had occurred in this system. Lin and Bhattacharjee (2008) examined Taiwan's university students about their intention to use instant messages [61]. They found that direct and indirect network externalities affect their intention to use them through the medium of network benefit. In addition, Sarkar and Khare (2019) documented the impact on the continued use of mobile shopping applications and found that complementarity, a sub-factor of indirect network externality, affects the usefulness of mobile shopping apps [64]. Meanwhile, Song and Walden (2007) conducted a study on the educational P2P platform and concluded that network externality affects the intention of adopting P2P technology [65]. Airbnb, based on P2P trading systems, can also be affected by network externalities; thus, the impact of direct and indirect network externalities on the intention of reusing Airbnb platforms would be investigated in the study. Major components of network externalities include network size, referred network size, compatibility, and complementarity. In the preceding study, the network size and the referent network size are classified as direct network externalities, whereas compatibility and complementarity are classified as indirect network externalities [58,62,66]. Therefore, the influence of network externalities is examined by dividing them into network size, referent network size, and complementarity.

The size of the platform's users correlates with platform trust [67]. In fact, larger users are used as a reference for the stability of online transactions [68]. In the study of Xiao et al. (2018), network externalities were subdivided into the number of members, the number of

individuals, and perceived complexity, each of which had a significant impact on platform trust [67]. Therefore, when consumers perceive that a platform is large (i.e., there are numerous users), they are more likely to generate greater trust in that platform. Moreover, network externality means an increase in utility that can be obtained by increasing the number of users using similar or compatible products [57,58]. This affects individual behavior through the utility of technology and social interaction [69]. Thus, the network's externality will also affect the interactivity between users and platform systems and between users within the platform as well. Zhao and Lu (2012) demonstrated that network externalities are divided into perceived network size and perceived complementarity and that they affect perceived interactivity [69]. Based on the literature review, the following hypotheses are proposed:

Hypothesis 3 (H3). *On the Airbnb accommodation platform, network externality has a positive effect on trust.*

Hypothesis 4 (H4). *On the Airbnb accommodation platform, network externality has positive effects on perceived ease of use.*

Hypothesis 5 (H5). *On the Airbnb accommodation platform, network externality has a positive effect on interactivity.*

2.4. Interactivity

Airbnb is based on an online platform; thus, understanding consumers' attitudes toward the platform is necessary to determine the use intention. One of the representative attributes of an online platform is interactivity. Interactivity is known as an important factor in information and communication technology and online environments [30–33]. A previous study conceptualized interactions primarily based on user perceptions of technology features, the process of information exchange, or technology-based experience [70,71]. Given the argument of previous studies, this interactivity is defined multidimensionally rather than as a single element [32,72,73]. Based on previous research, interactivity can be defined as the degree of response from the platform to which the user is perceived. Suh et al. (2014) conducted a study on sports websites and defined interactivity as an active control, two-way communication, and real-time information [32]. Moreover, in the study of mobile social platforms by Shao and Pan (2019), interactivity was classified as an active control, two-way communication, and synchronicity [74]. Furthermore, Hu et al. (2016) conducted a video-sharing community study, in which the interactivity consisted of active control and reciprocal communication [71]. These related studies mainly present user control, two-way communication, and real-time information in the three most important dimensions of interactivity [32,33,72,73,75]. Therefore, the authors define and classify interactivity into user control, two-way communication, and real-time information in the study.

On a sharing economic platform, interactions between providers and consumers of goods appear, which is a clear difference from e-commerce [26]. Given the literature review, this study proposes the following hypotheses:

Hypothesis 6 (H6). *On the Airbnb accommodation platform, interactivity has a positive effect on the perceived ease of use.*

Hypothesis 7 (H7). *On the Airbnb accommodation platform, interactivity has a positive effect on the perceived usefulness.*

2.5. Trust

Trust is defined by a subjective belief that individuals will respond predictably; similarly, trust in online transactions stands for trust in online service providers [76–78]. Trust is considered an important factor in e-commerce because it has the characteristics of reducing vulnerabilities and helping interchange [78,79]. Trust is critical in promoting e-commerce

online, and thus, several relevant studies have been conducted [24,80–82]. In particular, previous research on consumer behavior online emphasized the need to consider trust as an important factor in understanding consumer acceptance [83]. In fact, a TAM with added trust in consumer behavior studies better explains consumer behavior in technology adoption [24]. Therefore, we pursue to examine the intention of reusing sharing accommodation platforms by using an expanded TAM that includes trust.

Trust also plays an important role in e-commerce, which is relatively risky compared to offline transactions [78,79]. Thus, in numerous studies dealing with e-commerce, an extended model with trust in the TAM is used. For example, Pavlou (2003) demonstrated that trust in online transactions affects perceived ease of use, perceived usefulness, and intention to transact [78]. Egea and González (2011) also showed that trust in e-commerce influences perceived ease of use and perceived usefulness [84]. Therefore, the application of the TAM framework, including trust, to online P2P transactions conducted by Airbnb, was considered appropriate for this study. Accordingly, this study also presents the following hypotheses:

Hypothesis 8 (H8). *On the Airbnb accommodation platform, trust has a positive effect on the perceived usefulness.*

3. Methods

3.1. Research Model and Hypotheses

The main goal of the study is to identify the structural relationships in which platform attributes affect the intent to repurchase the accommodation platform. To confirm this, an expanded TAM model including additional variables regarding platform attributes was used. Based on the literature review, the following model was established (Figure 1).

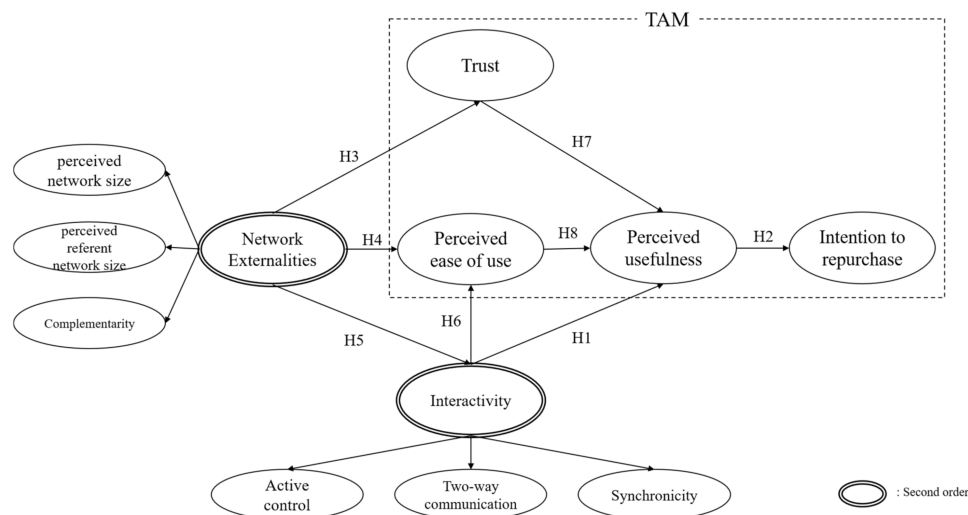


Figure 1. Research model.

3.2. Data Collection and Analysis

To measure the variables in this study, a questionnaire was constructed based on the items verified in the existing studies and measured using a five-point scale (1 = strongly disagree, 5 = strongly agree). The survey participants of this study were tourists who had used Airbnb, and the survey was conducted online from 3 April 2020 to 5 April 2020. As the intention to repurchase variable was included in the research model, the survey was stopped if the respondents had no previous experience in using Airbnb. A total of 470 questionnaires were distributed and collected at the beginning, and 20 questionnaires were eliminated due to incomplete responses, leaving 450 questionnaires for the analysis. Network externalities are composed of three elements—perceived network size, referent

network size, and complementarity. Interactivity also consists of active control, two-way communication, and synchronicity.

For the data analysis, this study performed frequency analysis, reliability analysis, and structural equation modeling. Frequency analysis was implemented to present the characteristics of survey participants. Moreover, reliability was assessed using Cronbach's alpha, and its cutoff value was 0.7, and the composite reliability (CR) 0.7, the statistics of average variance extracted (AVE) 0.5 and loading 0.5 were used as the threshold to assess the validity of measurement items [85–89]. To examine the validity of measures, this study also performed structural equation modeling analysis. Lastly, path analysis in structural equation modeling was executed to test the proposed research hypotheses. The overall significance of structural equation modeling was tested using minimum chi-square (χ^2/df), root mean square residual (RMR), root mean square error of approximation (RMSEA), goodness of fit index (GFI), normed fit index (NFI), relative fit index (RFI), incremental fit index (IFI), Tucker Lewis index (TLI), and comparative fit index (CFI) regarding the extant literature [89–91].

4. Results

4.1. Demographic Information of Survey Participants

The results for population characteristics of effective samples are shown in Table 1. Of the respondents, 277 were women, which is higher than the number of male respondents. Those in their 20s accounted for the largest number of respondents ($n = 160$), followed by those in their 30s ($n = 143$). In terms of educational background, the number of respondents who graduated from the university was 341, which is overwhelmingly high compared with other groups. Moreover, the highest number of times respondents used Airbnb was “more than once and less than three times.”

Table 1. Demographic characteristic ($n = 450$).

		Frequency (%)
Gender	Male	173 (38.44)
	Female	277 (61.56)
Age (years)	18–19s	18 (4.00)
	20s	160 (35.56)
	30s	143 (31.78)
	40s	72 (16.00)
	50s	44 (9.78)
	Over 60s	13 (2.89)
Monthly household income (KRW)	Less than 1 million	29 (6.44)
	1 million—less than 2 million	52 (11.56)
	2 million—less than 3 million	104 (23.11)
	3 million—less than 4 million	71 (15.78)
	4 million—less than 5 million	60 (13.33)
	5 million—less than 6 million	51 (11.33)
	6 million—less than 7 million	30 (6.67)
	7 million—less than 8 million	21 (4.67)
	8 million—less than 9 million	14 (3.11)
Educational background	Over 9 million	18 (4.00)
	Less than middle school graduate	0 (0)
	High school graduate	69 (15.33)
	University/College graduate	341 (75.78)
Frequency of using Airbnb (times)	Graduate school or above	40 (8.89)
	1–3	367 (81.56)
	4–6	55 (12.22)
	7–9	9 (2.00)
	≥ 10	19 (4.22)

4.2. Test of Reliability and Validity for Measures

In this study, the reliability and validity of the measurements were verified before the verification of the structural model. First, confirmatory factor analysis (CFA) was performed for the measurement model. Trust, perceived ease of use, perceived usefulness, and intention to repurchase were measured as single dimensions, and network externality and interactivity were measured as second-order factors. Network externalities are divided into direct and indirect network externalities. Direct network externalities mainly include the network size and the perceived referent network size, whereas indirect network externality consists of compatibility and complementarity. Thus, similarly in this study, network externality is composed of network size, perceived referent size, and complementarity. Regarding the CFA, the goodness-of-fit indices meet the criteria ($\chi^2 = 66.499$, RMR = 0.029, RMSEA = 0.063, GFI = 0.970, NFI = 0.976, TLI = 0.977, RFI = 0.964, IFI = 0.984, and CFI = 0.984). In addition, the network size, perceived referent size, and complementarity all meet the reference value ($AVE \geq 0.5$ and $CR \geq 0.7$), indicating that reliability and validity have been ensured. The result also shows that the AVE value was greater than the square of the correlation, thus satisfying the discriminant validity [86–92]; the results are shown in Table 2.

Table 2. Network externalities validity and reliability.

	Network Size	Referent Network Size	Complementarity	AVE	CR
Network size	1			0.786	0.916
Referent network size	0.739	1		0.716	0.883
Complementarity	0.592	0.604	1	0.655	0.851

$\chi^2 = 66.499$, $df = 24$, $\chi^2/df = 2.771$, $p < 0.001$, RMR = 0.029, RMSEA = 0.063, GFI = 0.970, NFI = 0.976, TLI = 0.977, RFI = 0.964, IFI = 0.984, and CFI = 0.984.

According to previous research, interactivity is divided into active control, two-way communication, and synchronicity. Thus, in this study, interactivity was similarly composed of active control, two-way communication, and synchronicity. The results of the CFA for interactivity are shown in Table 3. Considering the CFA, the goodness-of-fit indices meet the criteria ($\chi^2 = 48.427$, RMR = 0.021, RMSEA = 0.048, GFI = 0.977, NFI = 0.981, TLI = 0.985, RFI = 0.972, IFI = 0.990, and CFI = 0.990). Values of AVE and CR also met the reference value ($AVE \geq 0.5$ and $CR \geq 0.7$), which ensures the reliability and validity of the construct [86–92]. The AVE value was greater than the square of the correlation, thus satisfying the discriminant validity of the construct.

Table 3. Interactivity validity and reliability.

	Two-Way Communication	Active Control	Synchronicity	AVE	CR
Two-way communication	1			0.655	0.851
Active control	0.722	1		0.647	0.846
Synchronicity	0.705	0.793	1	0.664	0.855

$\chi^2 = 48.427$, $df = 24$, $\chi^2/df = 2.018$, $p = 0.002$, RMR = 0.021, RMSEA = 0.048, GFI = 0.977, NFI = 0.981, TLI = 0.985, RFI = 0.972, IFI = 0.990, and CFI = 0.990.

The reliability and validity of the structural model are shown in Tables 4 and 5. Regarding the results of confirmatory factor analysis of the structural model, most of the goodness-of-fit met the criteria ($\chi^2 = 992.767$, RMR = 0.042, RMSEA = 0.05, GFI = 0.875, NFI = 0.925, TLI = 0.954, RFI = 0.916, IFI = 0.959, and CFI = 0.959). Both the AVE and CR values were found to be above the reference value, and the Cronbach's α values were both found to be 0.7 or higher, thus ensuring reliability and concentrated validity.

Table 4. Results of the reliability and validity analysis.

Constructs		Code Name	Loading	AVE	CR	Cronbach's α
Network externalities	Network size	NS1	0.861	0.826	0.934	0.899
		NS2	0.892			
		NS3	0.842			
	Referent network size	RN1	0.879			0.871
		RN2	0.810			
		RN3	0.815			
	Complementarity	COM1	0.792			0.850
		COM2	0.845			
		COM3	0.795			
Interactivity	Two-way communication	TWO1	0.807	0.912	0.969	0.855
		TWO2	0.801			
		TWO3	0.842			
	Active control	AC1	0.798			0.832
		AC2	0.828			
		AC3	0.755			
	Synchronicity	SY1	0.819			0.842
		SY2	0.792			
		SY3	0.792			
Trust	TR1	0.858	0.729	0.890	0.901	
	TR2	0.876				
	TR3	0.871				
Ease of use	EOU1	0.831	0.746	0.936	0.920	
	EOU2	0.824				
	EOU3	0.854				
	EOU4	0.811				
	EOU5	0.859				
Usefulness	RU1	0.812	0.722	0.912	0.904	
	RU2	0.851				
	RU3	0.833				
	RU4	0.836				
Repurchase intention	RI1	0.868	0.771	0.910	0.907	
	RI2	0.898				
	RI3	0.866				

$\chi^2 = 992.767$, $df = 472$, $\chi^2/df = 2.103$, $p < 0.001$, $RMR = 0.042$, $RMSEA = 0.05$, $GFI = 0.875$, $NFI = 0.925$, $TLI = 0.954$, $RFI = 0.916$, $IFI = 0.959$, and $CFI = 0.959$.

NS1: I think there are many accommodations to choose [from] in Airbnb. NS2: I believe that Airbnb has enough rooms. NS3: Accommodations provided by Airbnb are abundant. RN1: As far as I know, Airbnb has a lot of users. RN2: In the future, more people will use Airbnb. RN3: Airbnb has an extremely large user base. COM1: Various services (e.g., experience or activity program, etc.) are available at Airbnb. COM2: Various tour programs can be booked through Airbnb. COM3: Various support functions (sharing accommodation information or translation, etc.) are available in Airbnb. TWO1: Communication with [the] host can be made conveniently through Airbnb. TWO2: I think Airbnb is trying to listen to the opinions of its users. TWO3: Airbnb offers a chance to talk to the host. AC1: I can see what I wanted to see in the Airbnb. AC2: In Airbnb, it is easy to find the information related to the accommodation that I am interested in. AC3: I can sort out the accommodation information I want from Airbnb. SY1: I can obtain the information quickly from Airbnb. SY2: I can obtain the latest information from Airbnb. SY3: I can get the information I want right away. TR1: Airbnb is trustworthy. TR2: Airbnb is reliable for online booking. TR3: I trust Airbnb. EOU1: I think Airbnb is useful. EOU2: Airbnb

helps me to accommodation reservations efficiently. EOU3: Airbnb makes it easier for the accommodation reservation. EOU4: Using Airbnb can increase the efficiency of reservation. EOU5: It is convenient to use Airbnb. RU1: I think Airbnb is easy to use. RU2: It is easy to obtain information from Airbnb. RU3: The way of using Airbnb is understandable. RU4: The booking process in Airbnb is easy to understand. RI1: I want to use Airbnb again. RI2: I am thinking of using Airbnb first for future travel reservations. RI3: I intend to choose Airbnb in the next travel.

Table 5. Validity and reliability for constructs.

	Network Externalities	Interactivity	Trust	Usefulness	Ease of Use	Repurchase Intention	AVE
Network externalities	1						0.826
Interactivity	0.804	1					0.912
Trust	0.630	0.772	1				0.729
Usefulness	0.753	0.808	0.734	1			0.746
Ease of use	0.771	0.820	0.625	0.822	1		0.722
Repurchase intention	0.713	0.800	0.731	0.777	0.766	1	0.771

4.3. Test of the Structural Model

In this study, structural equation model analysis was conducted using the expanded TAM framework to test the causal relationship between platform attributes and intention to repurchase Airbnb's sharing accommodation platform. The analysis results are shown in Table 6. The goodness-of-fit index of the structural model was shown to meet all the reference levels ($\chi^2 = 1080.077$, $p = 0.000$, GFI = 0.862, RMR = 0.042, NFI = 0.919, CFI = 0.953, and RMSEA = 0.053). Based on the hypothesis test, hypothesis 1 was adopted, demonstrating that network externality had a positive effect on trust ($\beta = 0.799$, $t = 14.428$, and $p = 0.000$). In addition, hypotheses 3–8 were all statistically supported. In other words, network externalities had a positive effect on interactivity (H3: $\beta = 0.980$, $t = 14.236$, and $p = 0.000$), and interactivity had a positive effect on perceived ease of use (H4: $\beta = 1.081$, $t = 0.474$, and $p = 0.021$). Moreover, trust had a positive effect on perceived usefulness (H5: $\beta = 0.333$, $t = 7.886$, and $p = 0.000$), and perceived ease of use positively impacted the perceived usefulness (H6: $\beta = 0.510$, $t = 6.656$, and $p = 0.000$). In addition, the results show that interactivity had a positive effect on perceived usefulness (H7: $\beta = 0.198$, $t = 2.330$, and $p = 0.02$), and perceived usefulness positively affected the intention to repurchase (H8: $\beta = 0.904$, $t = 18.948$, and $p = 0.000$). By contrast, Hypothesis 2 was rejected because the test hypothesis showed no significant relationship to perceived ease of use.

Table 6. Results of structural equation model.

		Standardized β	C.R.	p-Value	Result
H1	Network externalities \rightarrow Trust	0.799 *	14.428	0.000	Supported
H2	Network externalities \rightarrow Ease of use	−0.167	−0.359	0.719	Not supported
H3	Network externalities \rightarrow Interactivity	0.980 *	14.236	0.000	Supported
H4	Interactivity \rightarrow Ease of use	1.081 *	2.308	0.021	Supported
H5	Trust \rightarrow Usefulness	0.333 *	7.886	0.000	Supported
H6	Ease of use \rightarrow Usefulness	0.510 *	6.656	0.000	Supported
H7	Interactivity \rightarrow Usefulness	0.198 *	2.330	0.020	Supported
H8	Usefulness \rightarrow Intention to repurchase	0.904 *	18.948	0.000	Supported

$\chi^2 = 1080.077$, $df = 479$, $\chi^2/df = 2.255$, $p < 0.001$, GFI = 0.862, RMR = 0.042, NFI = 0.919, CFI = 0.953, and RMSEA = 0.053 * $p < 0.05$.

Considering the results, network externalities are presented to be essential in building more trust and interactivity. The results also revealed that interactivity positively affects the ease of use and usefulness of Airbnb. Moreover, trust was identified as a critical element, which raises the level of usefulness. Finally, the results demonstrated that repurchase

intention is positively influenced by usefulness. The summary of the results is illustrated in Table 6 and Figure 2.

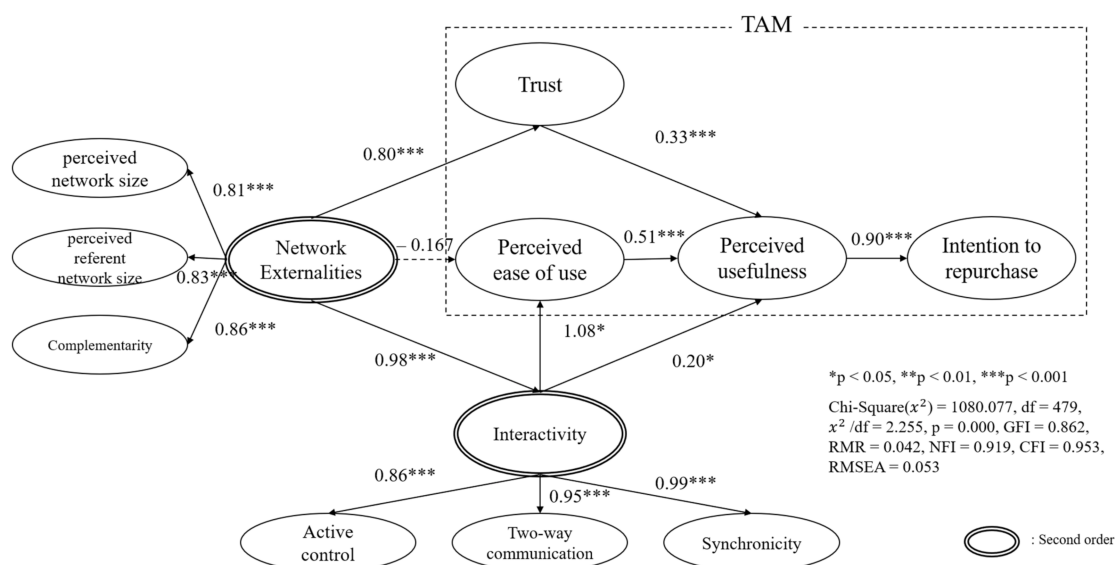


Figure 2. Summary of structural equation model results.

5. Discussion and Conclusions

Based on the economic benefits and the development of information and communication technology, the sharing economy and its platforms are growing rapidly. The platforms sharing economic goods, represented by Airbnb, Uber, and Lyft, have brought about changes in tourists' behavior. Despite the popularity of such platforms in tourism, research on the impact of platform attributes on the intention to repurchase is scant. To affiliate the research gap, in the current study, the structural relations between platform attributes represented by network externality and interactivity and intention to repurchase were examined using the expanded TAM theoretical framework. Airbnb is considered a research subject on the grounds that it is a representative platform for sharing accommodation and has brought about a significant change in the accommodation service sector. For empirical research, this study collected the data using the survey instrument and analyzed it using statistical instruments. By investigating the relationship, the study results provide a basic reference on the direction that the platform needs to take in the tourism sector. The results of the study demonstrated that network externality had a positive effect on both trust and interactivity. The size of supply in the Airbnb platform, the size of users used together, and the extent of additional services generated by the growing network contribute to creating trust and increasing interactivity among users. That is, as the network size grows, individuals lead consumers to trust the platforms more, allowing more consumer interaction on the platform. In addition, the interaction has a positive effect on both perceived ease of use and usefulness. This facilitates users to use the platform and perceive the service as more useful. In other words, communication between users on the platform, instant information acquisition, and controllability of the platform itself make the platform easy to use and be more useful to consumers. The results present that interactivity on the platform is a significant factor in increasing both perceived ease of use and perceived usefulness, which are important key elements of the TAM framework. In addition, trust plays a central role in the perceived usefulness, implying that an increase in trust can increase usefulness. Furthermore, as with numerous preceding studies on TAM, the perceived ease of use affects the perceived usefulness, which in turn has a positive effect on the intention to repurchase.

Implication and Limitation

This study has academic significance in that it focused on platform attributes overlooked by previous research. Moreover, it demonstrated the influence of platform attributes with the intention of repurchase of sharing accommodation platforms by using the theoretical framework of the extended TAM model. Study results have revealed that platform attributes have directly or indirectly affected the ease of use and usefulness of TAM, especially the network externality, which affects the perceived ease of use through trust. In other words, the results of this study could be significant in verifying the effectiveness of the extended TAM theoretical framework, which includes trust in the relationship between the platform and users' acceptance of the platform. The results of this study can be referenced in the rapidly growing accommodation platform industry. Given the important role of platform attributes, platform companies should further highlight the attributes of the platform. For example, securing the diversity of channels that can enable communication between users or between operators and users, and providing quick feedback from operators and real-time information will increase the users' ease of use and usefulness of the platform. This will eventually lead to the repurchase of the platform and help its continued growth. Especially, this study contributes to the literature by demonstrating the accountability of extended TAM in the domain of Airbnb business.

Given the results, this study suggests practical implications. First, Airbnb service providers might need to allocate their resources more to further strengthen the network externalities (e.g., the size of users and the extent of additional services generated by the growing network). Many strategies need to be established to expand the size of platform participants. Specifically, since the platform requires the participation of room providers, enticing strategies are needed for suppliers, not just users. In addition, strategies such as presenting a statement on the size of the network in a visible place are needed to increase the individuals' awareness of participants' size and the scope of services. By doing so, the level of trust and interactivity (e.g., communication between users on the platform, instant information acquisition, and controllability of the platform) could increase. Moreover, Airbnb service providers might invest their business resources to further enhance the service quality of interactivity. Platforms should be configured in a way that users can easily and instantly obtain the information they want, such as information related to the authentication of the host, etc. It is also a good idea to implement policies that actively accept feedback from users and to establish a system that actively communicates with users by utilizing AI (Artificial Intelligence). The construct leads consumers to perceive more ease of use and usefulness. Therefore, the psychological status ultimately is likely to result in more sales growth by spurring Airbnb consumers' intention to repurchase. That is, the manager of Airbnb might need to consider the importance of managing their network externalities and interactivity because this could become a business strategy to accomplish more sales.

Despite the significance of this study, it has the following limitations. In this study, network externality and interactivity were typically applied in platform attributes. However, more platform attributes may exist and may even affect the user's behavior. Therefore, further research needs to be conducted by adding more attributes of the sharing economy platform and all tourism platforms. In addition, the fact that the demographic characteristics of the subjects do not appear to be somewhat evenly distributed is considered a potential limitation of this study and should be noted in generalization. Moreover, the method of this research was limited to surveys. Thus, future research considering more various methods, such as qualitative and experimental design, is needed. This could become an avenue to further determine the consumer characteristics in the sharing economy platform system.

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