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Does Technology-Based Self-Service (TBSS) Help Tourists to Revisit Destinations? Validation of Extended Theory of Planned Behavior

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ABSTRACT

Purpose: TBSS is expanding and increasing in tourist destinations, but there are not sufficient previous studies that took a multilateral approach to explain why and how people are induced to use TBSS in tourism settings. This study aims to investigate the role of technology-based self-service (TBSS) offered at tourist attractions on the tourists' reuse intention.

Design/methodology/approach: This study, based on judgmental sampling, used online survey method to collect data from 402 respondents who previously visited Jeju Island of South Korea for touring purpose. The study used SPSS statistical 22.0 package to conduct multiple regressions analysis to test research hypotheses.

Findings: The result indicates that technology-based self-services (TBSS) traits (i.e., playfulness, usefulness, ease of use, and reliability) all significantly influence five components of ETPB (attitude, subjective norms, perceived behavioral control, prior knowledge, and technostress). The study tested the validity of ETPB against two alternative models to confirm its added explanatory power of the extended model.

Research limitations/implications: This study survey selected only those who have previously experienced TBSS at tourist attractions in Jeju Island located in South Korea. Therefore, this geographically limited sample may be difficult to generalize the result of the study.

Originality/value: The study result provides useful theoretical contribution to solidifying a theoretical accounting of the two new variables (prior knowledge and technostress) as an extension of Theory of Planned Behavior. In particular, the study adds to existing literature by proposing a new mod^L of predicting tourism behavior based on TBSS setting.

Keywords: ETPB, TBSS, Attitude, Subjective Norm, Perceived Behavioral Control

I. Introduction

With the rapid advances in informationcommunication, technology and innovations are inundated in all area of production, R&D, and

† Corresponding author: Sungjoon Yoon E-mail: sjyoonn@kgu.ac.kr marketing, many companies need to find new ways of running their businesses. In addition, as information technology converges and spreads into all areas of the value chain, innovative services are currently springing up in the touring, transportation, and hotel industries, creating a new business opportunities for the tourism sector in general (Min et al., 2022; Ekaimi et al., 2024).

Due to these environmental changes, consumers,

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with increased frequency, use services such as unmanned ordering systems, artificial intelligence chatbots, and self-service kiosks. The demand for technology-based self-services (here-in-after TBSS) has abruptly expanded through technical interfaces particularly, in the service industry. Currently, TBSS is expanding and increasing in tourist destinations, but there are not sufficient previous studies that took a multilateral approach to explain why and how people are induced to use TBSS in tourism settings.

The current literature appears concentrated on identifying discrete determinants affecting the use intention of TBSS in tourism field with little consideration of the theoretical foundation of the decision processes (Moon and Kim, 2020; Son and Lee, 2021). For instance, Son and Lee (2021) investigated the impact of the human-machine interactions on the intention to continue using smart tour TBSS. In addition, Moon and Kim (2020) found a significant relationship between the attributes of TBSS, perceived risk, perceived value, and continued use intention in the tourism field. Furthermore, Moon and Kim (2020) found that customers' acceptance of TBSS affects behavioral intention of smart airports.

However, these previous studies seem to lack a theoretical foundation that explains the processes in which consumers engage in attitudinal as well as perceptual formation regarding TBSS and associated behavioral intention. To address this shortfall, this study attempted to investigate why and how TBSS affects tourists' continuous use intention by proposing an ETPB (Extended Theory of Planned Behavior) model that has been widely used in social science topics dealing with prediction of behavioral intention (Min et al., 2022).

Some of previous studies attempted to use ETPB to verify the effects of TBSS in various settings. For instance, previous research used TPB to predict customer's behavioral intention of airport kiosk (Min et al, 2022), smartphone (Joo, 2013), mobile money (Thuy, 2024), and online showrooming behavior (Lee and Yeom, 2016). However, these studies are limited in that they overlooked the enabling/disenabling factors that may act as a prominent motivator or

dismotivator. It is from this rationale that this study adopted two variables, previous knowledge and techno-stress as interim motivator (dismotivator). These variables carry important practical implications as well. For instance, tourists with a large amount of prior knowledge of tourist site would know what it takes to fully explore the touring experience at a particular site. These tourists would be better positioned to take advantage of the benefits associated with the TBSS, which will result in greater satisfaction and reuse intention. In addition, people normally show different response to using new technology-based services depending upon the level of technological readiness.

In sum, based on this rationale, this study took into account theoretical as well as practical considerations to build a conceptual framework designed to predict the influence of TBSS traits on behavioral intention.

Therefore, with a view to better understanding theoretically grounded decision processes, this study examines the causal relation between the traits of TBSS, attitude, subjective norms, perceived behavior control, which are the basic components of the TPB. Furthermore, this study aims to verify the validity of extending the TPB by adopting two new predictors, that is, prior knowledge and technostress.

This research provides a couple of important contributions that may expand current knowledge of the effects of TBSS in tourism context. Firstly, from a theoretical point of view, this study validates the superiority of ETPB versus two alternative models (Theory of Reasoned Action and Theory of Planned Behavior). Particularly, the study result would confirm the theoretical validity of using the ETPB model in predicting the effects of TBSS in tourist context. In addition, the study result will be able to provide useful theoretical contribution to solidifying a theoretical accounting of the two new variables introduced for this study. In particular, the result would be able to contextualize the research focus on tourism setting. Since the positive or negative motivators would strongly factor into the continued patronage behavior, the study result would reveal new insights as to the mechanism through which consumers form behavioral intention for the use of TBSS in tourism context.

II. Theoretical Background of Study

A. Extended Theory of Planned Behavior (ETPB)

There have been many scholars who previously attempted to extend the TPB (here-in-after TPB) to enhance the explanatory power of the original model (Lam & Hsu, 2006), which originally was first proposed by Ajzen (1991) and consists of three factors; attitude, subjective norm, and perceived behavioral control. Afterwards, many scholars ETPB from various perspectives by introducing new variables to the existing model. This has the advantage of not only boosting the explanatory power of research but also enabling diversified interpretations (Kim & Lee, 2017). An ETPB was to overcome the limitations of the theory that have been raised over the existing models of rational behavior, and was found effective in predicting specific behaviors in social science studies (Song & Lee, 2010). Many empirical studies verified the use behavior of TBSS using ETPB. For instance, Min et al. (2022) used TPB to predict customer's behavioral intention on airline kiosk use.

To overcome this void in the current literature, this study extends existing TPB to predict the reuse intention of TBSS in tourist setting. Two new variables, prior knowledge and technostress were newly adopted to determine if this extended model enhances explanatory power over existing TPB and theory of rational action (TRA).

B. Technology-based Self-Service (TBSS)

There have been many studies that investigated the factors affecting users' acceptance of technologybased product and services (Ekaimi et al., 2024). TBSS has recently played a significant role in the growth of non-face-to-face services due to prolonged environmental changes due to COVID-19 pandemic. The use of TBSS can reduce waiting time and save time, and as various benefits (i.e., convenience and accessibility) associated with the services increased, the service industry offering TBSS is fast growing. For instance, tourism industry is currently making much use of tourism apps utilizing AI technology (Min & Lee, 2020).

The term TBSS was first introduced by Dabholkar (1996) in 1996 to refer to an activity that allows customers to directly produce and perform services using technology by themselves, and it is defined as a technology-based interface in which customers produce and perform services on their own without employee's intervention (Jeong, 2020). TBSS implies that part of the service is performed by customers themselves (Kang et al., 2018), and thus alternatively called "non-face-to-face service" or "non-contact service". In addition, market space is a virtual area where products and services exist as digital information, and TBSS is a typical example of market space transactions that do not require contact between buyers and sellers.

This study adopted playfulness as an important component of TBSS since experiencing pleasure and joy in the TBSS process may spur emotional energy and positive behavioral change, which would lead to continuous use intention and one's perception of usefulness. It was previously reported that reliability is the most cited factor leading one to experience services in a new technology-based environment (Lee & Oh, 2016).

Furthermore, Son & Lee (2021) investigated the causal relationship between the components of TBSS consisting of reliability, playfulness, speed, risk, and self-control in the context of airline services. Similarly, Ahn (2020) and Lim (2020) used safety, usefulness, playfulness, ease, and reliability as TBSS components for airlines services. Based on these previous findings, this study adopted playfulness, reliability, ease of use, and usefulness as four traits of TBSS in tourist sites.

C. Reuse Intention

According to the theory of reasoned action, behavioral intention refers to a subjective state that is a direct antecedent of real action, which is formed when attitude is established in conjunction with subjective norms (Ajzen & Fishbein, 1975). The concept of reuse intention adopted in this study is critical for retaining current customers and constitutes an important driver of profit generation (Bae & Kim, 2013). Research on reuse intention has been conducted using diverse antecedents such as technical services and information search in an online environment (Lin & Lu, 2000). Previous research on reuse intention posits that the expected benefits inferred from prior experiences, and cultural background play an important role in making decision on reuse, and emphasized that value or satisfaction with services and products is an important predictor of attitude and behavior (Ling et al., 2024). It was also previously found that in service settings, the more positively one experiences service quality, the greater one's willingness to continue to use the service (Jin, 2017).

III. Research Model and Hypothesis

A. Research Model

This study's conceptual framework is graphically displayed in the below research model showing relevant research hypotheses (see Figure 1).

B. Research Hypotheses

1. The relationship between TBSS Traits and ETPB components

TBSS has become widespread with changes in consumer value and technology development. The successful use of TBSS increases the possibility of forming positive attitudes and behavior. Previous studies have reported that positive attitudes increase behavioral intentions Curran & Meuter, 2005; Tanam & Yang, 2024). Ahn (2020) conducted an empirical analysis on the relationship between consumers' attitudes, satisfaction, and behavioral intentions with respect to TBSS used in airlines. According to the results, playfulness was derived as a factor that significantly influences consumers' positive attitude toward TBSS. This result gives support to the study of Dabholkar (1996) where the sense of achievement and enjoyment of digital environment had a significant



Figure 1. Research model

effect on consumers' positive use attitude.

Son (2020] studied whether interactive traits of airline TBSS affects the reuse intention by adopting the TPB. The result identified playfulness, risk, reliability, and speed as characteristics of TBSS having a significant influence on TPB components (attitude, subjective norms, and perceived behavioral control). Furthermore, Lim 92015) confirmed that the online experiences (i.e., playfulness and usefulness) of app-based storytelling about tour information is a prerequisite for objective and subjective knowledge, and in particular, has a big effect on tour-site attitude and subjective norms.

These previous results all indicate that TBSS traits are amenable to positively affecting the three comments of TPB (attitude, subjective norm, and perceived behavioral control). The same can be posited about two added variables, prior knowledge and technostress. This is because TBSS is a self-contained technology that does not require contact between buyers and sellers and thus users must rely on their own prior knowledge to evaluate the usefulness or reliability of TBSS. This implicates that actual use of TBSS service would act on users' prior knowledge of TBSS to form a new or different perception of its usefulness. This playfulness trait of TBSS would attenuate the perceived technostress involving the use of TBSS.

Based on the above discussions on previous findings, it is highly plausible that the using TBSS will have a big influence on the components of ETPB. Thus, this study proposed the following hypotheses.

- H1: TBSS at tourist sites will have a significant effect on tourists' attitude, subjective norm, perceived behavioral control, prior knowledge, and technostress.
- H1a: TBSS at tourist sites will have a significant effect on tourists' attitude.
- **H1b:** TBSS at tourist sites will have a significant effect on tourists' subjective norms.
- H1c: TBSS at tourist sites will have a significant effect on tourists' perceived behavioral control.
- H1d: TBSS at tourist sites will have a significant

effect on tourists'prior knowledge.

H1e: TBSS at tourist attraction will have a significant effect on tourists' technostress.

2. ETPB and reuse intention

Drawing on Ajzen's (1991) TPB theory, this study proposes on the causal relationship between ETPB components and reuse intention by introducing two more new components, prior knowledge and technostress. Previous research showed that the expected benefits and perceived quality play a critical role in formation of reuse intention (Jin, 201).

In the past literature, a few studies ETPB to improve the predictability of the TPB model in conjunction with TBSS. For instance, Lee and Oh (2016) contended that in addition to attitudes, subjective norms, perceived behavioral control, prior knowledge also affects one's intention to revisit film festival site using TBSS. Lederer et al. (2000) conducted a study on the use intention for websites to find that perceived ease and perceived usefulness improved users' attitude on websites and reuse intention of TBSS. These results find support from previous studies Park & Ok, 2008; Kim & Cho, 2007), where they found that the user's perception of the expected benefits leads to positive attitude as well as the continuous use of TBSS.

There have been a few studies that confirmed the effect of prior knowledge and technostress on reuse intention in non-tourism settings as well. For instance, Cho (2014) found that prior knowledge has a significant impact on reuse intention of coffee shop patronage applying the ETPB. In addition, Cha (2021) conducted a study on the continuous use of healthcare application UI by the elderly and concluded that technostress negatively affects the intention to reuse the application.

Based on these previous results, it is predictable that TPB's three components) would positively affect continuous use of TBSS, whereas prior knowledge would significantly influence the reuse intention either positively or negatively depending on the nature of prior knowledge. On the other hand, technostress perceived by TBSS users would negatively affect the reuse intention because people feeling stressful about using TBSS would be disinclined to reuse it.

Therefore, based on the preceding studies and discussions introduced above, this study proposes the hypothesis that the ETPB components will have a significant effect on the reuse intention as below.

- H2: Tourists' attitude, subjective norm, perceived behavioral control, prior knowledge, and technostress will have a significant effect on the intention to reuse TBSS at tourist sites.
- C. Operational Definitions and Measurement Tools for Variables

1. TBSS

This study conceptually defined TBSS of tour sites as a technological means or devices which enables tourists to use a service driven by technology without intervention by employees, and in the process obtain full intended benefits (i.e., enjoyment, personalized service, and reduced waiting time, etc.). This study drew from previous study of Moon & Kim (2001) to modify their scales to the current research purpose. The study's scale has twenty questions composed of four traits; playfulness (5 items), ease of use (5 items), usefulness (5 items), and reliability (5 items) based on 5-point Likert Scale.

2. ETPB

This study conceived an ETPB as "a conceptual framework that 'builds on original TPB with a view to increasing the ability to predict and understand behavior by introducing additional variables". This study drew on previous studies by (Jin et al., 2012) to construct 25 items with 5 factors composed of attitude (5 items) subjective norm (5 items), perceived behavioral control (5 items), prior knowledge (5 items), and technostress (5 items) built on a 5-point Likert scale.

3. Reuse intention

The intention to reuse was conceptually defined as "one's intention to continue using TBSS at tourist sites because of one's satisfaction with the services". The study adapted a scale developed by Oliver (199) using a 5-point Likert scale.

D. Data Collection and Analysis Method

The survey for this study was administered for 15 days from June 30 to July 1, 2021 for adult men and women aged 20 or older, with geographically concentration in places where TBSS is currently widely used targeting major tourist sites in Jeju Island of South Korea. The choice of Jeju Island as a survey site is based on two considerations. First, Jeju is an island located in south of Korea with an area of 1849 square km, and it is Korea's by far the most prominent tourist destination (Lim & Chang, 2024). Second, the Korean Ministry of Culture and Tourism in year 2002 had for the first time in Korea implemented a policy initiating unmanned tourism information services by installing web kiosks in all of fifteen major tourist sites in Jeju.

The study used judgmental sampling methods where only those who had previous experience of using TBSS in tourist sites were included as survey respondents. Out of 455 questionnaires collected, after excluding unfaithful or incomplete ones, 402 questionnaires were used for analysis. For statistical analysis, the study used SPSS statistical package program to test research hypotheses using multiple regression analysis and hierarchical regression analysis. This stup performed frequency analysis to understand the general characteristics of the sample, and exploratory factor analysis to verify the validity of the variables, and calculated Cronbach's Alpha values to test measures' reliability.

IV. Data Analysis

A. General Characteristics of the Study Sample

The analysis of the main characteristics of sample respondents are shown in Table 1.

B. Verification of Reliability and Validity of the Measures

Upon running exploratory factor analysis (EFA) on the traits of TBSS used by tourists in Jeju Island, four final factors with an eigenvalue of 1 or higher were extracted, and the overall explanatory power was 65.432%. The four extracted factors for TBSS traits were named 'playfulness', 'ease of use', usefulness, and 'reliability'. The relative weight of each factor in terms of eigenvalue reliability (3.404), usefulness (3.311), playfulness (3.229), and ease (3.143). The factor loadings for all four extracted factors are 0.7 or higher, and the KMO was 0.895, which showed validity of factor analysis results. Cronbach alpha coefficient for each factor was 0.878 for reliability, 0.870 for usefulness, 0.859 for playability, and 0.851 for ease, which confirmed the acceptable level of measure reliability.

The result of running factor analysis on the five components for ETPB extracted five factors named 'attitude', 'subjective norms', 'perceived behavioral control', 'prior knowledge', and 'technology stress'. The relative importance of each factor based on the eigenvalue was prior knowledge (3.453), technostress (3.287), attitude (3.096), perceived behavior control (3.057), and subjective norms (2.980). The factor loadings for all five extracted factors are 0.66 or higher, and the KMO was 0.920, which proved validity of factor analysis. The result of the reliability analysis in terms of Cronbach alpha coefficient was 0.891 for prior knowledge, .838 for attitude, .836 for perceived behavioral control, and 0.822 for subjective norm. Thus, the reliability of measures for five components of the ETPB was confirmed as shown in Table 2.

To verify the structural fitness of the factors, we performed confirmatory factor analysis. The result shows the $\chi^{2/}$ df=2.435 falls within the ideal range of 1-3. The root mean square residual (RMR) was 0.038, indicating a good fit as it is below the threshold of 0.5. The standardized root mean square error of approximation (RMSEA)=0.066, within the desired range of less than 0.08. The goodness-of-fit index (GFI)=0.902, and the adjusted goodness-of-fit index (AGFI)=0.877, exceeding the acceptable threshold of 0.800. In terms of incremental fit indices, the comparative fit index (CFI)=0.967, the normed fit index (NFI)=0.958, the relative fit index (RFI)=0.946, the incremental fit index (IFI)=0.962, and the Tucker-Lewis index (TLI or NNFI)=0.954, all meeting the desired threshold of greater than 0.900. As for parsimony fit indices, the parsimony goodness-of-fit index (PGFI)=0.632, the parsimony normed fit index (PNFI)=0.724, and the parsimony comparative fit index (PCFI)=0.746, all exceeding

Variable	Item	Frequency	%	Variable	Item	Frequency	%
Gender	Male	244	60.		less than high school	9	2.2
	Female	158	39.	Education.	Univ. enrolled	154	38.3
Age	20-29	18	4	- Education	Univ. graduate	199	49.5
	30-39	151	37		Grad school	40	10.0
	40-49	189	47		Student	64	15.9
	50-59	28	7	Profession	Office worker	82	20.4
	Over 60	16	4		Self empl.	68	16
total		402	100				

Table 1. Characteristics of Sample Respondents

the acceptable threshold of 0.5. These key indices indicate a good fit for the confirmatory factor analysis model. Specifically, the standardized factor loadings for each indicator were above 0.8, falling within the usable range of above 0.600. The t-values were all above 19.0, indicating ideal performance above the threshold of 0.7. The composite reliability (CR) values were all above 0.8, and the average variance extracted (AVE) values were all above 0.7, all exceeding the desired thresholds of 0.7 and 0.5 respectively. Therefore, it can be concluded that the latent variables of the scale exhibit good convergent validity.

In addition, this study performed Harman's single factor test based on principal component analysis to analyze the common method bias due to selfadministered surveys. Common method bias occurs when both independent and dependent variables are measured within one survey, using the same response

Factor	Items	Loading	Eigenvalue	Exp var	Alpha	Test result
	PK1 PK2	.822 .810				
Prior knowledge	PK3	.787	3.453	13.814	.891	
	PK4	.757			103 1	
	PK5	.755				
	TS1	.814				
Tashna	TS2	.798		13.150	.867	Total var exp=
reciino	TS3	.737	3.287			
stress	TS4	.737				
	TS5	.704				63.494%
	AT1	.759				Bartlett test
	AT2	.755			.838	5227.502 (p= .000)
Attitude	AT3	.740	3.096	12.383		
	AT4	.726				
	AT5	.725				
	PBC1	.790			.836	
	PBC2	.737		12.227		
PBC	PBC3	.717	3.057			
	PBC4	.713				
	PBC5	.695				
	Rel1	.878				
	Rel2	.807				
Reliability	Rel3	.805	3.404	17.018	.878	
	Rel4	.799				
	Rel5	.742				
	Use1	.793				
	Use2	Use2 .791		16.556	.870	
Usefulness	Use3	.781	3.311			
	Use4	.780				Total var exp=
	Use5	.779				65.432%
	Play1	.841				
	Play2	.772	3.229			4260.437 (p= .000)
Playfulness	Play3	.766		16.144	.859	
•	Plav4	.765.				
	Play5	.756				
	EU1	.790				
	EU2	.785				
Ease of Use	EU3	.761	3.267 65.337 .870			
	EU4	.753				
	EU5	.736				

Table 2. Result of EFA and reliability test

methods (e.g., ordinal scales). In order to reduce CMB, we took a procedural approach where we eliminated questionnaire items that are ambiguous or hard to understand (Kang et al., 2021). The results shows that the explanatory power of the first factor, which occupies the most explanatory power, did not account for more than half of the total explanatory power. Therefore, the distortion caused by the common method bias was judged not substantial (Podsakiff, et al., 2003).

C. Hypothesis Verification

1. The influence of TBSS traits on ETPB components (H1a~ H1e)

The outcome of the multiple regression analysis on the effects of TBSS traits on ETPB is shown in Table 2. The result of verifying the influence of TBSS traits on attitudes showed that they all significantly affect attitudes in the order of playfulness (β =0.219), usefulness (β =0.162), ease of use (β = 0.151), and reliability (β =0.144). Thus, this result supports H1a.This result indicates that people in the process of using TBSS used in tourist destinations have positive attitudes on TBSS that is playful, useful, easy to use and reliable. This result finds support from previous studies by Lee (2-16) and Ahn (2020).

The result of the effect of TBSS traits on subjective norms shows that they all significantly affect subjective norms in the order of reliability (β =0.205), ease of use (β =0.185), usefulness (β =0.163), and playfulness (β =.160). Thus, this result supports H1b.

The result of regression analysis on the effect of TBSS traits on perceived behavioral control revealed that they all significantly affect perceived behavioral

Dep. Var	Indep. Var	β	t	VII	7				
_	(Adj R ² = .225 F= 28.758 p-value= .000 Durbin-Watson= 1.790)								
	playful	.21	4.42***	1.2	5				
Attitude	usefulness	.16	3.20***	1.30	0				
	Ease of use	.15	2.93**	1.3	5				
	Reliability	.14	3.10**	1.10	0				
	(Adj R^2 = .246 F= 32.412 p-value= .000 ^{***} Durbin-Watson= 1.929)								
	playfulness	.16	3.34***	1.25	8				
Subj norm	usefulness	.16	3.27***	1.30	7				
	Ease of use	.18	3.64**	1.355					
	Reliability	.20	4.46**	1.10	07				
	(Adj R^2 = .236 F= 30.583 p-value= .000***								
-	playfulness	.14	3.01***	1.25	8				
Per Behav Control	usefulness	.16	3.30***	1.307					
	Ease of use	.23	4.60	1.35	5				
	Reliability	.13	2.90	1.10	07				
		(Adj R^2 = .238	F= 30.945 p-value= .000	***					
-	playfulness	.207	4.210***	1.25	8				
Prior knowledge	usefulness	.118	2.349*	1.30	7				
	Ease of use	.158	3.096**	1.355					
	Reliability	.221	4.792**	1.107					
Techno-stress									
n ² - 219	playfulness		174	-3.491***	1.258				
K = .218 E= 27.612	usefulness		190	-3.745***	1.307				
F = 27.013	Ease of use		180	-3.483**	1.355				
p-value [≥] .000	Reliability		114	-2.449*	1.107				

Table 3. Result of multiple regression analysis on ETPB

*significant at .05 level ** significant at .01 level ***significant at .001 level

control in the order of ease of use (β =0.235), usefulness (β =0.166), playfulness (β =0.10.148), and reliability (β =0.134). Thus, this result supports H1c.

The result of regression analysis on the effect of TBSS traits on technostress confirmed that they negatively affect technostress with statistical significance in the order of usefulness (β =-0.190), ease of use (β =-0.180, playfulness (β =-0.174), and reliability (β =0.114). Thus, this result supports H1e.

In sum, the TBSS traits, on the whole, had non-consistent influences on the ETPB components in terms of their effect sizes based on the regression model's R^2 , with subjective norms showing the highest impact (R^2 =.246), followed by prior knowledge (R^2 =.238), perceived behavioral control (R^2 =.236), attitude (R^2 =.225), and technostress (R^2 =.218).

2. The effect of ETPB components on TBSS reuse intention (H2)

This study proposed a research hypothesis (H2) that the ETPB model would have a significant explanatory power to predict one's reuse of TBSS. To verify this hypothesis and further to compare ETPB model against TRA (Theory of Reasoned Action) model and original TPB model, this study conducted a hierarchical regression analysis to determine the relative predictability of the three models as the result of which is shown in Table 3.

Firstly, examining across three models reveals an incremental increase in the explanatory power based on Adj R^2 (TRA=.424; TPB=.474; ext. TPB=.548). In particular, it is worth noting that ETPB's explanatory power increased considerably over TPB model, which demonstrates the improved validity of adding two more variables (prior knowledge and technostress). Furthermore, the ETPB model's robustness is verified by the model fitness measures showing F=98.071 (p=.000***) and Durbin-Watson value of 1.753, which was close to 2.032, fulfilling the residual independence assumption.

Lastly, this study tested whether TPBSS traits influence the reuse intention through the mediation of ETPB components. For this purpose, this study performed the mediation test using AMOS bootstrapping method on each of the ETPB components as shown in Table 5. The result shows the outcome based on indirect effects, which indicates that all but prior knowledge, all other three components were found to have a partial mediating effect on reuse intention.

Table 4. Result of hierarchical regression analysis on reuse intention

Indep. Var	TRA (Model 1)		TPB (Model 2)		Ext. TPB (Model 3)	
	β	Т (р)	β	Т (р)	β	Т (р)
(Constant)		7.477		4.954		6.795
Attitude Subj Norm	.348 .425	8.327 ^{***} 10.150 ^{***}	.264 .362	6.249 ^{***} 8.786 ^{***}	.194 .255	4.847 ^{***} 6.299 ^{***}
Perceived Behav ControL			.259	6.256***	.149	3.643***
Prior Know Technostress					.227 193	5.643 ^{***} -4.738 ^{***}
Statistics	R^2 = .427 Adj R^2 = .424 F = 148.754 p-value = .000***		R^2 = .478 Adj R^2 = .474 F= 121.691 p-value= .000****		R^{2} = .553 Adj R^{2} = .548 F= 98.071 p-value= .000****	

significant at .01 level *significant at .001 level

Independent Var	Mediator	Dependent Var	Ind Effect	p-value
Playfulness			.157	.021*
Usefulness	A 44 ¹ 4 J -	David Interation	.147	.033*
Ease of use	Autude	Reuse Intention	.128	.045*
Reliability			.113	.047*
Playfulness			.137	.013*
Usefulness	Cubicative name	Dauga Intention	.156	.008**
Ease of use	Subjective norm	Reuse Intention	.124	.010*
Reliability			.113	.032*
Playfulness			.147	.011*
Isefulness	DDC	Davies Interition	.156	.009**
Ease of use	PBC	Reuse Intention	.134	.011*
Reliability			.102	.024*
Playfulness			.176	.001**
Usefulness	Prior knowledge		.021	.062
Ease of use		Reuse Intention	.015	.075
Reliability			.178	.002**
Playfulness			.178	.009**
Usefulness	T 1 (Davies Interition	.167	.013*
Ease of use	recnnostress	Reuse intention	.153	.014*
Reliability			.147	.011*

Table 5. Test of mediation effect of the ETPB variables

* significant at .05 level ** significant at .01 level

V. Conclusions and Implications

As the TBSS in various industries continues to increase, consumers' positive outlook on the use of non-face-to-face services is critical to secure sustained use. This study attempts to validate an extended version of TPB with explanatory power to predict one's intention to reuse TBSS at tourist attractions. What follows is theoretical as well as implications based on the study results.

A. Theoretical Implications

This study provides important research implications for validating the usefulness of extending traditionally established research model such as TPB in the context of new technology acceptance. In this study, TBSS was found to have significant influence on the ETPB model. This result implies that the use of TBSS would enhance their prior knowledge and perceived behavioral control in about the same magnitude, but would alleviate users' stress associated with using high tech devices. From a theoretical viewpoint, the study result demonstrates the theoretical validity of ETPB embracing two new variables, prior knowledge and technostress.

The theoretical contribution of this study may be two-fold. Firstly, this study attempted to address the shortcomings of the TPB model involving lack of motivational as well as affective factors. The adoption of prior knowledge and technostress in this study may be viewed as an attempt to act on this concern. Secondly, this study verified the theoretical validity of using an ETPB framework as opposed to original TPB model in predicting the reuse intention of tourism-related TBSS. This study result demonstrates that the ETPB model adopted in this study presents a valid model to verify the effect of TBSS traits on reuse intention.

B. Practical Implications

There are some practical implications that this study

result imparts to firms and tourism authorities to increase the reuse intention of TBSS at tourist sites.

Firstly, the finding that the TBSS traits showed highest impact on subjective norms ($R^2 = .246$) demonstrates the importance of creating favorable word-of-mouth about TBSS.

Secondly, this study found that prior knowledge significantly influences TBSS reuse intention. This result implies that tourists with a large amount of knowledge of TBSS, because of their familiarity with TBSS would tend to demand more from the TBSS capability. Thus, local tourism authorities need to ensure that tourists take full advantage of the benefits of using TBSS through various communication outlets such as, seminars or on site tutorial sessions.

C. Social Implications

This study found that subjective norm that is part of ETPB most significantly influences one's intention to reuse TBSS (β =.255). Furthermore, the TBSS traits showed highest explanatory power on subjective norms ($R^2 = .246$), which demonstrates the importance of creating social empathy about using TBSS at tourist sites. This implies that tourist destinations should seek ways to create favorable attitudes of TBSS on those who previously used TBSS at tourist sites and have their positive experiences transferred to other potential users. To achieve this goal, TBSS providers are advised to implement word-of-mouth programs designed to encourage users to proliferate positive word-of-mouth, which may induce trial and continuous use of TBSS. One very useful way to implement this goal would be to utilize social media platforms which can not only provide a forum for tourist information, but also create an image of TBSS users as social influentials.

D. Limitations and Future Recommendations

This study has some limitations that need to be addressed in the follow-up studies. Firstly, this study survey only those who have previously experienced TBSS at tourist attractions in Jeju Island. The results are somewhat geographically limited in generalizing the study results due to a limited sampling area. Future research needs to widen sampling area to include major tourist attractions nationwide in order to increase generalizability of the findings.

Secondly, this study attempted to investigate the effect of TBSS traits on ETPB and their reuse intention. However, people, in general, may have different degrees of feeling comfortable about self-services due to personal dispositions (i.e., innovativeness or technological readiness). Therefore, future studies need to accommodate these personal traits requiring different degrees of technical knowledge that may affect a person's level of acceptance towards using TBSS.

References

- Ahn, H. J. (2020). A study on Consumer attitudes, satisfaction, and behavioral intentions for airline TBSS: focusing on airport kiosks. *Tourism and Leisure Research*, 32(4), 273-290.
- Ajzen, I. (1991). The TPB. Organizational behavior and human decision processes. *Journal of Consumer Research*, 50(2), 179-211.
- Ajzen, I., & Fishbein, M. (1975). A Bayesian analysis of attribution processes. *Psychological Bulletin*, 82(2), 261-274.
- Bae, J. H., & Kim, M. S. (2013). A study on the effect of status and self-consistency in online games on the intention to continue using online games. *E-business Research*, 14(4), 3-25.
- Cha, J. H. (2021). Effects of mobile healthcare application UI usage on technostress and continuous use intention, *Korean Society for Design Policy*, 19(5), 295-305.
- Cho, W. S. (2014). A study on the behavioral intention of coffee stores using the extended planned behavior theory. *Korea Tourism Management Association*, 28(6), 161-179.
- Curran, J. M., & Meuter, M. L. (2005). Self-service technology adoption: comparing three technologies. *Journal of Services Marketing*, 19(2), 103-113.
- Dabholkar, F. (1996). Consumer evaluations of new TBSS options: An investigation of alternative models of service quality. *International Journal of Research in Marketing*,

GLOBAL BUSINESS & FINANCE REVIEW, Volume. 29 Issue. 7 (AUGUST 2024), 48-62

13(1), 29-51.

- Dabholkar, F. (2002). An attitudinal model of TBSS: moderating effects of consumer traits and situational factors. *Journal of the Academy of Marketing Science*, *30*(3), 184-201.
- Dorsch, G. D. (2000). Consumer intentions to use a service category. *Journal of Services Marketing*, 14(2), 92-117.
- Ekaimi, S., Utomo, P., & Gunawan, D. (2024). Examining the factors influencing teleconsultation adoption during the pandemic using the tam model. *Global Business and Finance Review*, 29(3), 149-160.
- Jeong, S. J. (2020). The effect of the technology-based self-service attributes of the restaurant industry on consumer attitudes, customer satisfaction, and recommendation intention. *Journal of the Korean Restaurant Industry*, 16(3), 21-36.
- Jin, S. H., Lee, D. G., & Lee, S. J. (2012). A study on the effect of technostress and anti-smart on smartphone use. *Korea Digital Policy Society*, 10(10), 187-195.
- Jin, K. M. (2017). The effect of railway transportation self-service technology on empirical value and continuous use intention. *Tourism Research Journal*, 31(7), 95-108.
- Joo, J. H. (2013). Comparison of smartphone intention prediction models seen through iPhone users. *Digital Convergence Research*, 11(1), 89-97.
- Kang, S. C., Han, K. S., & Jung W. J. (2018). Analysis of the impact on the intention to use customers of unmanned stores, *Korea Digital Contents Association*, 19(7), 1313-1322.
- Kang, T. W., Sinha, P. N., Park, C. I., & Lee, Y. K. (2021). Exploring the intra entrepreneurship-employee engagementcreativity linkage and the diverse effects of gender and marital status. *Frontiers in Psychology*, 12, 736914.
- Kim, T. G., & Cho, M. S. (2007). Effects of social impact, suitability and personal innovation on hotel information system acceptance behavior. *Tourism Research*, 31(5), 137-156.
- Kim, J. J., & Lee, A. J. (2017). A study on the effect of consumers' consumption value on purchase intention using Michelin Guide Seoul-selected restaurants. *Korean Journal of Restaurant Industry*, 13(3), 171-190.
- Lam, T., & Hsu, C. H. (2006), Predicting behavioral intention of choosing a travel destination. *Tourism Management*, 27(4), 589-599.
- Lee, H. S., & Oh, M. J. (2016). An analysis of the behavioral intention of visitors to the Busan International Film Festival applying the ETPB: Focusing on the additional role of image and prior knowledge of the festival's venue. *Tourism Research Journal*, 30(8), 91-104.
- Lee, H. T., & Yeom, M. S. (2016). A study on the determinants of show rooming in clothing purchase. *Journal of Service Management*, 17(4), 65-88.
- Lim, S. T. (2015). A study on the effect of online storytelling experience on psychological affinity through prior knowledge of tourists. *Tourism Research Journal*, 29(8),

5-15.

- Lim, G. Y. (2020). The effect of technology-based self-service attributes on perceived risk, perceived value, and continuous use intention. *Korean Culinary Society*, 26(5), 193-204.
- Lim, H. S., & Chang, M. (2024). Tourist motivation and revisitation in jeju during covid-19: Insights and post-pandemic implications. *Global Business and Finance Review*, 29(1), 85 -100.
- Lin, H. T., & Lu, S. F. (2000). Towards an understanding of the behavioral intention to use a web site. *International Journal of Information Management*, 20(3), 197-208.
- Ling, C., Shin, W. J., & Brown, A. D. (2024). Tourism destination selection attributes, tourist satisfaction and behavioral intentions of multicultural families in south korea: Focusing on Self-Efficacy. *Global Business and Finance Review*, 29(3), 174-188.
- Min, J. B., Lim, E. J., & Son, S. I. (2022). The effect of airline kiosk usage characteristics on customer behavior intention: Applying the TPB (TPB). *Tourism Research Journal*, 36(1), 187-197.
- Min, S. R., & Lee, S. G. (2020). A study on the type of online travel agency (OTA) service quality on ethnicity and behavioral intention. *Journal of Distribution Science*, 32(3), 147-167.
- Moon, J. W., & Kim, Y. G. (2001). Extending the TAM for a world-wide-web context. *Information & Management*, 38(4), 217-230.
- Moon, H. Y., & Kim, Y. S. (2020). Relationship between technology readiness and behavioral intentions of airport, airline TBSS: perceived usefulness, control and experience medium effect. *Hotel Tourism Research*, 22(3), 235-250.
- Oliver, C. (1997). Sustainable competitive advantage: combining institutional and resource-based views, *Strategic Management Journal*, 18(9), 697-713.
- Park, K. W., & Ok, S. J. (2008). A study on the factors influencing the intention to continue using portal sites. *Information System Research*, 17(2), 49-72.
- Park, J. P., & Choi, Y. E. (2013). A Study on the Formation and Impact of Technostress of Organizational Members. *The Journal of the Korean IT Service Association*, 12(2), 55-71.
- Podsakoff, P. M., MacKenzie, S. B., & Lee, J. Y. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903.
- Son, S. I. (2020). A study on the effect of the use characteristics and interaction of airline TBSS on continuous usage intention. Doctoral dissertation, Kyung Hee University,
- Son, S. I., & Lee, C. K. (2021). Effects of the interaction of smart tourism technology-based self-service on continuous use intention for airline kiosk users. *Korea Tourism Research Association*, 35(12), 133-144.
- Song, H. J., & Lee, C. K. (2010). Predicting the behavioral intention of visitors to a complex resort casino using

a goal-oriented behavior model. *Tourism and Leisure Research*, 22(5), 341-360.

Tanam, N., & Yang, L. (2024). The impact of the entrepreneurial environment on vietnamese tourism students' entrepreneurial intention. *Global Business and Finance Review*, 29(2), 100-111.

Thuy, H. V. (2024). Research on the role of the attitudes of vietnamese consumers towards their intentions to use mobile money. *Global Business and Finance Review*, 29(2), 85-99.

Appendix. Questionnaire Items

Attitude

 Attitude
 It is nice to use TBSS.
 It is desirable to use TBSS.
 It is necessary to use TBSS.
 It is positive thing to use TBSS.

Subjective Norm
 My reference group thinks favorably of my using TBSS
 My reference group supports my using TBSS
 My reference group approves my using TBSS
 My reference group understands my using

My reference group thinks agrees with my using TBSS

Perceived Behavioral Control
I can always make time for TBSS
I always use TBSS out on my will
I fully understand TBSS
I feel confidnt about using TBSS
I am proactive in the use of TBSS

4. Prior KnowledgeI have fully informed of TBSSI am familiar with TBSSI can explain TBSS to othersI feel comfortable uinsg TBSSI have full knowledge of TBSS

5. Technostress

I am worried about learning new functions of TBSS I feel burdened about using new TBSS function It take long time to learn new TBSS functions I feel complicated about learning TBSS functions It takes big efforts to learn TBSS functions.