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Article

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Airline Self-Service Technology Adoption: Moderating Impact of Gender and Experience

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ABSTRACT

Purpose: The purpose of the paper is to examine the role of technology paradoxes, including technology anxiety, insecurity and forced usage, to understand consumer adoption behavior towards self-service technology. The present study also investigates the moderating effect of gender and experience on the relationship between paradoxes and adoption attitude towards self-service technology.

Design/methodology/approach: In this study, a quantitative research approach was employed. We tested the research hypotheses using survey data collected from 249 users of self-service technology in the airline sector. Further, we tested the structural path relationship using SmartPLS-4.

Findings: The findings have revealed the significant impacts of technology anxiety and insecurity on adoption attitude. The findings also reveal the partial moderating roles of gender and experience in the link between paradoxes and adoption attitude.

Research limitations/implications: This study does not consider other factors influencing consumer adoption of self-service technology, such as ease of use, trust, and speed. The present study relies on cross sectional data to study consumer attitudes. Longitudinal research is required to examine consumer adoption attitudes towards technology in long run.

Originality/value: The present study contributes to literature by investigating the role of paradoxes to understand consumer adoption attitudes and also determine the strategies that must be focused upon by service providers to enhance the experience of customers using self-service technology.

Keywords: Self-service technology, Technology anxiety, Insecurity, Forced usage, Adoption attitude

I. Introduction

The significance of emerging technology in daily life cannot be overstated. Technology has revolutionized the way we live, work, play and travel. The widespread adoption of technology in almost every industry has

now become a necessity (Lee et al., 2022; Islam, 2023). When it comes to using modern technology, the travel industry is no different in terms of adoption (Safaeimanesh et al., 2021). These days, technology is used by e-commerce companies in customer support, customer self-service and online services (Feng et al., 2018; Hwang 2022). A rapid increase in technology advancement specifically related to the internet has contributed towards the growth of airline industry by providing better services at lower

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costs (Islam, 2023). Self-service technology offers advantages for both customers and airlines (Cserdi & Kenesei, 2020). Self-service options offer economical and faster options for customers as compared to traditional service encounters (Castillo-Manzano & Lopez-Valpuesta, 2013) and reduce anxiety caused by critical service representatives (Cunningham et al., 2008). With respect to companies, these options have improved productivity and efficiency, led to reduced labor costs, and allowed the development of a competitive niche market (Castillo-Manzano & Lopez-Valpuesta, 2013; Yang et al., 2021). However, due to unique personality and assimilation variation, not all tourists are keen to adopt self-service technologies (Timmor & Katz-Navon, 2008).

Numerous technological innovations are radical to customers and may cause them anxiety. This reluctant attitude towards SSTs adoption becomes a hurdle for companies' success (Gunasinghe & Nanayakkara, 2021). In this technological era, most organizations deliberately focus on the customer's experience towards the usage of technology (Kaushik & Rahman, 2015), while customers also evaluate the performance of technology by reacting in a positive or negative way (Johnson et al., 2008). Previous researchers have mainly focused on the motivators of technology adoption (Meuter et al., 2005; Safaeimanesh et al., 2021), but have ignored negative aspects such as paradoxes (an act or behavior that seems contradictory qualities), which need to be addressed in order to understand resistance behavior of customers (Johnson et al., 2008; Kleijnen et al., 2009). Tapping this gap, the present study examines the impact of paradoxes (technology anxiety, insecurity and forced usage) on technology adoption attitude. This is because if these contradictions are ignored, marketing tactics intended to increase satisfaction and loyalty towards self-service technology may be unsuccessful.

Drawing from the theoretical perspective in the literature of psychology, the psychological reactance theory given by Brehm, (1966) states that when consumer experiences SSTs in a bondage situation, they will never believe in that technology, resulting

in a doubtful attitude concerning the performance of self-service technology (Reinders et al., 2008). Based on this theory, we investigate the impact of forced usage on adoption attitude, which has rarely been studied in the literature. Since the context of this research is public transport services (that is airline sector), this could be useful for transport companies who are planning to carry out technology innovation for the first time (Cserdi & Kenesei, 2020). Further, based on theoretical perspective objective of this research, which is to explore psychological constructs such as technology anxiety and forced usage that have negative impact on consumer's attitude towards self-service technology. This has never been extensively discussed in previous literature so far. We emphasize these constructs to gain a better understanding of resistance attitude of consumers towards technology. Furthermore, the study acknowledges the impact of gender difference on adoption attitudes towards technology. There are numerous studies available in the literature which have reported that gender influences adoption behavior (Hsiao & Tang, 2015; Arifin et al., 2022). Meanwhile, little research has been conducted to find the role of gender on adoption of technology at airports. Accordingly, this research contributes towards the better understanding of how men and women distinguish self-service technology adoption in the context of a developing country. Further, this research explores the moderating impact of experience on relation between paradoxes and adoption attitude by applying multi-group analysis. The remainder of the paper is organized in the following manner. The first section includes an introduction, theoretical background and research hypotheses. The next section delineates the research methodology and results. Finally, the paper concludes with discussion of the results, including the implications and limitations of the study.

II. Literature Review

A. Theoretical Background

A technology's effectiveness depends on a user's readiness to adopt it. In addition, the success of novel technologies also depends on firm's ability to convince consumers regarding its benefits (Cserdi & Kenesei, 2020). However, restrictions in service delivery options develops resistance behavior which stimulate a negative mindset towards technology. Festinger, (1962) cognitive dissonance theory as a theoretical framework, posits that people experience contradictory beliefs, values or ideas after a stressful experience. This theory has been widely used in information technology research in order to describe reactions, with distinctions between pre and post services performance (Marikyan et al., 2020). With a positive experience, users appreciate the benefits of technology, and with a negative experience, they become anxious. This research holds significance as it identifies negative aspects such as technology paradoxes which have an adverse effect on firm's performance. Furthermore, the present study also draws upon technology readiness framework proposed by Parasuraman (2000) to understand the two technology inhibitors: technology anxiety and insecurity. Parasuraman's theoretical framework (TRI) has been used by the researchers to understand mental complexities while adopting self-service technology. The present study also draws from the psychological reactance theory given by Jack Brehm to describe the unwilling nature of users towards SSTs. This theory explains the unpleasant motivational reaction that eliminates specific behavioral freedom. Resistance behavior can be affected by psychological barriers (Kim & Bae, 2020). Moreover, negative association of technology anxiety and SST usage is an important psychological aspect which has been discussed in prior studies (Cobelli et al., 2021; Liu 2012). Technology anxiety further helps to explain the forced usage concept that we consider in our study. The psychological reactance theory suggests that users lose trust in technology when they are

forced to use it, and this leads to performance ambiguity (Feng et al., 2018), which further develops negative attitudes towards technology.

B. Adoption Attitude

An attitude is defined as "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (Eagly & Chaiken, 1993, p.1). It reflects the feeling of auspicious or inauspicious towards technology usage (Hsiao & Tang, 2015). Attitude helps in evaluating objects, people, activities, events, environment or ideas either in positive or negative way (Kaushik et al., 2015). It becomes very difficult to evaluate the attitude of customers towards technology which is erratic with advancement in technology (Curran et al., 2003). On the basis of the above discussion, the present study has determined that the following constructs have adverse impacts on consumer attitudes.

C. Development of Research Hypotheses

1. *Technology Anxiety and Adoption Attitude*

The concept of technology anxiety is acquired from the computer anxiety literature (Tsai et al. 2020). Technology anxiety is one of the most influential factor that affects a consumer's decision to use or not to use SSTs (Cobelli et al., 2021; Liu, 2012). Technology anxiety is defined as complex emotions such as fear, nervousness and insecurity associated with technology usage (Troisi et al., 2022). Innovation research demonstrates that initial trial of something new develops strong emotions, and anxiety is part of this (Evanschitzky et al., 2015). In a study of the e-learning environment, Gunasinghe & Nanayakkara (2021) reported the negative influence of technology anxiety on adoption attitude. Prior literature provides more evidence that fearful emotions towards technology create anxiety, resulting in negative attitudes (Cobelli et al., 2021). Based on previous

arguments, we also anticipate that technology anxiety will negatively influence adoption attitude and hypothesize as below.

H1: Technology anxiety has negative impact on user's adoption attitude towards SSTs.

2. Insecurity and Adoption Attitude

Insecurity reflects the customer's "distrust of technology and skepticism about its ability to work properly" (Parasuraman, 2000). Insecurity is a negative feeling that triggers the negative attitude of a potential adopter (Kaushik et al., 2015). Because of this unfavorable attitude, consumers might distance themselves from technology because they assume that the innovation might be harmful for them (Kleijnen et al., 2009). In support to above, Mandina & Matsikain (2021) found insecurity to be key factor in predicting negative attitudes in the self-service life insurance context. Also, in the context of self-service bag drop technology, consumers with feelings of risk and fear are less likely to explore innovation resulted in negative attitude (Park et al., 2021). Hence, based on previous studies, it has been concluded that insecurity strongly predicts the resistance attitude of consumer towards technology. Therefore, we propose:

H2: Insecurity has a negative impact on a user's adoption attitude towards SSTs.

3. Forced Usage and Adoption Attitude

Forced usage means that customers have no other options other than on-site SSTs to choose service delivery mode (Reinders et al., 2008; Liu, 2012). Complete replacement of staff interaction with SSTs can lead to resistance behavior lead to negative outcomes (Feng et al., 2018). According to psychological reactance theory, when a consumer feels a loss of freedom, they become more interested in interacting with frontline employees and less interested in using SST. This results in negative attitude towards technology which leads to performance ambiguity (Johnson et al., 2008). Similarly, when the service

provider forces the customer to use SST, this may make the customer feel exploited and develop negative feelings towards SSTs (Reinder et al., 2008; Liu, 2012). Thus, we propose a hypothesis based on theoretical background that suggests negative relation between forced usage and customer attitude.

H3: Forced usage has negative impact on user's adoption attitude towards SSTs.

4. Moderating Effect of Gender

In the technology adoption context, gender differences have attracted the attention of researchers over the decades. Numerous studies in the literature have put emphasis on gender differences in technology adoption (Baker et al., 2007; Hsiao & Tang, 2015). Amin (2006) claimed that male customers have more positive attitudes towards technology than females in the banking SMS context. Na et al., (2021) argued that males are more open towards new innovations. Males have also found to have more favorable attitudes towards e-commerce than females (Pijpers et al., 2001), who are more conscious about the security aspects (Amin et al., 2006). Based on the above discussion, we propose the following hypotheses:

H4: Gender has a significant moderating role in the relationship between technology anxiety and adoption attitude. Specifically, the relationship will be stronger for female customers than for male customers.

H5: Gender has a significant moderating role in the relationship between insecurity and adoption attitude. Specifically, the relationship will be stronger for female customers than for male customers.

H6: Gender has a significant moderating role in the relationship between forced usage and adoption attitude. Specifically, the relationship will be stronger for female customers than for male customers.

5. Moderating Effect of Experience

According to Schmitt (1999) experience is defined as "sensory, emotional, cognitive, behavioral and relational values that replace functional ones". In simple words, people's engagement with the services over a longer period of time leads to the development of experience (Pine & Gilmore, 1998). As customer experience using technology increases, there is reduction in insecurity towards technology (O' Cass Fenech, 2003). Previous studies in e-commerce have indicated that the past experience motivates and influence the individual to adopt technology (Kwak et al., 2002; Tripathi, 2018). Therefore, experience acts as an important moderator in technology context because experience may change the preferences of users over time (Alshehri et al., 2020). More experience towards self-service technology develops favorable attitude towards it which further helps to set off the outcomes related to forced usage (Curran et al., 2003). Drawing from the discussion above, it is proposed that experience acts as an important moderator, with the potential to modify the relations in the research model (see Figure 1). Therefore, we postulate the following hypotheses:

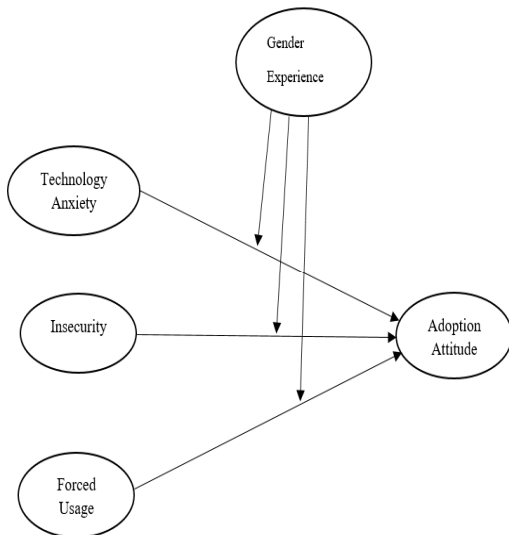


Figure 1. Conceptual model

H7: Experience has a significant moderating role in the relationship between technology anxiety and adoption attitude. Specifically, the relationship will be stronger for less experienced than more experienced customers.

H8: Experience has a significant moderating role in the relationship between insecurity and adoption attitude. Specifically, the relationship will be stronger for less experienced than more experienced customers.

H9: Experience has a significant moderating role in the relationship between forced usage and adoption attitude. Specifically, the relationship will be stronger for less experienced than more experienced customers.

III. Methods

A. Choice of Industry

India's aviation industry is one of its fastest growing. It is expected that in the year 2024, it will be the 3rd largest aviation industry in the world (Civil Aviation, 2023). In the modern era, demand for self-service technology has increased tremendously, and about 80% of airlines worldwide have focused on investing in technological equipment (Gures et al., 2018). Thus, the present study has been conducted on the aviation sector.

B. Structure of Questionnaire and Data Collection

The present research used self-administered questionnaire to collect data. Convenience sampling was used for data collection. The study's sample consisted of business class travelers, who travel often. Business travelers prefer self-check-in over leisure travelers in order to save time (Wittmer 2011). The questionnaire had two sections. The first section included demographics related to gender, age,

qualification and experience, and the second section was related to four constructs, namely technology anxiety, insecurity, forced usage and adoption attitude. In this study we employed 7-point Likert scale as a survey instrument ranging from 1 (Completely disagree) to 7 (Completely agree). We defined the dependent and independent variables by considering the previous literature. Table 1 shows the measures of constructs used in our study.

The data was collected from 300 respondents out of them, 249 valid responses were obtained, which is an acceptable sample as per Wittmer, 2011 in

transport research. The questionnaire was distributed to those respondents who had experience of buying ticket and collecting boarding pass using either one or all the mentioned ways such as airline websites, mobile apps and self-service kiosks at airports. Detail description of sample is in Table 2.

Table 1. Variables and indicators

Construct	Indicators
Technology anxiety Meuter et al., (2005); Reinders et al., (2008); Lee et al., (2012)	TA1: I avoided the technology because of unfamiliarity.
	TA2: I feel nervous to use technology because of making mistakes.
	TA3: I fear that I might damage it in some way.
	TA4: Technical/ difficult terms on system confuse me.
	TA5: I rarely/seldom use technology related services.
Insecurity Meuter & Bitner (1998); Lee et al., (2012); Kaushik & Rahman, (2015)	INS1: I do not feel secure while providing personal information over Kiosks/websites/apps.
	INS2: I feel worried that information seen by others.
	INS3: I do not feel safe to provide credit/debit card number over computer.
	INS4: I do not feel confident doing transactions using self-service technology.
	INS5: I feel trouble if something go wrong while using self-service technology.
Forced usage Reinder et al., (2008); Liu, (2012)	FU1: When I need services only self-services facilities are available.
	FU2: I have less freedom to choose a service delivery mode.
	FU3: Service provider forced me to use Self-Service technology.
	FU4: No choice of interaction with service employees is available.
Adoption Attitude Kaushik et al., (2015); Hsiao & Tang, (2015)	ADATT1: I feel that using self-service technology is good idea.
	ADATT2: I have positive perception of using self-service technology.
	ADATT3: I like to use self-service technology.
	ADATT4: I intend to use self-service technology in future.
	ADATT5: I would recommend my friends/ relatives to use self-service technology.

Table 2. Demographic characteristic

Gender	Count	Percentage%	Qualification	Count	Percentage%
Male	111	44.6	Primary education	4	1.6
Female	138	55.4	High School	6	2.4
	249	100	Bachelor Degree	83	33.3
			Postgraduate Degree	156	62.7
				249	100

Table 2. Continued

Age			Experience		
18-25	18	7.2	Last six months	71	28.5
26-35	118	47.4	Six months to one year	81	32.5
36-45	90	36.1	One to two years	36	14.5
Above 45	23	9.2	More than two Years	61	24.5
	249	100		249	100

IV. Results

A. Data Analysis

SmartPLS-4 software was used for analysis purpose (Ringle et al., 2015). Further multi-group analysis was performed to find the effects of gender and experience as moderators. Before applying multi-group analysis, there is requirement to establish measurement invariance; for that purpose, the MICOM (Measurement invariance for composite) approach was used (Rasoolimanesh et al., 2017).

1. Common Method Bias

For evaluating common method biasness, the values of variance inflation factor (VIF) inner model were assessed through PLS-SEM. In the present study, all the values of VIF are below 3.33 (ref. table 3), which suggests the absence of common method biasness (Hair et. al., 2011; Kock, 2015; Islam, 2023).

2. Measurement Model

Using SmartPLS4 software, we evaluated the validity of constructs in proposed model. Initially we validate the model for whole sample (249 cases), then Multi-group partial least square analysis was run to make comparison between groups such as: males, females, high and low experience. Table 3 shows the Cronbach's Alpha (α), composite reliability (ρ_a) of all constructs which is above the recommended cut off value of 0.7, thus indicate good reliability (Hair et al. 2010). Convergent validity was measured through the values of AVE (Average

Variance Extracted), which is well above the threshold limit of 0.5 (Hair et al., 2016). So we confirm convergent validity. According to Henseler et al., (2015), Heterotrait-Monotrait (HTMT) criterion is more reliable as compared to Fornell and Larcker criterion in PLS-SEM. Therefore, this study applies HTMT criterion (see Table 3). All HTMT values of constructs were observed to be below the limit 0.90, which confirms the discriminant validity under study (Hair et al., 2020).

3. Measuring Invariance of Composites (MICOM)

The moderating impact of gender and experience of the customer on the conceptual model was examined through PLS multi-group analysis. Multi-group analysis can be run only if the 2 out of 3 conditions of MICOM (measuring invariance of composites) are successful. So, according to Henseler et al., (2016) testing for composites the MICOM process involves three steps: configural invariance, compositional invariance, and mean and variance invariance. Table 4 shows the results of MICOM to fulfill the pre-requirements of multi-group analysis. The initial step of configural invariance was satisfied by asserting the fact that same constructs, same algorithm and similar scale was applied for males, females and experience. Further, second step compositional invariance was established through permutation, and the correlation was observed to fall under the acceptance region of confidence intervals at 5%. Last step of mean and variance difference was not fulfilled under the study. Therefore, partial invariance was established, and we justify the two conditions for application of multi-group analysis

by MICOM (Henseler et al., 2016).

4. Structural Model

After confirming reliability and validity, we accessed the structural model outcomes. Table 5 shows the path coefficients resulting from running bootstrapping procedure with 249 cases and 5000 sub samples. Out of three, two hypotheses (H1, H2)

were confirmed by bootstrapping, and one hypotheses (H3) was rejected. Results show negative impact of technology anxiety, insecurity (H1, H2) on adoption attitude with the P-value less than 0.05. Further, forced usage was found to have insignificant relation with adoption attitude, with a P-value above 0.05.

To investigate the moderating effect of gender, multi group analysis was run using PLS-4. Table 6 shows the moderating effect and indicated that

Table 3. Measurement Model

Constructs	Construct Reliability and Validity			Discriminant validity				Common Method Biasness
	α	rho_a	AVE	ADATT	FU	INS	TA	VIF
Adoption Attitude (ADATT)	0.868	0.875	0.654					-
Forced Usage (FU)	0.865	0.874	0.711	0.352				1.431
Insecurity (INS)	0.916	0.936	0.748	0.563	0.608			2.398
Technology Anxiety (TA)	0.888	0.893	0.691	0.630	0.528	0.799		2.156

Table 4. Results of invariance measurement testing using permutation (Gender and Experience)

Constructs	Configural invariance	Compositional invariance (Gender)	Compositional invariance (Experience)	Partial measurement invariance established
Technology Anxiety	Yes	0.995	0.997	Yes
Insecurity	Yes	0.995	0.995	Yes
Forced Usage	Yes	0.994	0.990	Yes
Adoption Attitude	Yes	0.998	0.999	Yes

Table 5. Results of hypotheses testing (Complete)

Paths	β	SD	T-values	P-values	Result
TA->ADATT	-0.398	0.085	0.096	0.000	S
INS->ADATT	-0.221	0.084	2.629	0.009	S
FU-> ADATT	-0.008	0.087	4.668	0.924	NS

Notes: β - Original Sample; S.D. denotes standard deviations; t-values signifies critical ratio, TA-Technology anxiety, INS- Insecurity, FU- Forced usage, ADATT- Adoption attitude; NS-Not Supported; S- Supported

Table 6. Results of hypotheses testing (Gender)

Paths	Male					Female				
	(β)	SD	T-values	P-values	Result	(β)	SD	T-values	P-values	Result
FU->ADATT	-0.059	0.122	0.488	0.626	NS	0.114	0.083	1.366	0.172	NS
INS->ADATT	-0.150	0.118	1.271	0.204	NS	-0.228	0.111	2.058	0.040	S
TA-> ADATT	-0.330	0.117	2.833	0.005	S	-0.568	0.103	5.542	0.000	S

forced usage does not have significant impact on adoption attitude in context of both males and females. This signifies that H6 is not supported. Moreover, the impact of insecurity on adoption attitude is not significant in the case of males, but in the case of females it has significant and negative impact ($\beta = -0.228$, $p\text{-value} = 0.040$) which means when females feel insecure, they have negative attitude towards technology adoption. Hence, H5 is supported. Further, it was also found that technology anxiety has significant impact on adoption attitude in both cases, but females feel more anxious than males ($\beta = -0.568$, $p\text{-value} = 0.000$). Consequently, H4 is fully supported.

Regarding experience as a moderator, whole data was divided into 2 subgroups of less than 1 year and more than 1 year (Tripathi 2018). The findings of multi-group analysis showed the significant impact of technology anxiety on adoption attitude for both more and less experienced customers but less experienced feel more anxious. Hence, H7 is supported. Moreover, forced usage does not have a significant impact on adoption attitude in both cases. Therefore, H9 is not supported. Furthermore, the results show that the impact of insecurity on adoption attitude is insignificant for more experienced customers, but for less experienced it has significant and negative impact ($\beta = -0.295$, $p\text{-value} = 0.000$). Which means when less experienced customers feel insecure their adoption towards technology decreases. Consequently, H8 is also supported. Table 7 shows the moderating results of experience.

V. Discussion and Conclusion

In an SST setting, the present study developed an empirical model that demonstrates relation between technology anxiety, insecurity and forced usage with adoption attitude. We found a negative association between technology anxiety and adoption attitude. The findings are congruent with previous literature (Cobelli et al., 2021; Liu, 2012). Consistent with findings of other studies, our results support that insecurity has a negative impact on adoption attitude (Kaushik et al., 2015). Conversely, we found a positive relation of forced usage with adoption attitude. In the mobile banking context, authors found that forcing the customers to use m-banking helps in controlling capital withdrawals, which leads to positive attitude towards technology adoption (Patsiotis et al., 2022). Moreover, customers respond that they never feel forced at the airport because of human contact facility remaining available along with self-service kiosks (Castro et al., 2010). The concept of forcing consumers to adopt self-service technology could be further explored.

The findings of multi-group analysis revealed that gender does not impact the relationship between forced usage and adoption attitude. The findings support the notion that innovation diffusion has vanished the effect of gender in technology adoption context (Zhou et al., 2007). On the contrary, gender has moderating impact on relation of insecurity and anxiety with adoption attitude. Congruent with the findings of Hui & Wan., (2007) and Assaker., (2020), this study found that females feel more insecure and anxious as compared to males, because males associated e-commerce activities with saving time,

Table 7. Results of hypotheses testing (Experience)

Paths	Experience: less than 1 year					Experience: more than 1 year				
	β	SD	T-values	P-values	Result	β	SD	T-values	P-values	Result
FU->ADATT	-0.027	0.080	0.337	0.736	NS	-0.087	0.249	0.351	0.726	NS
INS->ADATT	-0.295	0.082	3.586	0.000	S	0.076	0.228	0.336	0.737	NS
TA-> ADATT	-0.361	0.091	3.991	0.000	S	-0.459	0.219	2.096	0.036	S

while females held strong emotions and are more interested in interacting with employees. In case of experience as a moderator, negative impact of insecurity on adoption attitude is stronger for less experienced persons. This result is very similar with the findings of Tripathi, (2018) which showed insecurity/risk reduces as experience increases over time. Further, it was also found that person with high experience with technology also feel anxious. These results are well agreeing with the outcomes of study given by Rosen, Sears & Weil, (1987). Chien, (2008) highlighted that both experienced and less experienced users feel same level of anxiety, because anxiety does not depend upon the amount of technology usage, but positive experience tends to reduce anxiety.

The findings provide important theoretical and practical implications. First, the results contribute to existing literature by providing a novel outlook into the key paradoxes of technology that give rise to negative attitude against SST. Although previous research has examined positive aspect of technology, relatively few works have highlighted the paradoxes that limit its application in airline settings. The primary theoretical contribution is development of conceptual framework to identify psychological factors that inhibit adoption of technology. This study also highlights the relevance of paradoxes in explaining resistance behavior and the need for marketing tactics to address this issue. Interestingly, in contrast to earlier research, our findings related with experience moderator suggest that persons with more experience also feel anxious while using technology. This outcome makes intuitive sense, as enjoyable experience reduces anxiety rather than excessive technology usage. Finally, a majority of work related to paradoxes have been done in Western countries (Johnson, Bardhi & Dunn 2008), and our research is focused on a developing country (India).

The findings of our study also provide certain implications for service providers. This research deals with initial phase of adoption process in which consumers are using SST in public for first time. Getting consumers ready to innovation is challenging

situation for managers of corporate sector. With no choice, the service providers may force consumers to adopt technology that creates anxiety, resulting in a negative attitude. While designing the self-service kiosks, technical complexities must be avoided and customer's suggestions should be welcome during the design process. Results of the paper further suggest the managers to provide choice to customer regarding service delivery methods to reduce anxiety among them and consumers never feel like forceful. Moreover, airline authorities must focus on enhancing positive experience among users to reduce anxiety. Taking it a step further, service employees can educate people by demo-presentation regarding how to use technology or provide a fallback option to interact with service employees in case of any doubts or machine failure, which will definitely develop positive attitudes towards SST. Additionally, findings suggest that the training programs for females should emphasize ease and the secure usage of technology, while for males, training programs must be given on usefulness of technology instead of human contact to reduce anxiety. Apart from technology anxiety, we further discuss the consumer resistance behavior due to risk factors. Due to insecurity, consumers may avoid technology, and this will impact the failure of innovation. Additionally, the results suggest that managers can implement risk reduction strategies like security alerts to attract consumers.

VI. Limitations and Future Scope

In addition to its contributions, this study suffers from some limitations. First of all, this study focuses on the paradoxical side of technology adoption. Future research can consider positive constructs also (such as ease of use and enjoyable) that develop habit among users to adopt self-service technology (SST) in near future. Further researchers can evaluate the role of age as a moderator in the association between the constructs (technology anxiety, insecurity, forced

usage) and adoption attitude. Another constraint of the research is that it focuses on business class only, while the other class of customers (travelers) are ignored in the present work. Furthermore, the frequency of using airline self-service technology may be perceived differently based on education background. So future study could address this issue. Finally, we centered on a specific industry, namely airlines. Future studies could test the framework in different contexts utilizing longitudinal research. Moreover, researchers could run the conceptual model in other service context as well. The findings of the study can be serve as a launching pad for future research into innovation in the aviation industry.

References

- Alshehri, A., Rutter, M., & Smith, S. (2020). The moderating effects of experience and training on students' use of a learning management system. *International Journal of Information and Education Technology*, 10(9), 685-693.
- Amin, H., Hamid, M. R. A., Tanakinjal, G. H., & Lada, S. (2006). Undergraduate attitudes and expectations for mobile banking. *Journal of Internet Banking and Commerce*, 11(3), 15-20.
- Arifin, R., Syahputra, R. A., & Zubir, A. A. (2022, February). Factor Influencing Consumer's Purchase Intention on E-Commerce in Indonesia During Pandemic Covid-19 Based on Gender Moderation. In *Conference on Broad Exposure to Science and Technology 2021 (BEST 2021)* (pp. 223-229). Atlantis Press.
- Assaker, G. (2020). Age and gender differences in online travel reviews and user-generated-content (UGC) adoption: extending the technology acceptance model (TAM) with credibility theory. *Journal of Hospitality Marketing & Management*, 29(4), 428-449.
- Brehm, J. (1996). *A Theory of Psychological reactance*. New York: Academic Press.
- Castillo-Manzano, J. I., & López-Valpuesta, L. (2013). Check-in services and passenger behaviour: Self-service technologies in airport systems. *Computers in Human Behavior*, 29(6), 2431-2437. doi:10.1016/J.Chb.2013.05.030.
- Castro, D., Atkinson, R., & Ezell, S. (2010). *Embracing the self-service economy*. The Information Technology and Innovation Foundation.
- Chien, T. C. (2008). *Factors Influencing Computer Anxiety and Its Impact on E-Learning Effectiveness: A Review of Literature*. Computer Science, Education, Psychology.
- Civil Aviation. (2023). All India Association of Industries: https://aiaaindia.com/civilaviation/#:~:text=The%20civil%20aviation%20industry%20in,passenger*%20market%20by%202024%5E.
- Cobelli, N., Cassia, F., & Burro, R. (2021). Factors affecting the choices of adoption/non-adoption of future technologies during coronavirus pandemic. *Technological Forecasting and Social Change*, 169, 120814.
- Cserdi, Z., & Kenesei, Z. (2020). Attitudes to forced adoption of new technologies in public transportation services. *Research in Transportation Business & Management*, 41, 100611. doi:10.1016/j.rtbm.2020.100611.
- Cunningham, L. F., Young, C. E., & Gerlach, J. H. (2008). Consumer views of self-service technologies. *The Service Industries Journal*, 28(6), 719-732. doi: 10.1080/02642060801988522
- Curran, J. M., Meuter, M. L., & Surprenant, C. F. (2003). Intentions to use self-service technologies: A confluence of multiple attitudes. *Journal of Service Research*, 5(3), 209-224. doi:10.1177/1094670502238916.
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Harcourt Brace Jovanovich College Publishers.
- Evanschitzky, H., Iyer, G. R., Pillai, K. G., Kenning, P., & Schütte, R. (2015). Consumer trial, continuous use, and economic benefits of a retail service innovation: The case of the personal shopping assistant. *Journal of Product Innovation Management*, 32(3), 459-475. doi: 10.1111/jpim.12241.
- Feng, W., Tu, R., Lu, T., & Zhou, Z. (2018). Understanding forced adoption of self-service technology: The impacts of users' psychological reactance. *Behaviour & Information Technology*, 38(8), 820-832. doi:10.1080/0144929X.2018.1557745.
- Festinger, L. (1962). *A theory of cognitive dissonance* (Vol. 2). Stanford University Press.
- Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing research*, 18(3), 382-388.
- Gunasinghe, A., & Nanayakkara, S. (2021). Role of technology anxiety within UTAUT in understanding non-user adoption intentions to virtual learning environments: the state university lecturers' perspective. *International Journal*, 13(3), 284-308.
- Gures, N., Inan, H., & Arslan, S. (2018). Assessing the self-service technology usage of Y-Generation in airline services. *Journal of Air Transport Management*, 71, 215-219. doi:10.1016/j.jairtraman.2018.04.008.
- Hair Jr, J. F., Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research*, 109, 101-110.
- Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage Publications.
- Hair, J. F. J., Black, W. C., Babin, B. J., & Anderson, R.

- E. (2010). *Multivariate data analysis a global perspective*. Pearson Education Inc.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice*, 19(2), 139-152.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43, 115-135.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2016). Testing measurement invariance of composites using partial least squares. *International Marketing Review*, 33(3), 405-431.
- Hsiao, C. H., & Tang, K. Y. (2015). Investigating factors affecting the acceptance of self-service technology in libraries: The moderating effect of gender. *Library Hi Tech*, 33(1), 114-133. doi:10.1108/LHT-09-2014-0087.
- Hui, T. K., & Wan, D. (2007). Factors affecting Internet shopping behaviour in Singapore: gender and educational issues. *International Journal of Consumer Studies*, 31(3), 310-316.
- Islam, M. N. (2023). Factors affecting adoption of self-service E-ticketing technology: A study on heritage sites in Bangladesh. *Heliyon*, 9(3), e14691.
- Johnson, D. S., Bardhi, F., & Dunn, D. T. (2008). Understanding how technology paradoxes affect customer satisfaction with self-service technology: The role of performance ambiguity and trust in technology. *Psychology & Marketing*, 25(5), 416-443. doi:10.1002/mar.20218.
- Kaushik, A. K., & Rahman, Z. (2015). Innovation adoption across self-service banking technologies in India. *International Journal of Bank Marketing*, 33(2), 96-121. doi:10.1108/IJBM-01-2014-0006.
- Kaushik, A. K., Agrawal, A. K., & Rahman, Z. (2015). Tourist behaviour towards self-service hotel technology adoption: Trust and subjective norm as key antecedents. *Tourism Management Perspectives*, 16, 278-289. doi: 10.1016/j.tmp.2015.09.002.
- Kim, D., & Bae, J. K. (2020). The effects of protection motivation and perceived innovation characteristics on innovation resistance and innovation acceptance in internet primary bank services. *Global Business & Finance Review (GBFR)*, 25(1), 1-12.
- Kleijnen, M., Lee, N., & Wetzels, M. (2009). An exploration of consumer resistance to innovation and its antecedents. *Journal of Economic Psychology*, 30(3), 344-357. doi: 10.1016/j.joep.2009.02.004.
- Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of e-Collaboration (ijec)*, 11(4), 1-10.
- Kwak, H., Fox, R. J., & Zinkhan, G. M. (2002). What products can be successfully promoted and sold via the internet? *Journal of Advertising Research*, 42(1), 23-38.
- Lee, V., Park, S., & Lee, D. (2022). The effect of E-commerce service quality factors on customer satisfaction, purchase intention, and actual purchase in uzbekistan. *Global Business & Finance Review*, 27(3), 56-74.
- Lee, W., Castellanos, C., & Chris Choi, H. S. (2012). The effect of technology readiness on customers' attitudes toward self-service technology and its adoption; the empirical study of US airline self-service check-in kiosks. *Journal of Travel & Tourism Marketing*, 29(8), 731-743. doi:10.1080/10548408.2012.730934.
- Liu, S. (2012). The impact of forced use on customer adoption of self-service technologies. *Computers in Human Behavior*, 28(4), 1194-1201. doi:10.1016/j.chb.2012.02.002.
- Mandina, S. P., & Matsika, N. N. (2021). Consumer readiness to adopt self-service life assurance products. *British Journal of Management and Marketing Studies*, 4(1), 45-71.
- Marikyan, D., Papagiannidis, S., & Alamanos, E. (2020). Cognitive Dissonance in Technology Adoption: A Study of Smart Home Users. *Information Systems Frontiers*, 25(3), 1-23. doi:10.1007/s10796-020-10042-3.
- Meuter, M. L., Bitner, M. J., Ostrom, A. L., & Brown, S. W. (2005). Choosing among alternative service delivery modes: An investigation of customer trial of self-service technologies. *Journal of Marketing*, 69(2), 61-83.
- Na, T. K., Lee, S. H., & Yang, J. Y. (2021). Moderating effect of gender on the relationship between technology readiness index and consumers' continuous use intention of self-service restaurant kiosks. *Information*, 12(7), 280.
- O'cass, A., & Fenech, T. (2003). Web retailing adoption: exploring the nature of internet users Web retailing behaviour. *Journal of Retailing and Consumer Services*, 10(2), 81-94.
- Parasuraman, A. (2000). Technology Readiness Index (TRI) a multiple-item scale to measure readiness to embrace new technologies. *Journal of Service Research*, 2(4), 307-320.
- Park, J. S., Ha, S., & Jeong, S. W. (2021). Consumer acceptance of self-service technologies in fashion retail stores. *Journal of Fashion Marketing and Management: An International Journal*, 25(2), 371-388.
- Patsiotis, A., Krasnikolakis, I., & Lyu, J. (2022). The antecedents of m-banking usage under capital controls in Greece-a mixed methods approach. *International Journal of Bank Marketing*, 40(7), 1477-1500.
- Pijpers, G. G., Bemelmans, T. M., Heemstra, F. J., & van Montfort, K. A. (2001). Senior executives' use of information technology. *Information and software Technology*, 43(15), 959-971.
- Pine, B. J., & Gilmore, J. H. (1998). *Welcome to the experience economy* (Vol. 76, No. 4, pp. 97-105). Cambridge, MA, USA: Harvard Business Review Press.
- Rasoolimanesh, S. M., Roldán, J. L., Jaafar, M., & Ramayah, T. (2017). Factors influencing residents' perceptions toward tourism development: Differences across rural and urban world heritage sites. *Journal of Travel Research*, 56(6), 760-775.
- Reinders, M. J., Dabholkar, P. A., & Frambach, R. T. (2008). Consequences of forcing consumers to use technology-based self-service. *Journal of Service Research*, 11(2),

- 107-123. doi:10.1177/109467050324297.
- Ringle, C. M., Wende, S., & Becker, J. M. (2015). *SmartPLS (Version 3)*. SmartPLS GmbH: Boenningstedt, Germany.
- Rosen, L. D., Sears, D. C., & Weil, M. M. (1987). Computerphobia. *Behavior Research Methods, Instruments, & Computers*, 19(2), 167-179.
- Safaeimanesh, F., Kılıç, H., Alipour, H., & Safaeimanesh, S. (2021). Self-service technologies (SSTs)—the next frontier in service excellence: Implications for tourism industry. *Sustainability*, 13(5), 2604.
- Schmitt, B. (1999). Experiential marketing. *Journal of Marketing Management*, 15(1-3), 53-67.
- Soo-Young, H. (2022). Effects of Online Purchase e-CRM activities and e-Customer Satisfaction on e-Loyalty during COVID-19: The Mediating Effects of e-Customer Satisfaction. *Global Business & Finance Review*, 27(5), 100-114.
- Timmor, Y., & Katz-Navon, T. (2008). Being the same and different: A model explaining new product adoption. *Journal of Consumer Behaviour: An International Research Review*, 7(3), 249-262.
- Tripathi, S. (2018). Moderating effects of age and experience on the factors influencing the actual usage of cloud computing. *Journal of International Technology and Information Management*, 27(2), 121-158.
- Troisi, O., Fenza, G., Grimaldi, M., & Loia, F. (2022). Covid-19 sentiments in smart cities: The role of technology anxiety before and during the pandemic. *Computers in Human Behavior*, 126, 106986.
- Tsai, T. H., Lin, W. Y., Chang, Y. S., Chang, P. C., & Lee, M. Y. (2020). Technology anxiety and resistance to change behavioral study of a wearable cardiac warming system using an extended TAM for older adults. *PloS One*, 15(1), e0227270.
- White Baker, E., Al-Gahtani, S. S., & Hubona, G. S. (2007). The effects of gender and age on new technology implementation in a developing country: Testing the theory of planned behavior (TPB). *Information Technology & People*, 20(4), 352-375.
- Wittmer, A. (2011). Acceptance of self-service check-in at Zurich airport. *Research in Transportation Business & Management*, 1(1), 136-143.
- Yang, K., Choi, J. G., & Chung, J. (2021). Extending the Technology Acceptance Model (TAM) to explore customer's behavioral intention to use Self-Service Technologies (SSTs) in Chinese budget hotels. *Global Business & Finance Review (GBFR)*, 26(1), 79-94.
- Zhou, L., Dai, L., & Zhang, D. (2007). Online shopping acceptance model-A critical survey of consumer factors in online shopping. *Journal of Electronic Commerce Research*, 8(1), 41-62.