



The Factors That Influence User Adoption of E-Government Services: The Case of the Online Tax Filing and Payment System

Hafiz Ahmed Ullah^{1*}, Ashfaq Ahmed², Rizwan Qaiser Danish³

^{1,2}Hailey College of Commerce, University of the Punjab, Lahore, Pakistan

³Institute of Business Administration, University of the Punjab, Lahore, Pakistan

Corresponding Author email: rqdanish@ibapu.edu.pk

Submission: 20 July 2021

Revised: 24 August 2021

Accepted: 19 September 2021

ABSTRACT

The Federal Board of Revenue (FBR) of the Pakistani government created an e-tax filing facility in 2005 to make it easier for taxpayers to file their tax returns online. Online tax returns are seen as quick, simple and cost-effective. In this paper, we describe the purpose of the tax filer to utilise the e-tax filing system theoretically after fifteen years of implementation in Pakistan, as explained in this paper by the researcher data was collected from 250 e-tax filing portal users located within the city of Lahore. The results show that subjective norm and attitude towards using e-tax filing portal are associated with intention to use significantly. At present, FBR is making considerable efforts to promote the use of electronic filing systems. This study may help the FBR develop a more efficient scheme for increasing the use of electronic filing among Pakistani taxpayers. Limits and future instructions are provided at the conclusion of the essay.

Keywords: *Subjective Norm, Attitude Towards Using e-Tax Filing Portal, Intention to Use.*

1. INTRODUCTION

Whether developed or developing, Eastern or Western, each country's government needs resources and revenues to manage state affairs. In order to maintain continuous economic growth, taxation is seen as an important source of revenue for governments of developing nations. According to the International Centre for Tax and Development (ICTD) 80% of the total revenue of about half of total countries in the world comes from the tax revenue. For the previous two centuries, the most important policy problems have been tax rates and citizen tax collections. In affluent countries, the collection of taxes is approximately double that in underdeveloped countries. Although rich nations' tax-to-GDP ratios grew slowly during the start of the twentieth century, emerging countries' tax-to-GDP ratios declined. Two main variables can explain this cross-country heterogeneity: compliance behaviour and the tax collecting mechanism's efficiency.

Taxation is a major source of government revenue that is used to fund infrastructure improvements and social services (Bame-Aldred et al., 2013). Fewer tax returns as well as a culture of tax non-compliance are a big concern in underdeveloped countries compared with wealthy countries (Abdul & Wang, 2018). Pakistan has likewise been faced with the challenge of very low tax collection since its establishment as a developing country.

According to Cobham (2017), the estimated tax loss due to tax avoidance is \$10.4 billion in Pakistan which amounts to 39.68% of the total tax revenue. The loss of tax revenue as the percentage of GDP is 4.4% in Pakistan, which is much larger as compared to 1.13% in the US and 0.75% in China. In Pakistan, the Federal Bureau of Revenue (FBR) is in charge of collecting taxes on behalf of the Pakistani government. In December 2005 for individual taxpayers, FBR implemented the E-filing system on income tax returns. Individual and business taxpayers have to assess their income tax liability, arrange documentation, and file returns after paying their taxes under this system.

The main objective of deploying this system is to improve tax compliance rate and minimise the cost of collection. According to the Finance Division of the Government of Pakistan (2020), the tax-to-GDP ratio (at market prices) increased slightly from 9.6 in 2006-07 to 11.4 in 2019-20. This rise in the tax-to-GDP ratio can be attributed to the introduction of the e-tax filing system, as well as other initiatives implemented by the Pakistani government. E-filing implementation increase the tax compliance rate. This may be confirmed by a significant increase in the users of the e-tax filing portal. Research investigations show that several developed

countries were also exposed to difficulties throughout the electronic filing process. Multiple factors contribute to Taiwan's limited use of the electronic tax filing system, according to these research (Wang, 2002; Fu, Farn & Chao, 2006; Hung, Chang & Yu, 2006), in Singapore (Teo & Wong, 2005), and the United States (Schaupp, Carter, & McBride, 2010). Gangl, Kirchler, Lorenz, and Torgler (2015) investigated the tax return filing issues in Pakistan. The findings of this study demonstrate that a positive perception of tax administration service orientation can help people comprehend taxes better.

As indicated by James and Alley (2002), tax compliance indicates that persons are ready, without hardship or enforcement, to act according to the rule of tax. TPB recommends individual motivation to do definite behaviour. The intention to act can be determined in a specific way using subjective norm and attitudes towards a certain object. Manstead (2001) described the attitude towards a certain object or activity as an individual's valuation of performing a behaviour. Subjective norm is regarded as a social force to act or not to act. Ullah (2019) claimed that intention to comply gets affected by attitude towards compliance. In this study, attitude towards compliance behaviour is used to examine the impact of attitude on the behavioural intention of individuals. The subjective norm affects the intention of the individual to conduct particular conduct. Ullah et al (2021) conducted the research in Pakistan. The study showed that there is a remarkable relationship between subjective norm and taxpayers' intention to comply. Similarly, Fischer, Wartick, and Mark (1992) acknowledge the significance of the subjective norm in determining taxpayer compliance behaviour. Hanno and Violette (1996) describe the value of subjective norm in tax compliance behaviour. This research aims to test the decomposed theory of planned behaviour approach in order to explain how computerised tax filing system is intended to be used in Pakistan.

The sections below present the problem statement, research objectives, research questions answered in this study, and hypotheses tested in this study.

1.1. PROBLEM STATEMENT

A significant issue has been identified across the world, especially in developing nations, as income tax breach is unable of collecting tax money that is owed to them. Governments, according to Tolger (2013), intend to use income tax resources for economic development and to improve the public's living conditions. Pakistan has been dealing with concerns of tax evasion since 1947. The fiscal deficit of Pakistan climbed from 8.8 percent in FY2012 to 9.1 percent in FY2019, according to Pakistan's Economic Survey (2020). According to Waris (2013), less than one percent of Pakistan's 180 million population files tax returns. Complexity of the tax system (paperwork requirement) and costs of compliance with taxes are the major issues when considering the conduct of the tax compliance (Evans, 2003). The Pakistani tax department provides an e-filing tax system to raise compliance rates and lower tax compliance costs, as well as to allow taxpayers to access services at any time and from any location.

According to the Economic Survey of Pakistan (2020) the level of tax compliance remains poor, and the tax revenue collected in FY2019-20 is much lower than the target amount. One of the several reasons why tax compliance is poor is that many taxpayers cannot use the e-filing system. FBR holds training seminars on the acceptance of electronic registration systems for taxpayers to regularly update individuals. Unfortunately, due to the lack of financial and literacy and to a lack of understanding of electrical systems filing returns, the number of e-filing users is still quite low. We note, despite its importance, that there is minimal study on e-filing by taxpayers, primarily in Pakistan, by using DTPB. The impact of DTPB factors on the intention of using e-filing in Pakistan must thus be investigated. The results of this research may be useful in developing a taxpayer guidance programme for the usage of the Pakistani e-filing system by government or agencies.

1.2. RESEARCH OBJECTIVES

1. To find out whether perceived ease of use, perceived usefulness and perceived risk impact on attitude toward compliance.
2. To find out whether attitude towards compliance impacts the taxpayer's intention to use the electronic filing system.
3. To see whether internal influence and external influence impact on subjective norm.
4. To see whether subjective norm impacts the taxpayer's intention to use the electronic filing system.

1.3. RESEARCH QUESTIONS

1. Does perceived ease of use, perceived usefulness and perceived risk impact on attitude toward compliance.
2. Does attitude towards compliance influence intention to use electronic filing system?
3. Does internal influence and external influence impact on subjective norm.
4. Does subjective norm influence intention to use the electronic filing system?

1.4. HYPOTHESES

H₁: There is an effect of perceived ease of use on attitude toward compliance.

H₂: There is an effect of perceived usefulness on attitude toward compliance.

H₃: There is an effect of perceived risk on attitude toward compliance.

H₄: The attitude towards compliance is positively related to intention to use the e-filing system.

H₅: There is an effect of internal influence on subjective norm.

H₆: There is an effect of external influence on subjective norm.

H₇: The subjective norm is positively related to on intention to use electronic filing system.

2. LITERATURE REVIEW

In December 2005, the Federal Revenue Board (FBR) established an electronic reporting system. Up to February 2006, the FBR reported that only 5,000 taxpayers had gotten Digital Certificates from National Institutional Facilitation Technologies (NIFT). The main objective of establishing the electronic filing system was to simplify and make clear the procedure of filing a tax return. Because of its time and money-saving qualities, it was thought that taxpayers would be able to use the e-filing system. Another intriguing feature of this system is that it estimates the tax amount automatically, which helps to reduce the likelihood of errors. As a result, if the taxpayers lack sufficient technical understanding about taxes, the system is designed to execute the computations on their behalf.

Previous research investigations revealed that low electronic filing system adoption in the early stages of implementation is not unique to any one country (Teo & Wong, 2005; Hung et al., 2006; Azmi & Bee, 2010; Schaupp et al., 2010). According to Singapore Inland Revenue Authority (IRA), in 2012 Singapore had the maximum level of e-filing usage as compared to other countries like Pakistan, and countries in East Asia. In 2011, Indonesia started the system of e-filing, Thailand adopted the e-filing system in 2013.

The initial issues (or teething troubles) in Pakistan were caused by the new system's ambiguity. To properly use the e-filing system, a sufficient level of tax financial literacy is required. Tax knowledge is necessary for accurately estimating the tax, according to Palil, Md-Akir, and Wan-Ahmad (2013). Different research studies conducted in Malaysia, according to Loo, McKerchar, & Hansford. (2008; 2009), also suggested that in a system based on self-judgment, proper tax knowledge is a crucial component in addressing the problem of poor tax compliance. According to Venkatesh et al. (2003) the usefulness and ease of use are the most important factors which are anticipated to be linked with the taxpayers to use new or modified technology. In different countries like Taiwan, the United States and Malaysia, the intention to use electronic filing system is related to ease of use (Wang, 2002; Schaupp & Carter, 2009; Azmi & Bee, 2010). According to Chaupp and Carter (2009), taxpayers' perceptions of e-filing utility or usefulness influence their desire to utilise an electronic filing system in the United States.

A survey of the literature reveals that TPB has been used in numerous studies aimed at explaining the intention to utilise a specific technology. According to Armitage and Conner (2001), TPB was mostly used in studies related to behaviour; to define the behaviour as well as to predict the behaviour. According to the literature, TPB, which was established by Ajzen (1991), illustrates how behavioural models based on TPB may effectively explain an individual's behaviour in a variety of domains.

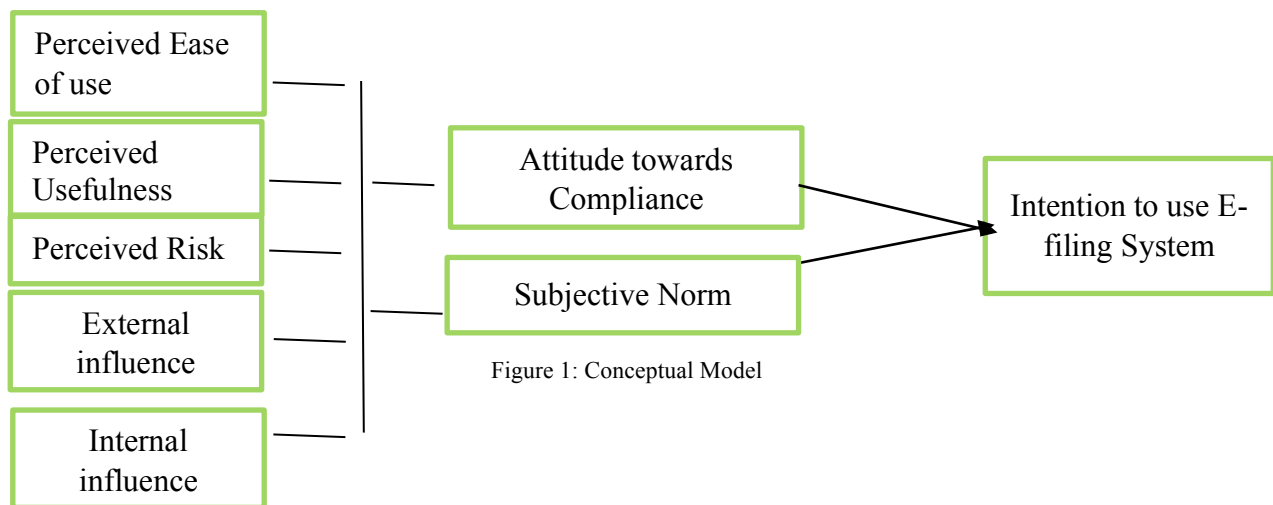
Taylor and Todd (1995) TPB claimed that the impression of subjective norm impacts taxpayers' intention with relation to the new system. Social or subjective norm is a significant element that can impact on individual specific behaviour (Venkatesh, et. al., 2003). Previous research has shown that subjective norm has an effect on

behavioural intention. (e.g., Hung et al., 2006). The subjective norm has a notable and favourable connection with intention to compliance (Akram, 2018). Ullah (2019) recommended that subjective norm has a meaningful connection with individual taxpayer's intention to comply.

Individuals in Pakistan need to be made more aware of the need of paying taxes and filing tax returns (Ullah, 2019). Hence, the purpose of this study is to put the deconstructed theory of planned behaviour method to the test in order to explain how a computerised tax filing system is supposed to be utilised in Pakistan. The literature review of variables and the theory employed in this study are both presented in the preceding section. The next section explains the methodology employed in this research.

3. METHODOLOGY

This study made use of primary data collected via questionnaires. The measurement scales were adapted from Davis (1989), Stone and Gronhaug (1993) and Taylor and Todd (1995). Respondents had trust concerns with the researcher because they assumed, he or she worked for the government's tax or revenue department. Convenience sampling was used to overcome this problem. This study is conducted on salaried people of Pakistan. 300 questionnaires were distributed for the purpose of analysis. 250 complete questionnaires were collected (response rate was 83%). The sample size of 270 is consistent with the rule of calculating sample size i.e. (number of items in the questionnaire*10). We have used 27 items to measure all variables given in the conceptual model presented in Figure 1. This rule of calculating sample size is used when the population is unknown, as the case in this study. Questionnaires were distributed both physically and online through Google doc. SPSS software was used for the data entry. Smart PLS software was used to estimate the proposed model.



4. RESULT AND DISCUSSION

The overview of the responder profile is shown in Table 1, Sample for this research was collected from Pakistan's salaried population. SPSS is used to determine the frequencies and percentages of gender, age, qualification, job kind, monthly income, and weekly computer use.

Table 1 Demography of the study

Characteristics	Classification	Frequency	Percent
Gender	Male	229	91.6
	Female	21	8.4
	Total	250	100.0
Age	Below 20	16	6.4
	20-30	95	38.0

	30-40	95	38.0
	Above 40	44	17.6
	Total	250	100.0
Qualification	Matric	54	21.6
	Intermediate	63	25.2
	Graduation	90	36.0
	Master/M.Phil.	19	7.6
	Other	24	9.6
	Total	250	100.0
Job Nature	Lower lever job	57	22.8
	Middle Level job	105	42.0
	Top level job	88	35.2
	Total	250	100.0
Income (Monthly)	Below Rs.40,000	4	1.6
	Rs.40000-Rs.50000	82	32.8
	Rs.50000-Rs.60000	96	38.4
	Above Rs.60000	68	27.2
	Total	250	100.0
Average hours of computer use in a week	1 or less	27	10.8
	1-3	51	20.4
	3-5	16	6.4
	5 or above	156	62.4
	Total	250	100.0

4.1. RELIABILITY AND VALIDITY ANALYSIS

4.1.1. Construct Reliability

The construct reliability of variables results is shown in Table 2. The value of Cronbach's alpha can be used to assess instrument reliability. According to Gliem and Gliem (2003) the standard value of construct reliability must be greater than 0.70. Cronbach's alpha and Composite Reliability scores show that the questions used to assess attitude toward compliance, intention to utilise e-filing, external and internal influence, perceived ease of use, perceived risk, perceived usefulness, and subjective norm are trustworthy.

4.1.2. Composite Reliability

The internal consistency of variables is represented by the composite reliability value. Leguina (2015) claimed that to achieve the internal consistency of a variable its composite reliability must be greater than 0.60. All of the study's variables have composite reliability ratings better than 0.6, suggesting that all of the scales are internally consistent. See Table 2 column (3).

Table 2: Construct Reliability and Validity

	Cronbach's Alpha	Composite Reliability
Attitude towards Compliance	0.748	0.841
External Influence	0.840	0.906
Intention to use E-filing	0.815	0.886
Internal Influence	0.772	0.872
Perceived Ease Use	0.768	0.844
Perceived Risk	0.782	0.873
Perceived Usefulness	0.781	0.859
Subjective Norm	0.752	0.864

4.1.3. Discriminant Validity

A measure of discriminant validity is HTMT (heterotrait-monotrait correlations). The HTMT value should be less than 0.90 to obtain discriminant validity (Fornell, 1981). Table 3 shows that for the variables of interest, all HTMT values are less than 0.90, indicating that the scales are discriminately valid.

Table 3: Discriminant Validity

	ATC	EXT IN	INTENTION	INTE R INF	PEU	PRIS K	PUSEFUL L	SN
Attitude towards Compliance								
External Influence	0.345							
Intention to use E-filing	0.617	0.338						
Internal Influence	0.286	0.398	0.270					
Perceived Ease Use	0.507	0.547	0.446	0.536				
Perceived Risk	0.463	0.554	0.428	0.453	0.708			
Perceived Useful	0.596	0.522	0.482	0.305	0.689	0.459		
Subjective Norm	0.786	0.215	0.653	0.273	0.457	0.353	0.554	

4.1.4. Average Variance Extracted

To test the scales' convergent validity, the Average Variance Extracted (AVE) was determined. Table 4 shows the AVE values for each of the four factors. If the value of AVE is larger than 0.5, a scale is said to have convergent validity (Fornell, 1981). All AVE values are within the allowed range (AVE>0.50), as can be observed.

Table 4: Convergent Validity

	Average Variance Extracted (AVE)
Attitude towards Compliance	0.571
External Influence	0.769
Intention to use E-filing	0.721
Internal Influence	0.698
Perceived Ease Use	0.575
Perceived Risk	0.698
Perceived Useful	0.606
Subjective Norm	0.686

4.2. MODEL EVALUATION: STRUCTURAL MODEL FINDINGS

The statistical proofs to support the theoretical model of the research were included in the next step after calculating the suggested model. Analysing the structural model is one way to achieve this. To investigate the relationships between dependent and independent variables, the structural model was estimated. The route coefficients provided in the valuation of the predicted structural model can be used to examine the relationship importance.

4.2.1 Collinearity Issue Assessment

The first step is to determine whether or not the variables are collinear. VIF must have a value of less than five (Hair, 2011). Nonetheless, the values of all variables in the accompanying table are fewer than 5, as per standard. As a result, there are no issues with collinearity.

Table 5: Inner VIF Values

	ATC	INTEN	SN
Attitude towards Compliance		1.528	
External Influence			1.109
Intention to use E-filing			
Internal Influence			1.109
Perceived Ease Use	1.954		
Perceived Risk	1.515		
Perceived Usefull	1.509		
Subjective Norm		1.528	SN

4.2.2. Model Fitness Evaluation

We evaluated the values of Standardized Root Mean Squared Residual (SRMR) for the model fitness assessment. The closer the SRMR number is to zero, the better the fit. The estimated model has a normalised root mean square value of 0.092. It denotes that the calculated model is well-fitting. The model fitness indicators are listed in Table 6.

Table 6: Model Fitness

	Saturated Model	Estimated Model
SRMR	0.094	0.128
d_ULS	3.339	6.202
d_G	1.586	1.735
Chi-Square	1,884.021	1,958.335
NFI	0.628	0.614

4.2.3. Outer Loadings Evaluation

The outer loadings of the measurement model can be evaluated using T-values. The outer loading value in Smart PLS must be greater than 0.70 and not less than 0.60, as recommended. Table 7 shows the findings of the measurement model (Outer Loadings). The loadings of all measuring models are more than 0.60.

Table 7: Outer loadings

	ATC	EXT IN	INTEN	INTER INF	PEU	PRISK	PUSEFULL	SN
ATC1	0.785							
ATC2	0.711							
ATC3	0.854							
ATC4	0.658							
EI1		0.968						
EI2		0.657						
EI3		0.968						

II1		0.891	
II2		0.926	
II3		0.666	
INT1	0.821		
INT2	0.894		
INT3	0.831		
PEU1		0.69	
		3	
PEU2		0.78	
		0	
PEU3		0.78	
		1	
PEU4		0.77	
		5	
PR1		0.734	
PR2		0.875	
PR3		0.888	
PU1			0.831
PU2			0.812
PU3			0.789
PU4			0.673
SN1			0.59
			4
SN2			0.94
			3
SN3			0.90
			3

4.2.4. PLS Path Model Analysis

The structural model, as well as the estimated values of the three regressors' coefficients, are shown in Figure 2. Subjective Norm and Compliance Attitude were investigated in this study as an independent variable, while the dependent variable is the Behavioural intention to use E-filing. Attitude toward compliance decomposes into perceived ease of use, perceived usefulness, and perceived risk, whereas subjective norm decomposes into internal and external influence. The arrows show how variables are linked to one another.

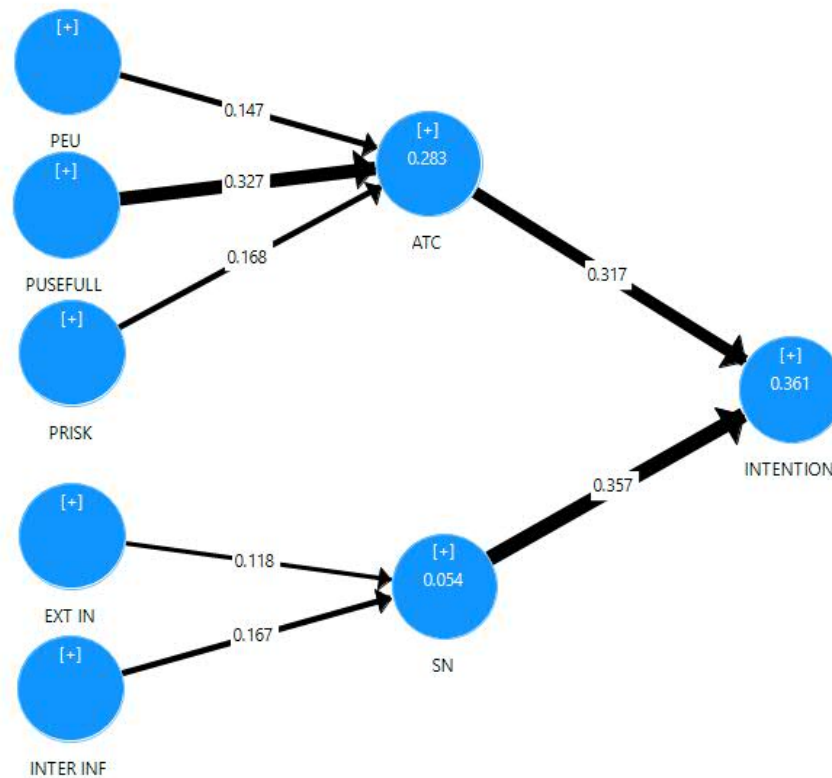


Figure 2: Structural Model

Table 8 displays that all hypothesis is accepted like H₄ of this study is accepted because attitude toward compliance behaviour impact the intention to use e-filing system positively and significant with $\beta=0.317$ significant at $0.000 < 0.05$. Our finding confirms the results obtained in the previous studies. For instance, study conducted in Indonesia by Aliffiani, Syamsurijal and Fuadah (2018) disclosed that attitude is positively connected with taxpayers’ intention to use e-filing. The studies by Marthadinasyah et al. (2014), Ullah et al. (2021) and Gupta et al. (2015) have found that attitudes toward behaviour has a positive effect on intention towards the behaviour.

The results of the structural model confirm H₇ implying that the subjective norm impacts the intention to use e-filing system positively and significantly with $\beta=0.357$ significant at $0.010 < 0.05$. Prior studies have emphasised the importance of subjective norms in deciding whether or not to utilise an electronic filing system (e.g., Aliffiani, Syamsurijal & Fuadah., 2018, Ullah, 2019, Ullah et al, 2021).

The study's hypotheses H₁, H₂, and H₃ are also accepted since all of the factors in these hypotheses have a positive and significant influence on compliance attitudes at 0.05. H₅ and H₆, which were also approved in this study, reveal that internal and external influences have a positive and substantial effect on people' subjective norms at 0.05. Table 8 presents a summary of the findings.

Table 8: Direct Relationship for Hypothesis Testing

		Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	t-values	P-Values	Decision
H ₀₁	Perceived Ease of Use -> Attitude toward compliance behaviour	0.147	0.154	0.067	2.210	0.028	Accepted
H ₀₂	Perceived Usefulness -> Attitude toward compliance behaviour	0.327	0.329	0.059	5.559	0.000	Accepted

H ₃	Perceived Risk toward behaviour -> Attitude toward compliance	0.168	0.163	0.062	2.732	0.007	Accepted
H ₄	Attitude toward compliance behaviour -> Intention to use E-filing	0.317	0.322	0.073	4.352	0.000	Accepted
H ₅	Internal influence Subjective norms ->	0.167	0.179	0.063	2.650	0.008	Accepted
H ₆	External influence Subjective norms ->	0.118	0.122	0.064	1.845	0.066	Accepted
H ₇	Subjective norms -> Intention to use E-filing	0.357	0.357	0.073	4.878	0.000	Accepted

5. CONCLUSION

Although the electronic filing method is recognised as useful not just to the tax authorities, but also to the taxpayers. In Pakistan, the use of e-filing is still low compared to other emerging countries. The current study looks at the intention to utilise the electronic filing system through the lens of the Theory of Planned Behaviour. The study looks at whether a person's attitude influences their decision to utilise an electronic filing system, because a person's attitude is crucial in determining whether or not they would act in the same way in the future. The findings of this study show that TPB parameters influence taxpayers' willingness to use the system. Though TPB factors have been stated to be relevant in many prior research about tax filing activities, their influence on the intention to utilise the e-filing system has been validated in this study. The findings of this study show that construct dimensions have a positive and significant impact on these constructs, and that these variables, namely subjective norm and attitude toward compliance behaviour, have a positive and significant impact on salaried individuals' intention to use the e-filing system in Pakistan. PLS-SEM software is acceptable for analysis, according to the study. Significant findings suggest that the government should make preparations to assist salaried persons in filing their tax returns accurately and on time. The current study is important because issues around the relatively low use of electronic filing, particularly in Pakistan, are still being debated. Despite the Federal Board of Revenue's numerous attempts to encourage electronic filing in Pakistan, Pakistani individuals and taxpayers still utilise it sparingly. However, the findings suggest that the FBR should keep working to make the online system more user-friendly. Only salaried individuals in Lahore, Pakistan provided information for this research study. Data from other cities in Pakistan might be obtained for further investigation. The quantitative methodology was employed in this study; future research might use a mix-methods research design to gain a better grasp of the subject examined in this study.

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