Factors Influencing E-Filing Usage Among Pakistani Taxpayers

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Abstract

Tax collection is an essential and significant source of income for developed and developing nations. Tax income is crucial since it serves as the primary financial resource for funding public goods and services, promoting democracy, ensuring sustainable economic growth, and enhancing the well-being of individuals. Following its adoption, this study investigates the impact of tax knowledge on individuals' desire to utilize the electronic filing system for sales tax returns in Pakistan. The study examines the aspects that influence a taxpayer's inclination to operate the electronic filing system, using the theoretical frameworks of the TAM model, the TPB, and the notion of tax knowledge. The results affirm the need for the Federal Board of Revenue (FBR) to develop a more efficient strategy for promoting the adoption of electronic filing among taxpayers in Pakistan.

Keywords: Tax Knowledge, Perceived Usefulness, Perceived Ease of Use, Perceived Subjective Norms, Intention to Use

Introduction

To maintain a consistent level of economic growth, governments in both developed and developing nations largely depend on tax revenues as a primary source of cash for funding development initiatives. Tax revenue accounts for around 80% of total revenue in approximately half of all nations, whereas in the other half, it accounts for the remaining 50%. According to the International Center for Tax and Development (ICTD), tax income constitutes 50% of the overall revenue in the majority of nations. Throughout history, the rates at which taxes are imposed and the amount of taxes collected from individuals have been significant policy matters. The tax collection rate in wealthy countries is twice as high as in poor countries. Developed nations had a slight rise in the tax-to-GDP ratio during the beginning of the 20th century, whilst emerging countries saw a decline in this ratio. The variation in cross-country characteristics may be ascribed to the extent to which individuals adhere to rules and regulations and the effectiveness of tax-collecting processes. Taxation is a substantial means of generating government income, which is then allocated towards developing infrastructure and providing social amenities (Bame-Aldred et al., 2013). When comparing developing nations to industrialized countries, a significant issue is the lower tax return

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filing rate and the prevalent culture of tax disobedience. Adherence to tax regulations is a crucial concern for government strategies in developing countries (Abdul & Wang, 2018).

Pakistan is currently confronted with a significant challenge from its classification as a developing nation. Pakistan has a low rate of tax return submission. The latest research by the United Nations World Institute for Development Economics Research attributes most of Pakistan's tax income loss to tax dodging. A negative tax revenue in Pakistan amounts to 4.4% of its gross domestic product compared to an unfavorable tax revenue in the United States of 1.13% and an unfavorable tax revenue result in China of 0.75%. FBR's primary responsibility in Pakistan is to maximize the nation's welfare through efficient tax collection. The FBR has implemented the E-filing system for sales tax returns, so taxpayers are now responsible for computing their sales tax, submitting their forms, and paying taxes. Tax administration is now the taxpayer's responsibility, not the FBR's. Gangl et al. (2015) found that taxpayers' knowledge impacts their tax filing behaviour significantly and positively. To incentivize compliance with tax obligations, individuals must also thoroughly understand tax laws and regulations (Alm, 2018; Hurk, 2019). It was found that subjective norms and compliance desire are significantly correlated in Pakistan by Ullah (2019). In another study, Westerman et al. (2007) emphasize the importance of subjective standards. This section describes variables used in the research and provides an overview of tax compliance in Pakistan.

Statement of the Problem

Unpaid taxes are a global problem, especially in developing nations. Tolger (2013) suggests using sales tax revenue to boost the economy and improve citizens' standard of living. Tax avoidance has been a problem for Pakistan since 1947. To enable taxpayers to obtain services at any time and from any place, the Pakistani tax department offers an electronic filing system that lowers the costs related to tax compliance and raises the compliance rate. However, despite the low rate of tax compliance and the previous fiscal year of 2018, the Federal Board of Collection (FBR) tax collection continued to fall below the target, as reported in the Economic Survey of Pakistan in 2019. The inability of taxpayers to embrace the electronic filing method is a challenge for FBR. Individuals who need more familiarity with the Internet method or have little tax expertise may experience difficulties. More studies are needed on using tax knowledge, TPB, and TAM in the context of e-filing among taxpayers, particularly in Pakistan. Therefore, it is necessary to conduct research to determine the taxpayer's degree of tax expertise and other factors linked to electronic filing in Pakistan.

Research Objectives

- 1. To evaluate the importance of tax knowledge in the intention of the taxpayer to file electronically.
- 2. To ascertain if perceived usefulness impacts the intention of the taxpayer to file electronically.
- 3. To see the effect of perceived ease of use on the intention of the taxpayer to file electronically.
- 4. To see the impact of perceived subjective norms on the intention of the taxpayer to file electronically.
- 5. To determine how perceived behavioral control impacts the intention of the taxpayer to file electronically.

Research Questions

- 1. Does tax Knowledge influence intention of the taxpayer to file electronically.?
- 2. Does perceived usefulness impact on the intention of the taxpayer to file electronically?

- 3. Does perceived ease of use impact on the intention of the taxpayer to file electronically?
- 4. Does perceived subjective norm impact on the intention of the taxpayer to file electronically?
- 5. Does perceived behavioral control impact on for the intention of the taxpayer to file electronically?

Research Hypotheses

- H1: Tax Knowledge has an effect on intention to use electronic filing
- H2: Perceived usefulness on intention has an effect on use electronic filing
- H3: Subjective Norms has an effect on use electronic filing.
- H4: Perceived Usefulness has an effect on use electronic filing.
- H5: Perceived Behavioral control has an effect on the use electronic filing

Literature Review

The Federal Board of Revenue implemented the electronic income tax return filing system, followed by the introduction of the electronic sale tax return filing system. As per a report by FBR in February 2006, just 5,000 taxpayers have obtained Digital Certificates from National Institutional Facilitation Technologies (NIFT). The primary objective of introducing the electronic filing system was to enhance transparency and simplify the process of submitting tax returns for taxpayers. An electronic filing system is expected to facilitate individuals' proper submission of tax returns. However, if taxpayers have essential tax expertise, the automatic computation of the electronic filing system can guarantee that they will accurately and advantageously review their tax payments. Previous research has shown that the poor adoption rate of electronic filing systems during their first installation is not exclusive to any country. This has been proved by studies conducted by Schaupp et al. (2009). In 2012, the Singapore Inland Revenue Authority (IRA) announced that Singapore has the highest rate of E-filing usage among East Asian nations, including Pakistan. Indonesia implemented E-filing in 2011, and Thailand followed suit in 2013. The introduction of the new system in Pakistan led to initial hurdles, sometimes called teething troubles, due to its ambiguity. Regardless of whether taxpayers utilize the E-filing system or file their taxes manually, it is still necessary for them to possess enough tax literacy to file their tax returns. Kasipillai (2000) asserted that a crucial aspect of purposeful tax compliance is a comprehensive understanding of tax laws and regulations. Several networks should be utilized to enhance tax literacy among the general people in Pakistan (Fawad, 2014). Hu et al. (1999) and Venkatesh et al. (2003) suggest that the P-USEFUL and P-EASEUSE, part of the technology acceptance model, are likely linked to taxpayers' inclination to utilize recently introduced or changed technologies. The P-EASEUSE is related to the initiatives of many countries, such as Malaysia, the United States, and Taiwan, to establish electronic filing systems (Azmi & Bee, 2010). Chaupp and Carter (2009) found that US taxpayers' use of electronic filing is based on their perception of its benefits. The Theory of Planned Conduct (TPB) is used to identify an individual's behaviour, intention, and performance. The Theory of Planned Behavior, by Armitage and Conner (2001), predicts behaviour and is commonly used in research. Ajzen and Madden's Theory of Planned Behavior has proven effective in understanding individual behaviour in various situations. TPB suggests that subjective standards influence taxpayers' intentions towards the new system (Taylor & Todd, 1995; Venkatesh & Davis, 2003). Venkatesh and Davis (2003) argue that social or subjective standards significantly impact people's distinct actions. Multiple scholarly investigations have recorded the influence of perceived behavioural control on behavioural intention, as demonstrated by Hung et al. (2006), Yusri (2008), and Ullah et al. (2021). According

to Ullah (2019), there should be a strong correlation between subjective criteria and the intention of each taxpayer to comply. This section presents a literature review of the variables and theories utilized in this study. The next part establishes a conceptual framework and research hypotheses based on past investigations.

Theoretical foundations of technology acceptance and e-filing systems rely primarily on the theory of planned behavior or its other version of the Theory of Reasoned Actions proposed by Ajzen and Fishbein (2000). There are many determinants of human actions or behaviour based on their judgments and attitudes while living in a society. Beliefs about the users' attitudes and intentions are fundamental to converting perceptions or thought processes into actions. On the other hand, subjective norms or what people think about a particular attitude are also essential for accepting such behaviour in a society. Their actions are considered rational and can also reveal our behaviour when using technology in our daily routine transactions, such as payment of sales tax. Our proposed model suggests that subjective norms, perceived usefulness, perceived behavioural control, tax knowledge and perceived ease of use can directly influence the intention to use the filing sales tax portal. People in Pakistan are reluctant to use the latest technology due to fraud, theft, misuse of information and privacy concerns (Nazir & Khan, 2024). However, by adopting such technology, the government can increase business activities and collection of taxes without any difficulties.

Subjective Norms

Perceived Usefulness

Perceived Behavioral Control

Tax Knowledge

Perceived Ease of Use

Intention to Use E-filling Sales Tax Portal

Methodology

The study in hand is based on positivism philosophy and we tested theoretical model on the basis of data collected through self-administered questionnaire from sales tax payer within the major cities of Pakistan. All the scales were taken from theory of planned behaviour and adept to the local context for online tax payers. The unit of Analysis was individual and study setting was non contrived. All the scales were measures through 5 anchors from 1 (strongly disagree) to 5 (Strongly

agree). Overall, 290 questionnaires were distributed on the basis of Item to Response Theory, among which 260 returned filled. 10 were discarded due to missing basic information thus making sample size of 250 respondents.

Conducting reliability analysis on both the instrument and questionnaire items is crucial to verify their dependability. This test aids in the identification and elimination of any things that may cause disruption prior to undertaking additional testing. A Cronbach's alpha score of 0.7 or higher is often regarded as good, 0.8 or higher is considered better, and 0.9 or higher is considered the best for assessing the dependability of an instrument. The table above presents the individual Cronbach's alpha values for each item, all of which above the threshold of 0.7, indicating strong reliability according to the previously given guideline. Thus, a total instrument dependability level exceeding 0.7 is seen to be optimum. Table 1 below shows all the values.

Table 1: Reliability Analysis		
Variable	Cronbach alpha	No of items
Tax Knowledge	0.754	04
Perceived Ease of Use	0.734	05
Subjective Norms	0.745	05
Perceived Usefulness	0.715	04
Perceived Behavioral Control	0.792	06
Intention to Use E-filing Sales Tax	0.707	05
Over all reliability	0.931	29

Results

The data was analyzed through SPSS and AMOS software for structural equation modeling. The demographic analysis provided us with information on the study's demographics, including gender, age, marital status, experience, and firm size. Data is gathered using a questionnaire, and the relevant information is presented in table 2.

Table 2: Demograp	hics of the study	_		
Name				
	Male	215	86	
Gender	Female	35	14	
	Total	250	100	
	20-24	60	24.0	
Age	25-29	116	46.4	
	30-35	53	21.2	
	40or above	21	8.4	
	Total	250	100.0	
	Married	99	39.6	
Marital Status	Single	151	60.4	
	Total	250	100.0	

	Less than one year	43	17.2	
Job Tenure	1-2 years	31	12.4	
	2-3 years	70	28.0	
	3-5 years	40	16.0	
	5-10 years	42	16.8	
	More than 10 yeras	24	9.6	
	Total	250	100.0	
Position	Manager	49	19.6	
	Employee	201	80.4	
	Total	250	100.0	

This study gathers data from several service industries in Pakistan and utilizes SPSS to calculate the frequencies, gender distribution, job titles, total work experience, and organization types. This research collected data from a total of 250 respondents, consisting of 35 females and 215 males. The majority of responders come from the younger generation. The majority of individuals inside the company possess extensive expertise, and the organization itself has a long-standing history. Table 3 presents the mean, standard deviation, skewness and kurtosis of the variables which is necessary for testing the normality of the data.

Table 3: Desc	criptive Sta	tistics							
Variable	N	Min.	Max.	Mean	Std. D.	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std.	Statistic	Std.
							Error		Error
Gender	250	1	2	1.19	.396	1.566	.181	.457	.359
Age	250	1	4	2.12	.899	.547	.181	366	.359
Matrial	250	1	2	1.58	.495	327	.181	-1.914	.359
Status									
Jon Tenure	250	1	6	3.30	1.564	.083	.181	978	.359
position	250	1	2	1.77	.420	-1.318	.181	267	.359
TK1	250	1	5	3.55	.791	-1.262	.181	.621	.359
TK2	250	1	5	3.12	.981	176	.181	926	.359
TK3	250	1	5	2.70	.989	.211	.181	766	.359
TK4	250	1	5	3.10	1.039	291	.181	901	.359
PEU1	250	1	5	3.45	.784	977	.181	.058	.359
PEU2	250	1	5	3.04	.887	280	.181	-1.024	.359
PEU3	250	1	5	2.82	.860	.149	.181	730	.359
PEU4	250	2	5	3.41	.863	336	.181	796	.359
PEU5	250	1	5	3.25	.950	608	.181	249	.359
SN1	250	1	5	3.40	.912	444	.181	415	.359
SN2	250	1	5	3.09	.947	110	.181	874	.359
SN3	250	1	5	3.34	.865	778	.181	.163	.359
SN4	250	1	5	3.44	.871	874	.181	.024	.359
SN5	250	1	5	3.33	.907	616	.181	533	.359
PU1	250	1	5	2.98	.904	059	.181	963	.359
PU2	250	1	4	2.92	.822	329	.181	500	.359

PU3	250	1	5	3.60	1.004	501	.181	619	.359
PU4	250	1	5	3.40	.828	501	.181	227	.359
PU5	250	1	5	3.15	.982	422	.181	724	.359
PBC1	250	1	5	3.07	.992	134	.181	849	.359
PBC2	250	1	5	3.17	1.041	547	.181	876	.359
PBC3	250	1	5	3.13	.939	187	.181	809	.359
PBC4	250	1	5	2.45	.915	.558	.181	.095	.359
PBC5	250	1	5	3.43	.870	756	.181	681	.359
PBC6	250	2	5	3.19	.746	168	.181	867	.359
IUE1	250	1	5	2.51	.998	.555	.181	381	.359
IUE2	250	1	5	3.36	1.366	157	.181	-1.395	.359
IUE3	250	1	5	2.92	1.048	067	.181	794	.359
IUE4	250	1	5	3.39	.898	533	.181	413	.359
IUE5	250	1	5	3.37	.883	604	.181	213	.359
IUE6	250	1	5	3.32	.794	303	.181	116	.359
IUE7	250	1	5	3.49	.886	896	.181	.603	.359
IUE8	250	1	5	3.36	.887	434	.181	.046	.359
Valid N	250								
(listwise)									

Data Normality Analysis

Overall multivariate normality was tested through skewness and kurtosis where all the values were observed with the prescribed range. Mean and Standard Deviation of variables also given in table 4.

Table 4: Data skewness	, mean and kurtosis			
Variables	Mean	St. Deviation	Skewness	Kurtosis
TK	3.9920	.80780	-1.073	.566
PEU	3.9608	.73789	780	162
SN	4.0040	.71596	-1.114	.698
PU	3.8010	.78269	806	161
PBC	3.8260	.75373	653	505
IE	3.2030	.71264	706	261

Table 4 illustrates the distribution of data following a normal distribution. In 1979, Bulmer devised a heuristic approach to ascertain skewness. He proposed that its value should range from +1 to -1. Mac Gillivary and Balandan established a scale for kurtosis, specifying that its range should be between +3 to -3. The table indicates that all skewness values are within the range of +1 to -1, and all kurtosis values are within the range of +3 to -3. This signifies that the data follows a normal distribution and may be subjected to additional analysis.

Correlation Analysis

Table 5 presents Correlation Analysis of all the variables involved in this study. The correlation matrix should have values ranging from 0 to 1, and the significance levels are set at p<.001 and p<.005. The number 1 indicates a robust and significant link between the independent and

dependent variables. The result of 0 shows a lack of connection between the variables. The table above indicates that all the variables exhibit a strong and statistically significant correlation at a significance level of 1%.

The following table displays the relationships between five variables: Tax Knowledge, Perceived Ease of Use, Subjective Norm, Perceived Usefulness, and Perceived Behavioural Control. Every individual cell inside the table denotes the correlation coefficient that exists between two variables. The table can be interpreted as follows: The Correlation Coefficient (r) quantifies the magnitude and direction of the linear association between two variables. The range of the correlation coefficient is -1 to 1. A value of -1 represents a complete negative correlation, a value of 1 represents a complete positive correlation, and a value of 0 shows no correlation between the two variables. Significance Indicators: The correlation coefficients in this table are denoted by asterisks (*). The quantity of asterisks denotes the degree of statistical significance, with an increased number of asterisks indicating a greater level of significance. For example, the symbol "" indicates a strong correlation at the 0.01 level, which is considered extremely significant.

The variable "Tax Knowledge" has significant positive relationships with "Perceived Ease of Use" (r=0.628), "Subjective Norm" (r=0.621), perceived usefulness (r=.516) and "Perceived Behavioural Control" (r=0.643) as well as intention to use e portal (r=.614). The positive associations indicate that individuals with a deeper understanding of tax matters are more likely to see tax processes as easier to use, have stronger personal beliefs about tax compliance, and feel more in control of their tax-related behaviors.

When individuals regard a job or system as easy to use, it indicates that they also possess greater tax knowledge and stronger subjective standards. These findings suggest that there is a positive correlation between greater subjective standards and better levels of tax awareness, perceived ease of use, and perceived behavioral control. There is a negative correlation between the variable "Perceived Usefulness" and the variables "Tax Knowledge," "Perceived Ease of Use," and "Subjective Norm. Negative correlation = inverse relationship. Higher values of one variable = lower values of the other. The negative association between "Perceived Behavioural Control" and "Perceived Usefulness".

Table 5: Correlation A	nalysis					
Items	TK	PEU	SN	PU	PBC	IEF
TK	1					
PEU	.628**	1				
SN	.621**	.643**	1			
PU	.516**	.564**	.611**	1		
PBC	.643**	.710**	.645**	.512**	1	
IE	.614**	.586**	.631**	.474**	.665**	1

^{**.} Correlation is significant at the 0.01 level (2-tailed).

Inferential Analysis

SEM is a vital tool to investigate relationships, displaying data and assumptions. This tool analyzes traits that support primary and confirmatory models. Our analysis includes powerful techniques such as factor analysis, route analysis, and regression, proven to deliver reliable results and enable informed decision-making. Essentially, it combines the methods of factor analysis (CFA) and

^{*.} Correlation is significant at the 0.05 level (2-tailed).

multiple regression analysis. This study utilized AMOS 26 software for Confirmatory Factor Analysis (CFA) to evaluate the model and measurements. The software was used to generate results for each specific factor, and an appropriate model was developed thereafter. Figure 2 represent the pictorial view of Confirmatory Factor Analysis with all the items. To check the fitness of proposed model we observed the factor loadings, modification index and standardized residuals covariances.

Figure 2: Confirmatory Factor Analysis

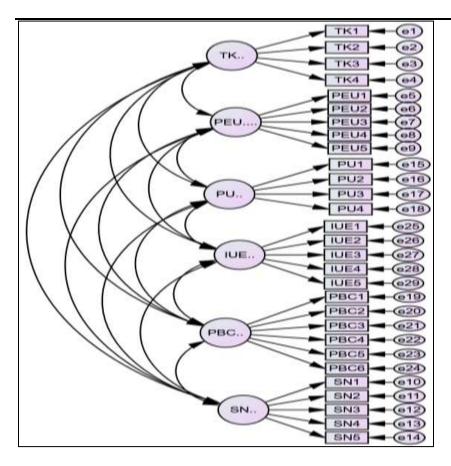


Table 6 describes the model fitness summary and we can see that all the fitness criteria are met and values are within the prescribed ranges and suggested by Hair et al. (2017).

Table 6: Model Fitness Summary CFA						
Model	Hypothesized	Thresholds				
CMIN/DF	2.50	< 3				
RMR	0.34	Closer to 0				
GFI	0.90	≥ 0.9				
AGFI	0.89	≥0.8				
CFI	0.91	≥0.9				
RMSEA	0.05	< 0.08				

Model Testing through Regression Analysis and SEM

After establishing the factorial validity on the basis of CFA run through AMOS, the next step for testing the hypothesis was to observe the change brought by independents variables into dependent variable. For this purpose, we run regression in SPSS and the results that were found are given in the following tables.

Table 7 presents the value of R and R2 which is .649 and .421 respectively which means variance explained by independent variables in dependent variable is 42%.

Table 7:	Table 7: Model Summary for Hypothesized model							
Model	R	R Square	Adjusted R	Std. Error of the Estimate				
			Square					
1	.649 ^a	.421	.404	.49257				

Table 8 presents the value of F statistics and its significance which is 25 and p<.001 respectively which means variance explained by independent variables in dependent variable is 42%.

Table 8: ANOVA ^a								
Model		Sum of Squares	df	Mean Square	F	Sig.		
1	Regression	30.868	5	6.174	25.445	.000 ^b		
	Residual	42.460	175	.243				
	Total	73.328	180					

a. Dependent Variable: Intention to Use Efiling Sales Tax

VIF measures how much multicollinearity increases the variance of regression coefficient. VIF is calculated as the reciprocal of tolerance, and a high VIF indicates high multicollinearity. This table displays the results of a multiple linear regression analysis that examines the relationship between predictor variables and a dependent variable. The coefficients, t-values, and significance levels provide valuable information on the strength and significance of these relationships. However, the collinearity statistics suggest issues with multicollinearity among the predictor variables. All the values of our model were less than 3 and tolerance level was above 0.2. Multicollinearity is when predictor variables are highly correlated, negatively impacting regression results. Tolerance is the accuracy of predicting a variable by others. Lower tolerance means higher multicollinearity. Table 9 displays the outcomes of structural equation modeling for testing of direct relationship that investigates the estimates or loading between several predictor factors and the dependent variable, "Intention to Use Efiling Sales Tax." The Unstandardized Coefficients (B) indicate the estimated change in the dependent variable when there is a one-unit modification in the predictor variable. It presupposes that all other predictor factors remain constant. If the variable "Tax_Knowledge" rises by one unit, the corresponding variable "Intention to Use Efiling Sales Tax." is projected to increase by 0.791 units. The standardized coefficients, sometimes referred to as Beta coefficients, quantify the extent to which the dependent variable varies in response to variations in the predictor variable, expressed in terms of standard deviations. Utilizing standardized coefficients facilitates the comparison of the relative significance of several predictor factors, t and Sig.: The "t" value is the ratio of the unstandardized coefficient to its standard error. It serves as an indicator of the

b. Predictors: (Constant), Perceived_Behavioural_Control, Perceived_Usefulness, Tax Knowledge, Perceived Ease of Use, Subjective Norm

strength and direction of the association between each predictor and the dependent variable. The "Sig." (significance) value reflects the statistical importance of the association. The table shows the significance level by asterisks (*). "Sig. < .05" means statistical significance.

We can see from table 9 that all the variables have significant beta values with p<.001 and thus all our direct relationships are confirmed.

Table 9: Direct Relationship Testing							
Estimate		S.E.	C.R.	P	Hypothesis		
TK	< IEF	.791 .027	27.611	***	H1 Accepted		
PEU	< IEF	.660 .036	20.618	***	H2 Accepted		
SN	< IEF	.687 .034	21.181	***	H3 Accepted		
PU	< IEF	.791 .032	22.278	***	H4 Accepted		
PBC	< IEF	.582 .043	11.064	***	H5 Accepted		

Conclusion and Recommendations

The basic objective of this research was to find the relationship or predicting powers of various factors that are responsible for explaining the variance in intention to use e filing in tax payment system. Specifically, our proposed model suggested that subjective norms, perceived usefulness, perceived behavioral control, tax knowledge and perceived ease of use directly influenced the intention to use E-filing Sales Tax portal. This study has many implications for theory and research as well as for policy implications by practitioners and government for the benefit of public at large. There are large number of constructs that have positive impact on the use of e filing system specifically in Pakistani context where literacy rate is not so high (Chaudhry & Munir, 2010). The findings are in line with Amin et al. (2014). We can increase in this way tax to GDP ratio, reduce corruption through transparent system of collection of sales tax, trade openness for new entrants and reduction in inflation. When there is tax knowledge and subjective norms are taken care of political instability can be reduced, real per capita income can be monitored and inflation rate can be considered as main factor affecting tax collection when tax revenues are used rationally. We are successful in finding the established relation specially in service sector of Pakistan. Tax income is crucial for countries to support public goods and services, promote economic development, and improve individuals' welfare. This study examines the effect of tax knowledge on electronic filing system use for sales tax returns in Pakistan. Using the Theory of Planned Behavior, Technology Acceptance Model, and tax knowledge, the research aims to identify factors that influence electronic filing adoption. The findings will help the Federal Board of Revenue develop strategies to encourage and facilitate electronic filing among taxpayers in Pakistan. There are also some limitations of this study which include small sample size and only focus on sales tax. Future research can be focused on other types of taxes like wealth tax, VAT, property tax etc.

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