Study of E-Filing Acceptance among Taxpayers: Evidence from Emerging Economy

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ABSTRACT

In industrialized nations, digital accounting systems and financial accounting and reporting techniques are more prevalent, whereas developing nations still demonstrate relatively uncommon usage of electronic filing, or "e-filing," systems for tax returns. Tax collection is a vital source of income for both developed and emerging nations. Since taxes are the primary source of funding for the delivery of public goods and services, tax revenue is significant. Additionally, it supports social welfare, sustainable growth, and democracy. This research looks into the factors that drive e-filing usage in developing nations like Pakistan. The study claims that e-filing adoption is influenced by perceived utility, perceived ease of use, tax information literacy, subjective norms, as well as perceived behavioral control in the e-filing system. Data was gathered from 218 salaried individuals via snowball sampling through questionnaires for analytical purposes. According to the findings, perceived ease of use, perceived utility, and subjective norms all have a substantial influence on individuals' intentions to utilize the electronic filing method for tax returns. As a result, the Federal Board of Revenue must design a system to promote the benefits of submitting income tax returns electronically.

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Citation: Ahmed Ullah, H., Sair, S. A., & Nisar, S. (2023). Study of E-Filing Acceptance among Taxpayers: Evidence from Emerging Economy. *Contemporary Issues in Social Sciences and Management Practices, 2*(4), 148-159.

Introduction

The development of information and communication technology (ICT) eventually led to a significant shift toward the automation of corporate activities across all industries. In order to cut expenses, boost revenues, and enhance performance, organizations in the twenty-first century utilized ICTs to automate manual procedures (Macnish, 2012). In order to increase transparency and the caliber of the services provided to people and businesses, government authorities have embraced the digital revolution and are taking use of the new contributions of information and communication technology. By offering the possibility of online resources, this transition boosted their competitive edge (Ahmad et al., 2012; Prattipati, 2003). The widespread use of e-government systems by public entities across the world reflects the rise in citizen-government interactions using e-government services. Akman et al. (2005) determine the G2C context as the interaction channel between governments and citizens. The active engagement of both the government and citizens is essential to the effective implementation of e-tax systems (Bilal et al., 2015).

In the early twentieth century, developed economies had a modest increase in the tax-to-GDP ratio, while emerging nations observed a downward trend. There are two possible causes for cross-country heterogeneity of developing countries: compliance behavior of country and the effectiveness of the tax collection procedure. Each country, developed or developing, require income for economic progress. Electronic tax systems play an important role because they sustain economies that rely on tax revenue from individuals and corporations (Barati et al., 2015). In Jordan, taxes are the main source of state revenue, supporting the country's essential social, health, and educational expenditures (Al-Naimat, 2013).

According to Babe-Aldred et al. (2013), taxes are a significant source of funding for social services and infrastructure improvement. Hence, taxation is a major source of revenue for governments in both developed and developing nations in order to maintain continuing economic progress. Emerging economies have lower tax return filing rates and a tax disobedience culture compared to developed economies. Tax compliance is an important government policy concern in emerging economies (Abdul & Wang, 2018). Pakistan is an emerging economy, and one of the most pressing issues it faces today is a lack of tax return collection. According to the latest report released by the United Nations World Institute for Development Economics Research, Pakistan is among the nations whose tax disobedience has cost them the majority of their tax revenue. The loss of tax revenue in Pakistan is 4.4% of GDP, which is significantly greater than in comparable economies.

One example of an e-government application is the e-tax system (Ahmad et al., 2012; Bhatnagar, 2003). It assists the government in decreasing corruption, ensuring openness and accountability, and saving money in the process. E-tax systems are viewed as e-government services that are directed at either individuals or companies (based on a government-to-citizen or G2C environment). In the electronic tax return system, taxpayers can file their tax returns individually by using internet facilities (Barati et al., 2015; Economides & Terzis, 2008; Wasao, 2014). For individual taxpayers in Pakistan, the FBR launched the e-filing option for income tax returns in December 2005. Under this system, individual taxpayers are now responsible for

calculating their income taxes, filing their returns, and paying their taxes, which was formerly the responsibility of the Federal Board of Revenue (FBR).

The principal aims of this system's implementation are to reduce tax collection and processing expenses and raise tax compliance rates. In line with FBR's quarterly review of 2006, after the launch of the e-filing system, more returns were filed as compared to previous years, which demonstrated that the electronic filing system enhanced the rate of tax compliance. Developed countries like "Singapore (Thompson & Poh, 2005), Taiwan (Wang, 2002; Fu, 2006; Farn & Chao, 2006; Hung et al., 2006), and the United States (Schaupp et al., 2010) all encountered challenges with the implementation of electronic filing in its first stage. According to Gangl et al. (2015), in Pakistan, where tax cheating seems to be the norm, it is very challenging to collect data from rich non-filers.

Tax compliance is strongly correlated with tax knowledge (Eriksen & Fallan, 1996). Previous studies by Nero and "Amrizah (2005), Mohd-Rizal (2005), and Alm et al. (2010)'" showed that in emerging economies, tax compliance rates were affected due to a lack of tax knowledge. Kasipillai (2000) supposed that in intentional tax compliance, knowledge of tax is an imperative feature. Palil (2005) and Saad et al. (2003) claimed that tax knowledge regarding tax returns is important, mostly in calculating accurate tax accountability. According to Gangl et al. (2015), knowledge of tax rules and regulations has a positive and significant impact on individual tax filing behavior. In addition to these facets, tax awareness is a key factor in encouraging people to comply with their tax obligations (Alm, 2018; Hurk, 2019). Another study conducted in New Zealand indicates that tax knowledge (understanding about the tax system) positively influences fairness perception and tax compliance (Tan & Chin-Fatt, 2000). Individuals' intentions to utilize electronic filing are significantly influenced by perceived utility and subjective norms (Yusri, 2008; Azmi & Bee, 2010). In emerging economies like Pakistan, Ullah (2019) found a notable correlation between subjective norms and the intention to file a tax return. In a similar vein, Fischer et al. (1992) and Westerman et al. (2007) acknowledge the importance of subjective norms in defining taxpayer individuals' behavior about tax compliance. The role of subjective norms in people's tax compliance behavior was noted by Hanno and Violette (1996). The key objective of this research is to examine the factors that influence individuals' willingness to accept new technology. Subjective norm (SN), perceived behavioral control (PBC), perceived utility (PU), perceived ease of use (PEOU), and tax knowledge (TK) are the factors that were included in this study as independent variables. This study endeavors to comprehend Pakistan's e-tax system and the advantages it offers the general population.

Problem Statement

Income tax evasion has been identified as a big problem across the world, especially in developing countries where revenue government departments are unable to collect the taxes according to target. Tolger (2013) asserted that authorities anticipate using tax revenue for economic growth and to raise the standard of living for their citizens. The problem of tax noncompliance has existed in Pakistan since 1947. Pakistan's Economic Survey reveals that the country's 2010 budget deficit was 6.3% of GDP. In Pakistan, which has 180 million people, less

than 1% of them file tax returns (Waris, 2013). When examining tax compliance behavior, the most important characteristics are the cost of tax compliance and the complexity of the tax code, e.g., paperwork requirements (Evans, 2003; Marcuaa, 2013). The electronic filing system offered by Pakistan's tax department enables taxpayers to access services from anywhere at any time, boosting compliance rates and reducing associated expenses.

However, tax compliance is still low, and FBR tax collection for FY2018 prior lagged behind expectations (Economic Survey of Pakistan, 2019). The FBR is struggling to get taxpayers to adopt the electronic filing method. To educate taxpayers on the acceptability of electronic filing methods, FBR now conducts training sessions. Regrettably, however, taxpayers still do not adopt the electronic filing service system due to a lack of information literacy and limited experience with it. For new users who are less knowledgeable about taxes, the internet process can be confusing.

Yet, tax compliance is still less fortunate, and FBR tax collection for FY2020 previously lagged behind expectations (Economic Survey of Pakistan, 2021). Taxpayers' resistance to the electronic filing method is a problem for tax collection authorities in Pakistan. FBR organizes training workshops for taxpayers with the goal of educating them about the benefits of electronic filing systems; however, the adoption rate of electronic filing systems is still low due to a lack of information literacy and experience in filing tax returns through electronic filing systems.

Ozgen and Turan (2007) observe that limited research has focused on examining the factors that have an influence on the acceptance of e-tax systems, particularly from an individual's perspective. In the field of tax information literacy, perceived utility, ease of use, subjective norms, and TAM among taxpayers, there has been a dearth of research, notably in Pakistan. As a result, the study needs to tackle the critical necessity of determining the taxpayers' level of tax information literacy as well as certain other aspects of electronic filing in Pakistan.

2.0 Literature Review

In December 2005, the Federal Board of Revenue introduced an electronic filing platform for income tax returns. Thus, making it easier and more transparent for taxpayers to file their tax returns was the primary goal of implementing the electronic filing system. According to expectations, people will be able to complete tax returns accurately once the electronic filing system is in place. The automated filing system also automatically calculates tax amounts, which lowers the chance of mistakes. However, if taxpayers do not have the necessary tax knowledge or tax information literacy, then the automatic calculation of the electronic filing system does not give assurance that they will examine the tax payment correctly in a beneficial way.

The low degree of adoption of electronic file systems during their early implementation is not specific to any one country, as previous research (e.g., Thompson & Poh, 2005; Hung et al., 2006; Azmi & Bee, 2010; Schaupp et al., 2010) has shown. Singapore appears to have had the highest rate of e-filing usage in 2012 when compared to other nations such as Pakistan and other East Asian countries, as reported by the Singapore Inland Revenue Authority (IRA). Following Indonesia's 2011 implementation, Thailand implemented the e-filing system in 2013.

Due to the new system's early ambiguity, taxpayers in Pakistan had various difficulties

when utilizing the e-filing system. The sufficient literacy of tax still needed to file tax returns for taxpayers, whether they use the e-filing system or manual filing. Kasipillai (2000) said that in intentional tax compliance, knowledge of tax is an imperative feature. Palil (2005) and Saad et al. (2003) suggested that tax knowledge is most significant in computing appropriate tax accountability. According to Loo et al. (2009), under a self-judgment system, tax knowledge is the most crucial factor in predicting a taxpayer's compliance behavior. The public's tax literacy in Pakistan needs to be enhanced by conducting various trainings or workshops (Fawad, 2014). Ullah (2019) claimed that no statistically significant correlation exists between tax knowledge and the intention to comply.

According to Hu et al. (1999) and Venkatesh et al. (2003), the P-USEFUL and P-EASEUSE are recommended by the Technology Acceptance Model and are expected to be associated with taxpayers' willingness to use newly implemented or upgraded systems. Numerous studies show that the P-EASEUSE is associated with the ambitions of different countries, such as Taiwan, Malaysia, and the United States, to implement electronic file systems (Wang, 2002; Schaupp & Carter, 2009; Azmi & Bee, 2010). Subsequently, Chaupp and Carter (2009) found that taxpayers' intentions to utilize electronic filing in the United States are influenced by how valuable they believe it to be.

It is noted that the main application of behavioral theory (TPB) in literature is to characterize a person's actions, as well as their intention to engage in them and their actual behavior. The Theory of Planned Behavior is frequently utilized in behavioral research to both characterize and predict behavior (Armitage & Conner, 2001). Furthermore, Ajzen (1991) and Madden (1992) claimed that in many disciplines, the behavioral models recognized by TPB have been effective in describing individuals' intentions and actual behavior.

Subjective norms influence taxpayers' intentions toward a new return filing system (Taylor & Todd, 1995; Venkatesh & Davis, 2000). According to Venkatesh and Davis (2000), subjective norms are important indicators that might influence a person's behavior. Based on several studies in the literature (such as Hung et al. (2006) and Yusri (2008)), PBC has an impact on behavioral intention. Ullah (2021) claimed that there is a strong and positive correlation between an intention to comply and a perception of behavioral control. According to Ullah (2019), there is a substantial correlation between each taxpayer's intention to comply and the subjective norm.

Since tax literacy significantly affects people's behavior when it comes to filing taxes, it is vital in Pakistan (Abdul Ghafoor, 2014). The current study aims to explore the ways in which perceived usefulness, perceived ease of use, subjective norm, and perceived behavioral control affect taxpayers' intentions to utilize an electronic filing system.

Tax information literacy significantly influences the intention to adopt e-filing.

Perceived usefulness significantly influences the intention to adopt e-filing.

perceived ease of use significantly influences the intention to adopt e-filing.

Perceived subjective norms significantly influence the intention to adopt e-filing.

Perceived behavioral control significantly influences the intention to adopt e-filing.

3.0 Methodology

The main tool used in this study to collect data in order to accomplish its research aims was a questionnaire. The measurement scale was adapted from Tallaha (2014), Jankeeparsad (2016), and Rajmane (2014). A "five-point Likert scale" spanning from 1 to 5—strongly disagree to strongly agree—was employed to assess respondent opinion (Sekaran & Bougie, 2003). Before moving on to the next phase, the instrument's face validity and internal consistency with the items were confirmed. When all of the individual and total alpha values for the items were more than 0.7, the reliability result from the pilot testing was deemed reliable. Thus, the investigator may move forward with additional examination (Hair et al., 2016; Litzinger, Lee, and Wise, 2005).

The researcher's integrity was contested by the respondents due to their perception that he was employed by the revenue or tax authority. In order to solve this issue, snowball sampling was used in this study. The unit of analysis is salaried individuals in Pakistan. 350 questionnaires in total were circulated for data collection, and 218 valid questionnaires with a response rate of 62% were used for analysis. This sample size of 350 is consistent with the sample size calculation criterion of (number of questionnaire items * 10). Questionnaires were distributed for data collection purposes, both physically and electronically, via Google Docs. PLS software was used to analyze the relationships between the variables, while SPSS software was utilized for data input. This study used a variety of analytic techniques, including bootstrapping and "algorithms," for structural model assessment and measurement.

4.0 Results

Tabel 1: Reliability and Validity Analysis

	Cronbach's Alpha	Composite Reliability
Perceived usefulness	0.772	0.857
Tax information literacy	0.863	0.895
Perceived subjective norm	0.870	0.909
Intention to use E-filing	0.918	0.948
Perceived ease of use	0.745	0.822
Perceived behavioural control	0.894	0.921

Table 1 presents findings about the construct reliability of the variables. An instrument's reliability can be assessed using the Cronbach's alpha value. The standard value of construct dependability is not less than 0.70 (Gliem et al., 2003). All statistical values of the variables are significant. The composite reliability score is an indicator of the variables' internal consistency. Hair (2016) stated that the internal consistency of variables must have a value greater than or equal to 0.60 in order to be achieved. Table 1 shows that all variables' values are statistically significant.

Structural Model:

Afterwards the establishment of the necessary estimations, the following step included statistical arguments to support the research's theoretical model. The structural model can be examined in order to remedy this. To find out how dependent and independent variables relate to one another, the research structural model was assessed. Examining the relationship importance is possible with the path coefficient, which is part of the study structural model's valuation.

Model Fitness Evaluation

The value of SRMR was evaluated in Smart PLS for model fitness measurement. The suggested acceptance range for the SRMR value is between 0 and 1. As a result, in this study the standardized root means square residuals value is 0.101, demonstrating that the model is fit.

Table 2: *Model Fitness*

	Saturated Model	Estimated Model
SRMR	0.101	0.101
d_ULS	3.846	3.846
d_G	1.773	1.773
Chi-Square	3,456.654	3,456.654
NFI	0.629	0.629

Outer Loadings Evaluation

The model's outer loadings can be evaluated with the help of T-values. The outer loading value in Smart PLS must be more than 0.70 or greater than 0.60, as suggested. Consequently, all of the measurement models in this study have loadings greater than 0.60.

Table 3: *Outer loadings*

	INT-USE	P-BCONT	P-EASEUSE	P-USEFUL	P-SNORM	TIL
INT-USE 1	0.941					
INT-USE 2	0.916					
INT-USE 3	0.923					
P-BCONT 1		0.840				
P-BCONT 2		0.880				
P-BCONT 3		0.805				
P-BCONT 4		0.850				
P-BCONT 5		0.811				
P-EASEUSE 1			0.575			
P-EASEUSE 2			0.840			
P-EASEUSE 3			0.823			
P-EASEUSE 4			0.650			

P-EASEUSE 5	0.549		
P-USEFUL 1		0.815	
P-USEFUL 2		0.818	
P-USEFUL 3		0.863	
P-USEFUL 4		0.583	
P-SNORM 1			0.850
P-SNORM 2			0.826
P-SNORM 3			0.869
P-SNORM 4			0.835
TIL 1			0.709
TIL 2			0.866
TIL 3			0.775
TIL 4			0.862
TIL 5			0.773
TIL 6			0.592

PLS Path Model Analysis

The structural research model is depicted in Figure 1. Perceived behavioral control, perceived usefulness, perceived ease of use, subjective norm, and tax information literacy represent the study's independent factors. The intention to adopt electronic filing is the dependent variable. The arrows indicate the relationships between the variables.
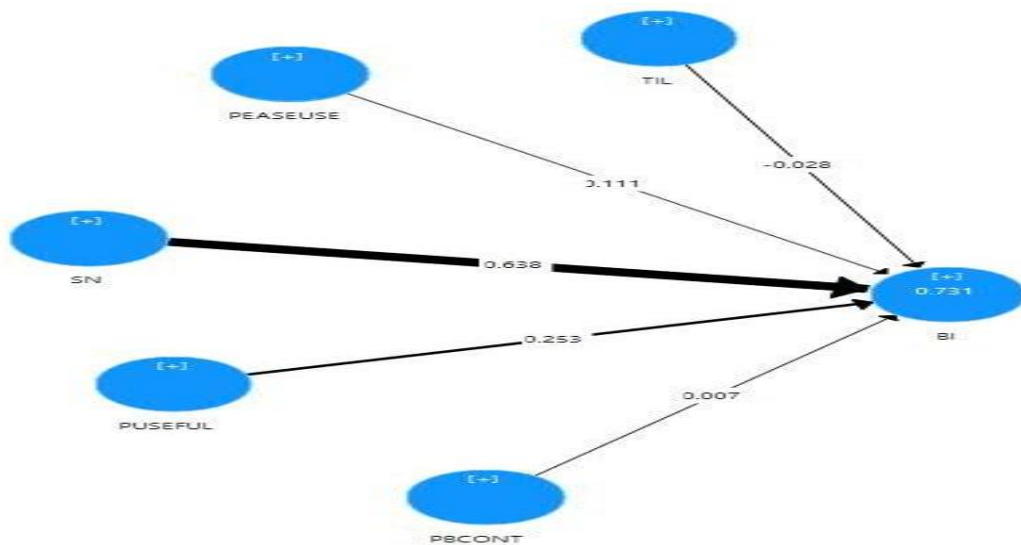

Figure 1: Path analysis

The table 6 displays that $H_{\circ 2}$ of this research is rejected because P-USEFUL impact on INT-USE (26.2%) positively and significant at 0.000<0.05. The usefulness of P-USEFUL in using e-filing has also been emphasized in prior studies. For instance, study conducted in Malaysia by Mohd et al. (2014) disclosed that P-USEFUL positively associated with individual's intention to adopt tax return e-filing system. Sachan (2017) claimed that perceive usefulness (PU) is a significant predictors of people intention to adopt electronic-filing. As stated Pratiwi et al. (2018), P-USEFUL significantly influences the intention to adopt electronic filing.

$H_{\circ 3}$ of this research is also rejected, P-EASEUSE impact on INT-USE (11.8%) positively and significant at 0.020<0.05. The outcomes are in line with previous studies. For example, Mohd et al. (2014) showed that P-EASEUSE positively linked with taxpayers' intention to adopt tax return e-filing. Sachan (2017) said that P-EASEUSE is a vital forecaster of public intention to adopt tax return e-filing system. Pratiwi et al. (2018) stated P-EASEUSE significantly influences the intention to adopt electronic filing.

$H_{\circ 4}$ of the research is similarly rejected P-SNORM impact on INT-USE (61.8%) positively and significant at 0.000<0.05. The importance of subjective NORM in the adoption of E-Filing has also been highlighted by previous studies (e.g., Mohd et al., 2014; Aliffiani et al., 2018). On the other hand, TIL to INT-USE and P-BCONT to INT-USE are insignificant so $H_{\circ 1}$ and $H_{\circ 5}$ is fail to reject. It is observed that literature demonstrate that perceived behavior control and tax information literacy impact intention to utilize electronic filing in different ways (e.g., Mohd et al., 2014; Aliffiani et al., 2018).

Table 4: *Direct Relationship*

		Original Sample (O)	*Sample Mean (M)*	*Standard Deviation (STDEV)*	*T-Values*	*P-Values*	*Decision*
$H_{\circ 1}$	TIC -> Int to adopt E-filing	-0.028	-0.023	0.038	0.723	0.470	Rejected
$H_{\circ 2}$	PU -> Int to adopt E-filing	0.253	0.254	0.059	4.285	0.000	Accepted
$H_{\circ 3}$	PEOU->Int to adopt E-filing	0.111	0.111	0.050	2.212	0.027	Accepted
$H_{\circ 4}$	SN-> Int to adopt E-filing	0.638	0.635	0.053	12.112	0.000	Accepted
$H_{\circ 5}$	PBC -> Int to adopt E-filing	0.007	0.010	0.044	0.166	0.868	Rejected

Discussion and Conclusion

The key objective of this research was to investigate the elements that influence individual intention to adopt e-tax systems in Pakistan. FBR introduced an e-government program in 2005, which was the first e-government program related to tax return filing in an emerging economy (Pakistan). With minimal time and effort, this approach is projected to deliver high-quality service to taxpayers. Individuals' adoption of the e-tax system is assessed by their degree of satisfaction with the system. The electronic filing method has been recognized as beneficial for taxpayers and tax authorities. However, the e-filing system is still not widely used in emerging economies, including Pakistan. Five factors were supposed to have a substantial impact on employees' satisfaction with the Pakistan e-tax system (PEOU, PU, PBC, TIL, and SN). SEM results indicate that the variables explained 73.1% of the variance in taxpayer intentions to utilize Pakistan's tax return e-filing system. Among those factors, TIL and PBC do not significantly impact an individual's intention to adopt a digital filing system. PU, PEOU, and SN were shown to significantly impact taxpayers' intentions to adopt a digital filing system.

The low degree of satisfaction with e-government initiatives is an issue for most governments in developing nations. The findings of this empirical test demonstrated the significance of PEOU, PU, and SN. Salaried people seem to be influenced by their social position (union or collegiality) and their educational background (IT-related). The results of this research might help decision-makers in Pakistan and other nations with comparable features better direct their efforts to advance and increase taxpayer satisfaction with these initiatives. The study's findings indicate that if the e-tax system is difficult to use, there is a lower chance that it will be used. To ensure that the e-tax system is easy to use, tax authorities must work closely with system and software developers. Furthermore, improving users' perceptions of system utility and motivating them through a social structure (colleagues and superiors) could positively raise taxpayers intention to adopt this technology.

The study used a single case study to examine the elements that impact employees' satisfaction with the Pakistan e-filing system. It is preferable to use many case studies to provide a diversified collection of parameters influencing employees' satisfaction levels with e-government services and apps (Alshehri et al., 2012). The primary limitation of this research is that it focuses on one e-tax system and one nation; therefore, it may not be generalizable to different systems and countries. A future study might use a larger sample size to generalize this conclusion to the entire country. Future studies may be conducted to determine the levels of taxpayer satisfaction with the Pakistan e-filing system. Furthermore, while this was a quantitative study that assessed workers' levels of satisfaction with the Pakistani e-filing system and expanded the TAM, it would be interesting to perform a qualitative review by conducting a series of interviews within the tax authority. The research might look at the issues that the tax authority encountered when installing the system and engaging with the staff. The outcomes of such a direction can be highly beneficial in improving the system's quality. On the other hand, further study can be conducted on the levels of satisfaction with various electronic services now supplied by governments. The study

demonstrates that the program (PLS-SEM) is adequate for analysis. Significant findings suggest that management needs to take initiatives to assist salaried people in accurately and timely filing their tax returns.

Hafiz Ahmed Ullah: Problem Identification and Model Devolpement,
Shrafat Ali Sair: Supervision and Drafting
Shoaib Nisar: Literature search, Methodology,

Conflict of Interests/Disclosures

The authors declared no potential conflicts of interest in this article's research,authorship, and/or publication.

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