

Behavioral Intention of Taxpayers towards Online Tax Filing in India: An Empirical Investigation

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Abstract

Tax e-filing is one of the e-government services that have been adopted by many developed countries today, where the public has to discharge their responsibility to the government via online tax filing. In developing countries like India, due to high perceived risk by the public, a well establish integrated reliable system is required. It is very difficult to implant responsible behavior within a community, if an individual perception of risk of the e-government services is the concern. This paper attempts to develop an understanding of the factors that influence citizens' adoption of electronic tax filing services. This exploratory study elicited information using a structured questionnaire from 250 respondents from Indore city. The results revealed that the factors like perceived ease of use and perceived usefulness significantly affect the behavioral intention of the citizen towards the adoption of electronic tax filing. The study will serve as a useful guideline for strategic development in promoting e-government services, particularly the e-tax filing service.

Keywords: e-Tax Filing; Perceived ease of use; Perceived usefulness; e-Governance

Introduction

In this technology driven world, the use of internet has been widespread and diversified. The diversified use of internet will relatively be increased which also benefits the users [1,2]. In this digital era, governments of many countries are using the internet to provide public services to its citizens, known as e-Governance. Yildiz mentions that e-governance refers to the use of information and communication technologies by public administration to create a networked structure for; interconnectivity, service delivery, efficiency, effectiveness, transparency, and accountability [3]. Online tax filing commonly known as e-taxation is gaining more importance due to its wide applicability and usefulness. In India, income tax e-filing was introduced in September, 2004, initially on a voluntary usage basis for all categories of income tax assesses. But from July, 2006, it was made mandatory for all corporate firms to e-file their income tax returns. Taking this process further, from assessment year 2007 to 2008, e-filing of income tax return was made mandatory for all companies and for all other categories of income tax assesses, which also includes salaried individuals. About 81% of total revenue of the country is generated by direct taxes. Therefore the main aim of the department is to enable taxpayers to meet their normal tax obligations in a convenient manner without visiting Income Tax Office. To accomplish this objective, the department's high priorities are: e-delivery of taxpayer services, increase of departmental computer infrastructure and the setting up of Tax Information Network (TIN). The e-taxation system provides the key services like online registration, form download, returns filing, online payment, online tax accounting system, effective tax rates, key notifications and provisions and enactments. These services could be accessed through an internet connection without any geographical hindrance. The overall aim of e-taxation is to replace cumbersome manual, bureaucratic service systems with collaborative, efficient, process-driven and secure online delivery.

Despite the rapid adoption of tax e-filing in many countries, researchers have argued that it is yet to establish an integrated system that is reliable, especially in developing countries. The study is an attempt to understand the progress of e-taxation (Direct) in India

in the recent past, the present and the future prospects. The present paper also attempt to investigate the impact of factors affecting users' perception about e-taxation on the citizens' behavioral intention of using e-taxation in future.

Literature Review

Electronic tax payment was first coined and implement in the US in 1986. Today, electronic taxation has been extended to many countries. Electronic taxation differs among countries hence the name of the system also differs from country to country. Electronic declaration is named electronic tax filing in International literature. e-tax payment is also called online taxation payment (UN, 2007) or e-tax lodgment [4].

Reima Soumi has discussed the meaning of e-taxation and also deals with the best practices in technology which would further help in the development of tax administration system [5]. Dr. Dimitris Gousco discussed about the concept of e-government, strategic objectives for electronic services, business planning for electronic services, technologies for delivering electronic services and evaluating the performance of electronic services [6]. Subhash Bhatnagar, has discussed about the different perceptions and delivery models of e-government and also about the cases resulting in multiple benefits: improved service delivery; reduced corruption; increased transparency; increased revenue; cost reduction; and empowerment [7]. Sanjiv K Chaudary in his article discussed about the advantages of E-Taxation and to provide clarity and certainty on various tax related issues to assess [8].

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Hussein Ramlah et al. investigated the factors influencing citizens' intention to use e-filing in the Malaysian context. He found that the perceived ease of use and perceived usefulness, trust of the government, image, compatibility and service quality were significant predictors of citizens' intention to use e-filing [9]. Carter Lemuria et al. investigated the influence of six determinants on taxpayers' intention to adopt e-file systems. Specifically, the results indicate that three factors from the Unified Theory of Acceptance and Use of Technology (UTAUT) model by Venkatesh, Morris and Davis, namely performance expectancy, effort expectancy, and social influence play a significant role in predicting taxpayers' e-filing intentions. More importantly, the research findings indicate that personal factors such as web-specific self-efficacy (WSSE) and perceived security control along with UTAUT factors, have a significant impact on taxpayers' e-file intentions [10,11].

Theoretical models such as Theory of Reasoned Action (TRA), the Theory of Planned Behavior (TPB), and the Technology Acceptance Model (TAM), attempt to explain the relationship between user beliefs, attitudes, intentions and actual system use [12-15]. Among these theories, TAM was widely used and accepted to explain the relationship between perceptions and technology use. In the e-government literature, various studies have also adopted TAM in their model to test or evaluate the citizen adoption of e-government services [16-19].

Rationale of Study

Since 2008, there is paradigm shift in the taxation system of India i.e. from manual to electronic. The data of number of e-filers from 2008 to 2014 (Table 1) signifies that e-filing experience reflects continued progress. The growth has occurred every year and has been driven particularly by the electronic filing of individual tax returns. The forward growth is seen in trend analysis of the data (Figure 1). The no. of ITRs filed increased from 2 million in 1998 to around 9 million for 2010. In 2012-13 the no. of e-filers were 13 million more than 2010. In 2016, 31 million people are estimated to file their tax through online system. This increase may be due to the benefits enjoyed by the people over manual Filing ITRs. The need of the study arises so as to know the strengths of this newly developed concept, the weakness or the hindrances in its progress, the opportunities and threats in its way to get a stronghold position in India. Considering the growth potential of e-filing which is beneficial for both the government and the taxpayers, Income tax department requires extra ordinary efforts to have a more user-friendly and error free software. Hence, the main aim of this study is to develop an understanding of the perception of taxpayers towards the e-taxation.

Objective

To propose a multivariate regression model where the factors

Financial year	No. of e-taxpayers'	Trend values
FY 2007-08	2169367	171117
FY 2008-09	4830122	4038950
FY 2009-10	5073977	7906783
FY 2010-11	9050242	11774616
FY 2011-12	16433684	15642449
FY 2012-13	21486807	19510282
FY 2013-14	29681794	23378114
FY 2014-15	--	27245947
FY 2015-16	--	31113780

Table 1: Number of ITR filers through online taxation.

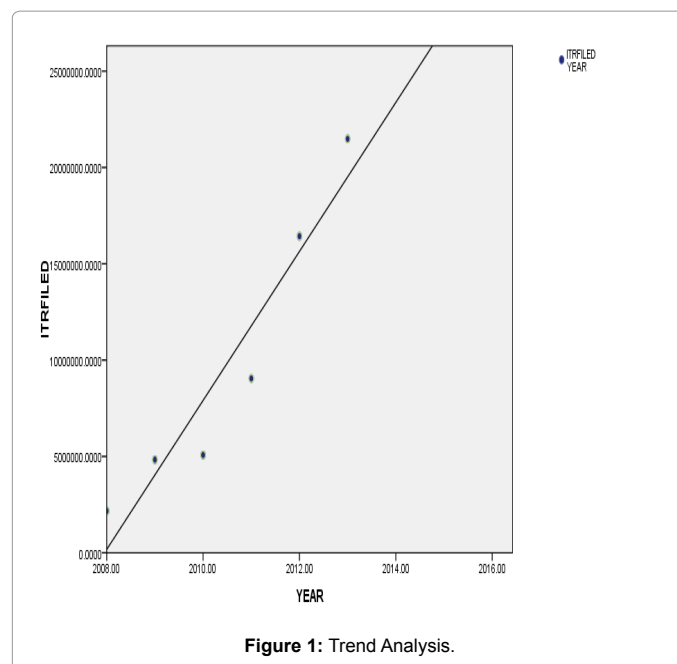


Figure 1: Trend Analysis.

affecting perception of taxpayers towards e-tax filing acts as predictors of the citizens' behavioral intention to adopt the e-taxation.

Hypothesis

The heightened attention is being paid in the literature on e-taxation services offered by government of India. The e-filing system may offer potential benefits to improve administrative compliance efficiency, but the benefits gained may be obstructed by tax users' unwillingness to accept and use the available electronic services. José Carlos Pinho, Isabel Maria Macedo in a study analyzed the antecedents and consequences of online satisfaction towards the taxation services offered through the web-based electronic declaration system. It was found that convenience is an important antecedent of both satisfaction and online service quality. Also, findings suggest that both the degree of satisfaction and online service quality impacts on the intention of using the taxation website [20]. Fishbein and Ajzen defined usage intention as a measure of the strength of one's intention to perform a specific behavior [21]. Sheppard, Hartwick, and Warshaw found individuals' actual behavior could be predicted reasonably well from their intentions [22]. Therefore we hypothesized that:

H_0 There H_0 is insignificant impact of factors affecting the perception of taxpayers towards e-tax filing on the behavioral intention of e-taxpayers.

Methodology and Sampling Design

The study is exploratory in nature and intends to explore the impact of factors affecting the perception of e- taxpayers' towards the behavioral intention of using e-taxation.

A self structured questionnaire inspired by the scale developed by Venkatesh, Morris and Davis in their famous article on the Unified Theory of Acceptance and Use of Technology (UTAUT). The questionnaire comprises of three sections A, B and C. Section A contains general information of the respondents, section B consist of internet usage and behavior intention of using e-taxation. Section C comprises of 37 items base on five point likert scale anchored from strongly disagree to strongly agree. The cronbach alpha is found to

be 0.81 indicating good consistency among the items and hence the questionnaire is considered to be reliable [11].

Sampling techniques and sample size description

A self structured questionnaire was used for primary data collection. Non probability judgmental sampling method was used for the collection of primary data. The data was collected from 250 respondents of which 237 have filed their returns personally, and out of those only 110 i.e 46.4 percent had attempted e-filing. The data of these 110 respondents was subjected to further analysis. The detailed profile of the sample is given below:

The respondents comprised 62 males and 48 females. 22% of the respondent was bachelor degree holders, 70.9% were master degree holders and 9.1% were Diploma/certificate/secondary school qualified. There are only 48 female respondents, which indicate that males appeared to be more technology adopters than females, females experienced greater difficulty with e-filing as compared to males. Also majority of the e-filers are professionals and aged between 25-40 years which indicates that older people tended to be less optimistic about e-filing and experienced more discomfort with e-filing as compared to younger people (Table 2).

Statistical tools for data analysis

Descriptive analysis including skewness and kurtosis, Kolmogorov and Smirnov test were used to check the normality of the data. To determine the important factors that affect the perception of e-tax payers principal component factor analysis was used. Multiple regression analysis was used to analyze the effect of independent variables on a single dependent variable. Durbin-Watson statistics was used to validate the independence of error term assumption. Breusch-Pagan and Koenker test was used to check the homoscedasticity.

Statistical Analysis and Results

Initially in a pilot study, the data was subjected to principle factor analysis. Factor analysis helps to reduce a vast number of variables to a significant, interpretable and convenient set of factors. The data of 40 respondents was subjected to principal component factor analysis which resulted in four factors namely perceived ease of use, perceived usefulness, perceived security and perceived attitude. Out of which perceived attitude was measured using 6 items, perceived usefulness

was measured using 15 items, perceived ease of use was measured used 8 items and perceived security was measured using 8 items.

The underlying assumptions of multiple regression analysis were also met before the analysis, the results are as follows.

Normality of variables

Regression assumes that variables should have normal distributions. Non-normally distributed variables (highly skewed or kurtotic variables, or variables with substantial outliers) can distort relationships and significance tests. The skewness and kurtosis value of all the variables in our study were found to belying between ± 1 (Annexure 1). Thus this shows that the distribution of all the variables is normal. Also the Kolmogorov-Smirnov statistic of all the variables were found be significant which further confirms the normality of the data (Annexure 2).

Linearity

Standard multiple regression can only accurately estimate the relationship between dependent and independent variables if the relationships are linear in nature. A significant correlation between the variables confirms the linearity. In the present study the correlation between the variables were found to be lying between .485-.710 (Annexure 3). All the values are significant at the .01 level which indicates the existence of linear relationship between the dependent and independent variables.

Independence of errors

The Durbin-Watson value informs about whether the assumption independence of errors is defensible i.e there is no autocorrelation of error terms. The D-W value closer to 2 is better and in this study the statistic is 1.735 which is acceptable (Annexure 1).

Homoscedasticity

Homoscedasticity means that the variance of errors is the same across all levels of the independent variables. When the variance of errors differs at different values of the independent variables, heteroscedasticity is indicated. According to Berry and Feldman and Tabachnick and Fidell slight heteroscedasticity has little effect on significance tests; however, when heteroscedasticity is marked it can lead to serious distortion of findings and seriously weaken the analysis [23,24].

This assumption can be checked by visual examination of a plot of the standardized residuals (the errors) by the regression standardized predicted value. The Breusch-Pagan test fits a linear regression model to the residuals of a linear regression model (by default the same explanatory variables are taken as in the main regression model) and rejects if too much of the variance is explained by the additional explanatory variables.

In our analysis the scatter plot of the standardized residuals (the errors) by the regression standardized predicted value (Annexures 5 and 6) reveals that the data is Homoscedastic. This was further confirmed by the Breusch-Pagan and Koenker test. The Breusch-Pagan p-value=.316 (chi-square=2.319) which is greater than .05 and thus the null hypotheses is accepted i.e. the data is homoscedastic. Similarly the Keonker test p-value=.4665 (chi-square=1.525) is also greater than .05 and thus the null hypotheses i.e. the data is homoscedastic is accepted. The results of the test are shown in Annexure 7.

Feature	Description	Sample	Percentage
Age	18-25	38	34.5
	25-40	56	50.9
	40-60	16	14.5
Profession	Business	20	18.2
	Service	76	69.1
	Self employed	14	12.7
Education	Graduate	22	20.0
	Post graduate	78	70.9
	Others	10	9.1
Gender	Male	62	56.4
	Female	48	43.6
Marital status	Married	78	70.9
	Unmarried	32	29.1
Yearly income (in lakh Rs.)	2-4	50	45.5
	4-6	48	43.6
	Above 6	12	10.9

Table 2: Profile of samples.

Multicollinearity

Multicollinearity occurs when you have two or more independent variables that are highly correlated with each other. This leads to problems with understanding which independent variable contributes to the variance explained in the dependent variable, as well as technical issues in calculating a multiple regression model. An inspection of correlation coefficients and Tolerance/VIF values help in detecting multicollinearity.

Here the the tolerance value of ease and usefulness was .566 and the Variance inflation factor (VIF) was 1.767 (Annexure 4-coefficients). The VIF recommendation of 10 or less corresponding to the tolerance recommendation of .10 or more is acceptable. Thus no multicollinearity is seen in the data.

Model Summary

The stepwise multiple regression analysis was run using SPSS (Statistical Package for services and solutions) 16.0 version. The behavioral intention of e-taxpayers which include satisfaction level and intention of using e-taxation in future was considered as dependent variable where as the factors extracted during the pilot study were taken as predictors (independent variables).

The model summary contains two models. Model_a refers to the first stage in the hierarchy when only perceived ease of use is used as a predictor. Model_b refers to the final model. The final model produced R square of 0.466 which was statistically significant [$F(2,107)=46.672$, $p<0.05$]. Perceived attitude, perceived ease of use, perceived security, perceived usefulness can account for 46.6 percent of variance on behavioral intention of using e-taxation in future. The beta value (standardize coefficients) of perceived ease of use ($\beta=.387$, $t=5.705$ and $p<0.05$) and perceived usefulness ($\beta=.095$, $t=2.106$ and $p<0.05$) indicates that these independent variables are positively related to behavioral intention of using e-Filing. The independent variables perceived security ($\beta=.071$, $t=.612$ and $p>.05$) and perceived attitude ($\beta=-.10$, $t=-.089$ and $p>.05$) were found to be insignificant and could not enter the model. Similar results were found by Carter and Belanger, in their study. According to which Perceived usefulness and perceived ease of use were found to be significant constructs in the e-government adoption literature [25].

Past research was inconsistent on whether perceived usefulness (PU) or perceived ease of use (PEOU) was the stronger determinant. According to Davis, perceived usefulness (PU) is shown as a primary determinant of intentions to use a certain technology [15]. Fu et al. also found that behavioral intention was largely driven by perceived usefulness [26]. However, Wang (2002) found that perceived ease of use (PEOU) was a stronger predictor of people's intention to e-file than perceived usefulness (PU) [19]. According to the findings in Wixom and Todd (2005), perceived usefulness (PU) was influenced by perceived ease of use (PEOU) [27].

The results of regression analysis are shown in the Annexure 4. Since all the assumptions of multiple regression analysis are confirmed thus our model is acceptable and can be used for future predictions.

Conclusion

Indian economy is at a developing stage and there is still more to come in every stage of its development and e-taxation system is up-to-the-minute conception in India. Therefore it is necessary to know the

progress done in this genre of direct tax system in India. Studies have shown that people tend to use on line tax filing as it is more convenient and quicker than traditional paper tax-filing. Every year there has been a substantial increase in the use of online tax filing. Technologies have made system more user-friendly in terms of ease-of-use, appealing user interface and smooth navigation.

The results of this study conclude that the behavioral intention of e-taxpayers towards the online tax-filing system is greatly influenced by perceived ease of use and perceived usefulness. Given the fact that the adoption of the electronic tax-filing system is voluntary in India, the findings suggest that a system that is easy to use, customizable, user-friendly, provides range of services, convenient, provides easy mode of payment, secured and reliable has a positive impact on attitude of the tax payers to voluntarily e-file their tax returns.

Suggestions

The government of India should increase its efforts to promote the usefulness and user-friendliness of the e-filing system. Attempt should be made to emphasize the usefulness of e-filing by using a suitable advertising campaign that clearly denotes the usefulness of e-filing. Deliberately administering the campaign during tax filing months will give a better result. Apart from this the Indian Income tax department can also improve the user-friendliness of the system by creating web based tutorials or videos that guide the tax- payers regarding the use of the e-filing system.

Limitations

As with any research, this study has several limitations. Firstly, the survey concentrates on limited citizens of Indore city and does not represent the whole of India. The results may vary with different sample, geographical areas and demographics. Thus the results of the study cannot be generalized. Secondly, the research model is based on constructs namely perceived attitude (PR), perceived usefulness (PU), perceived security and perceived ease of use (PEOU) and this model only explains over half of the variance of the intention to use electronic tax-filing system [$R^2 = 0.466$]. The unexplained 53% percent of variance suggests that other constructs could be included in this model. Also the responses of only online taxpayers were considered in the analysis. The responses of manual taxpayer may give different results. The comparison between the manual taxpayers and e-taxpayers can be considered for the future study.

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