

## RESEARCH ARTICLE

# Modelling the determinants of electronic tax filing services' continuance usage intention

Dinesh Ramdhony<sup>1,2</sup> | Francisco Liébana-Cabanillas<sup>2</sup>  |  
Vidisha Devi Gunesh-Ramlugun<sup>2</sup> | Fariha Mowlabocus<sup>2</sup>

<sup>1</sup>Department of Marketing and Market Research, University of Granada, Granada, Spain

<sup>2</sup>University of Mauritius, Reduit, Mauritius

## Correspondence

Francisco Liébana-Cabanillas,  
Department Director, Marketing and Market Research Department, Faculty of Economics and Business Administration, University of Granada, Campus Universitario La Cartuja, s/n, E-18071 Granada, Spain.  
Email: [franlieb@ugr.es](mailto:franlieb@ugr.es)

## Abstract

The success of electronic filing services largely depends on their continuance usage. This study examines the factors affecting the continuance usage intention of the online tax filing services in Mauritius. An integrated model comprising Trust Theory and Information System Success Model (ISSM) is applied to assess the continuance usage behaviour of e-filing systems. The model has been extended by adding two additional variables: Perceived Usefulness and Perceived Risk. The model was tested using a sample of 315 users of e-filing services in Mauritius. A structural equation modelling technique using partial least square structural equation modelling verified the hypotheses. The results reveal that the continuance usage intention of an electronic tax filing system is influenced by Perceived Usefulness, User Satisfaction, and Service Quality. However, Perceived Risk does not influence the continuance usage intention of e-filing systems since the importance of Perceived Risk diminishes as trust in the e-service provider increases. The theoretical and practical implications derived from the findings of this study are also discussed.

This is an open access article under the terms of the [Creative Commons Attribution-NonCommercial-NoDerivs](https://creativecommons.org/licenses/by-nc-nd/4.0/) License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

© 2022 The Authors. *Australian Journal of Public Administration* published by John Wiley & Sons Australia, Ltd on behalf of Institute of Public Administration Australia.

This paper makes several contributions to the literature on electronic tax filing systems.

#### KEYWORDS

continuance usage, electronic tax filing services, information system success model, Mauritius, Trust Theory

## 1 | INTRODUCTION

E-government is considered as a necessary condition for the swift and adequate development of public sectors worldwide (Chatfield & Alhujran, 2009). This may explain why many governmental institutions now provide their services online. Compared to other e-government services, e-filing is probably the most developed and most widely used service (Veeramootoo et al., 2018). The majority of tax reforms in developing countries leverage the potential of ICT (Information and Communication Technology) to improve the effectiveness and efficiency of tax bodies (Eilu, 2018).

The tax authority in Mauritius (Mauritius Revenue Authority [MRA]) introduced an e-filing service in 2007 and, even though a press release by the MRA in 2019 provides that a vast majority of Mauritians (93% of the population) have filed and submitted their income tax returns through the taxpayer portal on the MRA website, it is worth noting that the adoption and continuance usage of information technology are two distinct concepts. Continuance usage, also known as the post-adoption stage, relates to the individual's intention to keep using a specific technology (Nabavi et al., 2016). The use of technology tends to change after the initial acceptance stage, and it may increase or decrease depending on users' interaction experiences (Santhanamery & Ramayah, 2018; Venkatesh et al., 2011). Lallmahomed et al. (2017) posit that if individuals stop using an e-service, the e-service will become unsuccessful and ineffective. The expected advantages of e-filing systems will not be attained if they are not approached regularly. Therefore, the eventual success of an e-filing website depends on continuance usage rather than initial adoption (Bhattacharjee, 2001). Although continuance usage intention is an important consideration, research on e-filing continuance intention remains scarce (Akram et al., 2019). In addition, trust is a major barrier to the adoption and continuance usage of e-government services (Berdykhanova et al., 2010). Particularly, prior research (Veeramootoo et al., 2018) encouraged the analysis of the impact of trust on e-government websites and e-government in general.

The present study argues that the success of e-filing websites ultimately depends on trust. Trust in e-government in general and e-government websites in particular is instrumental to facilitate continuance usage. Therefore, the objectives of this research will be:

RQ1: To contribute to deepen the understanding of consumer behaviour in relation to electronic tax filing systems and to identify the determinants and barriers affecting their adoption.

RQ2: To develop a conceptual framework to better understand the antecedents of the continued use of electronic tax filing systems based on the Trust Theory and Information System Success Model (ISSM) together with Perceived Usefulness and Perceived Risk.

RQ3: To make a series of proposals and recommendations for government agencies to improve their e-services.

The present study makes several contributions to existing literature. First, it contributes to deepening the knowledge of electronic tax filing services by investigating the influence of trust on e-filing continuance intention. Second, we propose key variables in our theoretical framework and examine their relationship with intention. Finally, we make a series of proposals and recommendations for public administration bodies.

## 2 | THEORETICAL FRAMEWORK

### 2.1 | Trust Theory

Trust is even more significant in e-commerce transactions as the risk of financial fraud and personal information hacking is widespread. Trust has been used in combination with the ISSM model in several contexts such as m-banking (Chung & Kwon, 2009) and electronic patient records (Maillet et al., 2015).

Trust in e-government services can be divided into two main components, trust in government and trust in technology. Trust in government and the intention to engage in online government transactions are indirectly linked through the intention to disclose personal information for such transactions (Beldad et al., 2012). Trust in government is essential to determine whether citizens are likely to use an e-government system and continue using it (Srivastava & Teo, 2009). Colesca (2009) emphasises the importance of citizens' trust in government agencies and technology to assess the actual usage of e-government services.

In an e-government service context, personal information that needs to be disclosed online is usually sensitive. Since e-government websites do not provide the online user with alternatives, the role of trust is instrumental in determining usage of websites. Indeed, low levels of trust were among the most significant factors impeding the adoption of e-government services in Mauritius (Ramessur, 2009).

### 2.2 | Information System Success Model

There are multiple behavioural decision theories and intention models that the scientific literature has developed to analyse the behaviour of individuals in the face of an innovation (Migliore et al., 2022). In the context of information systems (IS), several theories and models have also been proposed to predict and explain the behaviour of users when faced with a new technology. In addition to the DeLone and McLean Information Systems Success Model (DMISM) (DeLone & McLean, 1992), there are other well-known theories and models, such as the Technology Acceptance Model (TAM) (Davis, 1989), Diffusion of Innovation Theory (DOI) (Rogers, 1995), Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980), Theory of Planned Behaviour (TPB), (Ajzen, 1985), TAM2 (Venkatesh & Davis, 2000), Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003), TAM3 (Venkatesh & Bala, 2008), and UTAUT2 (Venkatesh et al., 2012) among others. While it is true that all these theoretical proposals have been widely analysed by the scientific literature, the ISSM proposes the evaluation of IT by analysing the effect of overall quality on user satisfaction and subsequently use of a service (Aldholay et al., 2018) as in our case electronic tax filing services.

DeLone and McLean's (2003) ISMM is used to explain intention to use after the acceptance stage. The ISSM proposes six IS success concepts: system quality; information quality; usage of

IS; user satisfaction; individual impact; and organisation impact. The theory makes two important commitments to the comprehension of IS success. Initially, these different ISSM elements are summarised in one particular conceptual structure. Secondly, this theory suggests a temporary dependency between the classes (Wang & Liao, 2008). After 10 years, DeLone and McLean (2003) included an additional variable, namely service quality, and updated the IS success model to respond to the change in the IS environment. Ojo (2017) infers that the updated model and its constructs are useful with an acceptable goodness-of-fit in their study.

## 2.3 | Conceptual model and research hypotheses

### 2.3.1 | Trust in government

Trust in administration requires that the public believes in government (Reddick & Roy, 2013). The importance of having trust in government is to remove any doubts and susceptibility that may hinder the development of a relationship of confidence between the citizens and their government (Belanger & Carter, 2008). Likewise, within the e-commerce framework, the aim of e-commerce websites is accomplished through the online trust of customers toward the selling party (Eid, 2011). The vast majority of studies in the literature found that if a government agency adequately responds to the needs and services of the e-filing users, then citizens will rely more on the government website concerning the online tax filing service (Beldad et al., 2012). It is also seen that trust in e-filing arises only if users trust their tax agency (Kim et al. (2011), that is government programs (Srivastava & Teo, 2009). Teo et al. (2008) assessed the usage of e-government services and revealed a positive relationship between these two constructs. A solid connection between the government tax administration and the e-filing users is instrumental for the continuance usage of an e-service like e-filing (Misuraca, 2013). However, Chen et al. (2015) found no positive association between trust in government and trust in the e-filing website. In this light, the following hypothesis is put forward:

H1: Trust in government has a positive effect on trust in e-government websites.

### 2.3.2 | Trust in technology

When considering trust in technology, security of information comes first. In this sense, trust is the most reliable factor to predict the use of technology, and it is equally important to understand user opinions (McKnight & Chervany, 2001). This is particularly true when considering the constant security and privacy issues that affect the usage of online services (Belanger & Carter, 2008). Online trust in e-government or e-businesses can drastically mitigate the risk and security concerns crucial for the success of online services (McKnight et al., 2002). In other words, the success of an e-government website is determined by the level of trust assigned by those individuals who require a secure platform to perform their online transactions. In this way, trust in technology becomes valuable as it generates reliance on the use of the internet, the medium through which users can access the e-filing platform, to conduct online filing (Beldad et al., 2011). While Chen et al. (2015) found that trust in technology is a predictor of trust in an e-government website, Teo et al. (2008) disputed this relationship as they found no significant link between these two dimensions. Based on the above argument, the following hypothesis is put forward:

H2: Trust in technology has a positive effect on trust in e-government websites.

### 2.3.3 | Trust and service quality

Service quality positively impacts customers' evaluation of an organisation, which affects their trust in the organisation (e.g. Zeithaml et al., 1996). How the service is delivered also allows users to properly assess the organisation's characteristics, in this case, the government, and set levels of trust (Eisingerich & Bell, 2008).

Users' trust in a service determines their level of satisfaction, whether in an offline context (Lin & Wang, 2006) or in an online context (Hsu, 2008). Recent studies reveal that trust derived from IS, mobile websites, and so forth has a significant positive influence on the relationship between consumer trust and their level of satisfaction (Liébana-Cabanillas et al., 2015a).

Trust in e-government also affects the service quality provided by online-government service websites. A high level of trust in online government suggests that citizens perceive the good quality of the service, thus developing positive expectations (Khayun & Ractham, 2011). Moreover, the same scholars also found that trust in e-government websites positively affects the perception of service quality of the website. For all the above reasons, the following hypothesis is put forward:

H3: Trust in e-government websites has a positive effect on service quality of websites.

### 2.3.4 | Trust and system quality

In an online business setting, if customers notice that the online merchant guarantees the reliability and ease of using the website, they will perceive the system as a high-quality purchase platform. Likewise, in e-government services, citizens believe that the way the tax administration manages the website can enhance the perceived quality of the e-government website (Teo et al., 2008), particularly in terms of processes and accessibility (Khayun & Ractham, 2011). Trust in e-government services implies accepting that the tax administration strives to ensure that the system is easy to use and navigate through helpful instructions. Since online tax filing users are inexperienced about the technical characteristics of the e-filing service and the different ways to evaluate the system's quality, the tax administration is responsible for ensuring that the website works correctly (Teo et al., 2008). In addition, a positive association between these two factors was found. However, Chen et al. (2015) reveal that the impact of trust on system quality in an e-government context is not as significant as expected, even if the users trust the website. In this sense, there is always the possibility of some technical problems related to the system. Hence, it is hypothesised that:

H4: Trust in the e-government website has a positive effect on perceived system quality of the website.

### 2.3.5 | Trust and information quality

The connection between trust in the e-government website and information quality is of utmost importance. In an internet-based setting, users do not physically interact with the other party. This

lack of physical interaction highlights the reliance on the information delivered by the online service (Beldad et al., 2010). As such, trust in an e-service website is strongly connected to the perceived quality of the provided information. In this sense, users especially appreciate reliable, easy to understand, up-to-date information. Beldad et al. (2010) emphasised that the information quality dimension is positively influenced by trust in the e-government website. Chen et al. (2015) studied this relationship and found a positive connection between the two factors. However, Teo et al. (2008) argued that users may not always have a fair benchmark to assess the system and may also have different interpretations of the information available on the website. Some concerns may arise due to the lack of trust in the e-service when the government tax agency is not posting accurate and updated information on time or if the information is concealed due to political reasons. In light of these findings, the following hypothesis is put forward:

H5: Trust in e-government website has a positive effect on perceived information quality of the website.

### 2.3.6 | Service quality and continuance usage intention

Service quality is a customer's global assessment of the quality of an interaction with a vendor and the degree to which the said experience has satisfied the customer's needs. In this sense, Nunkoo et al. (2017) argued that better service quality prompts loyalty towards the administration providers in a marketing context. In an e-commerce context, researchers have found that online service quality positively influences online loyalty (Pee et al., 2018). Within an IS environment, a user's continued use of a system shows his loyalty towards the system. Kim et al. (2011) investigated continuance usage intention regarding loyalty towards a computer application and found that service quality directly affects continuance usage intention. In a recent study, Yang et al. (2017) revealed the positive relationship between service quality and continuance usage behaviour. In contrast, Wei et al. (2017) found the link between service quality and continuance usage behaviour to be irrelevant. Consequently, the following hypothesis is put forward:

H6: Service quality has a positive effect on continuance usage intention.

### 2.3.7 | System quality and continuance usage intention

Good system quality implies that the IS is usable, available, reliable, adaptable, and responds quickly to user needs (DeLone & McLean, 2003). Such an IS would also include the necessary mechanical efficiency to provide users with easy and fast access to information. System quality also ensures that the system is reliable and safe to use (Teo et al., 2008). If users realise the high quality of a system, they will be satisfied and will most likely use it again. Yang et al. (2017) investigated the continuance usage towards an open online course and found that system quality is positively related to the intention of ongoing utilisation. In another study, Lin and Lu (2000) explained how the internet creates a positive relationship between system quality and usage intention. In an e-service context, prior studies have demonstrated this specific connection (Teo et al., 2008). However, Wei et al. (2017) found a trivial relationship between system quality and continuance usage intention. In this light, the following hypothesis is put forward:

H7: System quality has a positive effect on continuance usage intention.

### 2.3.8 | Information quality and user satisfaction

According to Petter et al. (2012), even though information quality is a key concept used to explain user satisfaction, it has been neglected in the literature. The importance of quality of information is further stressed by the ISSM model, which argues that the primary component that explains user satisfaction is the quality of information (Laumer et al., 2017). McKinney et al. (2002) described information quality as the way an IS provides information to a user. The latter evaluates the performance of the system based on his own experience. The evaluation stage is done by assessing the information contained on the website, and this information must stand accurate, outright, simple to apprehend, and safe to allow online transactions (DeLone & McLean, 2003). Therefore, information quality includes impartial information. If the information contained in the e-tax system is perceived as trustworthy by the users, there will be an increase in their satisfaction level (Tjondro et al., 2019). In the context of the present study, the omission of deductible expenses while using e-filing is certainly disappointing since taxpayers need to increase their net tax payable. High-quality information is essential to prevent such unpleasant events (Veeramootoo et al., 2018). In this sense, accuracy and reliability are dimensions of information quality that are significant in the process of improving users' online satisfaction (Laumer et al., 2017). Most studies (e.g. Zheng et al., 2013; Laumer et al., 2017) investigating the relationship between information quality and user satisfaction find a positive link. On the other hand, other authors (e.g. Teo et al., 2008; Veeramootoo et al., 2018) find no significant association at all. Consequently, the following hypothesis is put forward:

H8: Information quality has a positive effect on user satisfaction.

### 2.3.9 | User satisfaction and continuance usage intention

There has been a shift in attention toward continued usage behaviours with the development of IS acceptance research (Liébana-Cabanillas et al., 2013; Pozón-López et al., 2019). In this sense, Bhattacharjee (2001) posits that the expectation of continued usage of an IS is derived from the users' satisfaction from its use. Firms often invest a significant amount of human and financial resources in monitoring and improving user satisfaction (Islam, 2011). Moreover, the literature provides evidence of a direct connection between user satisfaction and the expectation of continued usage. In a study on the exchange of information through virtual networks by Zheng et al. (2013), a noteworthy relationship was also found between user satisfaction and continuance intention to use. Other studies have also validated that relationship (Teo et al., 2008; Veeramootoo et al., 2018). In light of these findings, the following hypothesis is put forward:

H9: User satisfaction has a positive effect on continuance usage intention.

### 2.3.10 | Perceived usefulness and continuance usage intention

Davis (1989) defines perceived usefulness as 'the degree to which a person believes that using a particular system would enhance his or her job performance'. Chen et al. (2009) argue that perceived

usefulness is the most influential determinant of continuance usage intention when exploring continuance intention of customers based on their IT-related capabilities, social cognitive factors, and performance. In the Technology Acceptance Model framework, perceived usefulness is instrumental to explaining Behavioural Intention to use technology (Herzallah et al., 2022; Saheb et al., 2022; Liébana-Cabanillas et al., 2022). In this regard, past studies have shown a positive relationship between perceived usefulness and continuance intention in different contexts such as mobile apps (Huang & Ren, 2020), mobile payment (Liébana-Cabanillas et al., 2015b), and online learning (Lin & Wang, 2012).

Moreover, Santhanamery and Ramayah (2017) reveal that perceived usefulness acts as the main predictor of e-filing continued usage. Likewise, Ambali (2009) confirms the strong positive relationship between perceived usefulness and the continued usage of the tax filing system in Malaysia. For all the above reasons, the following study hypothesis is put forward:

H10: Perceived usefulness has a positive effect on continuance usage intention.

### 2.3.11 | Perceived risk and continuance usage intention

Perceived risk refers to a citizen's subjective expectation of suffering a loss while in pursuit of a desired outcome (Gefen et al., 2002). Risk is the feeling of uncertainty that affects people's confidence in their decisions (Herzallah et al., 2021).

Perceived risk is a relevant component in the early stages of citizens' e-tax adoption because, at this stage, consumers are not especially confident and aware of such public services (Akram et al., 2019). Perceived risk is considered as an important factor in online tax filing (Santhanamery & Ramayah, 2018) and for the persistence of exchange relationships (Palvia, 2009). This risk is related to the loss of confidential data transferred while performing e-filing. In the e-filing framework, perceived risk is the measure of vulnerability that users encounter while using the e-filing service (Azmi & Kamarulzaman, 2010). Hence, the transfer of sensitive information requires an appropriate level of trust between users of e-filing and the tax agents. Even though perceived risk is not developed after an IS acceptance framework, this factor has been found to impact e-filing usage intention in previous studies. Carter et al. (2011) advocated that perceived risk significantly affects a user's intention to use online tax filing services because of the different risks related to the internet. Rifat et al. (2009) and Ambali (2009) studied the influence of perceived risks on the usage of e-filing services and revealed that perceived risk negatively affects continuance usage. Therefore, the following hypothesis is put forward:

H11: Perceived risk has a negative effect on continuance usage intention

Figure 1 shows the research model for this study.

## 3 | RESEARCH METHODOLOGY

### 3.1 | Measurement development

The data collection method comprised a two-section questionnaire. The first part of the instrument aimed at collecting data about the variables of our proposed model. Questions in this section were formulated in Likert scales with anchors ranging from 1 for *strongly disagree* to 5 for *strongly agree*



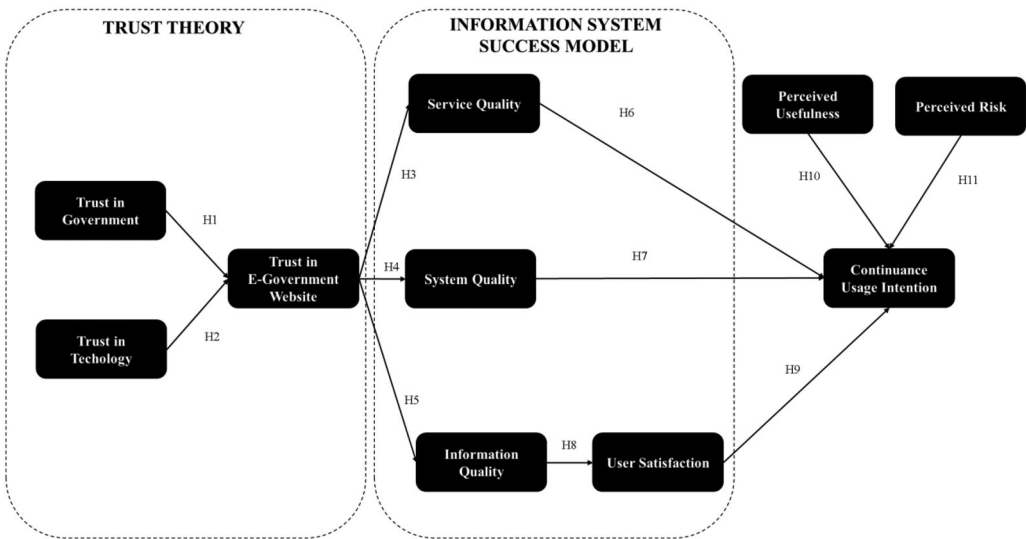


FIGURE 1 Research model

*agree*. To ensure content validity, all the constructs in this section were borrowed from prior studies (Teo et al., 2008; Belanche et al., 2014; Veeramootoo et al., 2018; Chen et al., 2015; Belanger & Carter, 2008; Akram et al., 2019) and were accordingly reshaped to meet the specific research objectives of the study (see [Supporting Information](#)).

### 3.2 | Data collection

Data were collected through a survey conducted in Mauritius in February 2019, following a non-probabilistic procedure. The study's target population were Mauritian individuals who already use (rather than first-time users) the e-filing service to file their returns. Given that it was impossible to obtain a sample frame due to privacy reasons, the study adopted a convenience sampling technique for the data collection procedure. Before circulating the questionnaire, a pilot study was undertaken among 10 respondents who found the questionnaire comprehensive. Both face to face and online surveys were used to administer the questionnaire. A total of 300 completed questionnaires were submitted and after data screening, a usable response of 193 was obtained. Of these, 103 were male and 90 were female respondents. Out of the respondents, 63.2% were computer literate and 75.6% had been using the internet for more than 10 years, indicating that the respondents were suitable to answer the research statement under study.

## 4 | RESULTS

The proposed model of the study was tested through a partial least square structural equation modelling (PLS-SEM) using the SmartPLS 3 software suite. Although both PLS-SEM and covariance-based SEM are suitable for testing complex cause and effect relationships (Ringle et al., 2009), PLS-SEM was seen to be the most appropriate method for the study at hand because data did not meet the normality threshold usually required under CB-SEM (Lohmöller, 1989), and also

because of the small sample size. In accordance with the PLS-SEM requirements, the results of the structural model are presented below, followed by the structural model.

The PLS model was analysed in two stages: first, the reliability and validity of the measurement scales were evaluated (i.e. measurement model) and, second, the relationships between the constructs and the fit of the model (i.e. structural model) were assessed (Molinillo et al., 2020).

#### 4.1 | Measurement model: Reliability and validity

The reliability of the indicators was examined through the factor loadings. Given that loadings higher than .70 (Hair et al., 2014) were observed to establish indicator reliability, two items, namely PR2 and SERVQ1, were removed, having loadings lower than .70. [Supporting Information](#) provides the results with regard to the loadings of the items. As indicated in the table, all items have factor loadings higher than .7, demonstrating indicator reliability for all items.

Internal consistency was evaluated through Cronbach's alpha and composite reliability. An indicator shows internal reliability when both Cronbach's alpha values and composite reliability exceed .7 (Hair et al., 2014). The average variance extracted (AVE) which demonstrates convergent validity was higher than .50 (Fornell & Larcker, 1981). Results for Cronbach's alpha, composite reliability, and AVE are presented in [Supporting Information](#), confirming that the constructs are suitable to be included in the structural model.

The Fornell–Larcker criterion was used to assess the discriminant validity of the construct. Discriminant validity is assumed when AVE exceeds the squared correlation of other constructs. [Supporting Information](#) presents AVE values on the diagonal, while the off-diagonal items show the squared item correlations. In the present study, AVE values are higher than off-diagonal items, thus demonstrating discriminant validity.

The Heterotrait–Monotrait (HTMT) correlations are yet another method to estimate discriminant validity (Henseler et al., 2015). HTMT can be seen as a superior measurement instrument to assess discriminant validity as it is not sensitive to error variance in composites of response scales. Under HTMT, discriminant validity is achieved when values are lower than .85 for conceptually distinct constructs and below .90 for conceptually similar constructs. Results for HTMT is shown in [Supporting Information](#). As shown in the table, none of the diagonal items is above .9, thus confirming discriminant validity.

Before assessing the structural model's predictive capabilities, the potential collinearity issues among endogenous constructs were verified to prevent any bias in terms of values and significances. None of the endogenous constructs had VIF values greater than 5, indicating that the PLS-SEM evaluation process could be carried out without any changes in the predictor variables.

#### 4.2 | Structural model assessment

In evaluating the structural model, the significance of the relationships between constructs and predictive quality is analysed. First, to assess the significance of the path coefficients, the bootstrapping procedure was run with 500 subsamples (Hair et al., 2014). As can be seen in [Supporting Information](#), all model assumptions are supported, except H8 and H11.

Results did not support the relationship between information quality and user satisfaction ( $\beta = .107, p > .10$ ), a finding which is consistent with previous research (Veeramootoo et al., 2018). Information Quality mainly refers to the usual requirements that users of this type of service expect and, therefore, does not significantly affect user satisfaction, unlike system quality, where

citizens perceive that it is directly related to the payment platform itself. Teo et al. (2008) argued that citizens making online transactions through e-government websites might be knowledgeable about the use of the required technology, and consequently, the quality of information becomes less important to them than the quality of the system and the quality of the service (Veeramootoo et al., 2018).

Other obtained results suggest that perceived risk does not affect continuance usage intention. Therefore, Hypothesis 11 was rejected ( $\beta = -.055, p > .10$ ), confirming the results of earlier studies (Veeramootoo et al., 2018). Perceived risk loses its importance when citizens show a favourable attitude toward the service provider due to the level of trust it conveys; in the present study, trust toward E-Government Website eliminates risk perception.

Next, the model's predictive accuracy was assessed through the coefficient of determination ( $R^2$ ) which measures the combined effect of the predictor variables on the endogenous variable. Rules of thumb are provided to determine satisfactory levels of  $R^2$  with values ranging from .75 for a strong effect, .50 for a moderate effect, and .25 for a weak effect (Hair et al., 2014; Hair et al., 2016). Results indicate that the exogenous variables are a good predictor of the endogenous variable with an  $R^2$  value of .644.

Although a path coefficient may be significant, it may not necessarily be relevant. To assess the relevance of the significance, the effect size  $f^2$  is calculated (Hair et al., 2016). The effect size explains the contribution of the exogenous relationship in explaining the endogenous construct (Hair et al., 2016). An effect size of .02, .15, and .35 would represent weak, moderate, and large effects, respectively (Hair et al., 2014).

The blindfolding cross-validated redundancy  $Q^2$  serves as another measure to assess the predictive relevance of the model. (Hair et al., 2014). This technique applies a sample reuse technique that removes observations from the calculation. This procedure is repeated until every data matrix has been omitted and the model is re-estimated (Sarstedt et al., 2017). A distance between 5 and 10 is recommended as long as an integer value is not obtained when dividing the number of observations by the omission distance (Hair et al., 2014). Given that the study has a sample size of 193, an omission distance of 7 was chosen. The study obtained a  $Q^2$  of .548 for continued usage behaviour and a  $Q^2$  of .483 for user satisfaction, revealing the high predictive performance of the model.

## 5 | IMPLICATIONS OF THE STUDY

One of the objectives of this paper was to provide a more comprehensive understanding of consumer behaviour in relation to electronic tax filing systems in Mauritius. Drawing from the theory of trust and from ISSM, the study proposed a more elaborated model to better understand the antecedents of the continued use of electronic tax filing systems based on the ISSM together with Perceived Usefulness and Perceived Risk. Findings of the study successfully confirm the predictive capability of our model. Although other studies have examined trust in e-government services, this aspect has either been under-researched in e-filing studies in less developed economies or failed to provide a comprehensive model which concurrently considers Continuance Usage Intentions, Trusts in e-filing, Perceived Usefulness, and Perceived Risk.

While our study confirms that Trust in E-Government Website is positively associated with Information Quality, the study does not find support for H8. This hypothesis predicted that Information Quality has a positive effect on User Satisfaction. When interpreted in light of the positive relationship between User Satisfaction and Continued Usage Intentions, the results suggest that the e-filing system is comprehensive and goes unnoticed with time such that it no longer influences User Satisfaction. This difference is motivated by the knowledge about using the analysed

tool, which is available to the citizens, leading to the quality of information becoming less critical in their decision-making process. This finding is critical because it holds important managerial and policy implications which we discuss below.

We believe that the findings of the study are important for governments in developing economies with similar research context which endeavour to implement an e-filing system. Particularly the study shows the contribution that trust plays in an e-filing system. This may entail huge investment in technology which may be a challenge for less developed economies. It is therefore suggested that the introduction of an e-filing system be carefully planned such that it takes concrete measures that target both users and staff.

Given that the study shows the influence of trust in e-government websites on not only service quality but also on information quality and system quality, it is recommended that due consideration be given to user friendly interfaces and type of information being provided be easy to understand, timely, and relevant. When users are satisfied with a system (Pee et al., 2018) and believe it to be trustworthy, they will use it.

## 5.1 | Managerial implications

The findings of the study are promising for the revenue authorities in Mauritius as the findings demonstrate that users in Mauritius trust the system and continue using it. This study provides a more comprehensive understanding of the e-filing system. More importantly, it also shows the government's commitment in improving the tax system in Mauritius, indicating the efforts of the country to be seen as a cooperative tax jurisdiction. User Satisfaction also affects Continuance Usage Intention; therefore, public administrations and the companies behind the development of these systems must continue to satisfy user expectations by upgrading interfaces, response time, and security to improve the final satisfaction level of the users. Finally, Service Quality also determines the Continuance Usage Intention of these services, forcing companies that manage and coordinate with the public administrations to improve the quality of their services to improve loyalty and consequently increase their use.

## 6 | LIMITATIONS AND FUTURE RESEARCH

Although the study extends our understanding of the factors influencing e-filing websites and continuance usage behaviour, it has some limitations that need to be considered when interpreting the results. First, the ISSM framework guided the study and we did not consider macro-variables such as income inequality, level of technological advancements, and consumption patterns. Therefore, future research may be directed toward the inclusion of these variables. This may lead to an increase in the model's explanatory power and may also result in more accurate conclusions. In addition, while quantitative studies have been successful in explaining cause-effect relationships, this approach has inherent limitations. Furthermore, the disadvantage of a cross-sectional study design is that it does not allow for assessing behaviour over time. Studies in technology acceptance suggest that acceptance differs over time, explaining differences in the behaviour of early and late adopters. Therefore, future longitudinal studies are warranted to evaluate changes in continuance usage intention.

Another limitation of the study is that it fails to take into account the broader contextual factors of the country which undoubtedly influences e-filing system usage. It is therefore proposed that

qualitative studies be considered when studying e-filing behaviour. Methodological pluralism has previously been advocated in information technology research.

Finally, the non-probability sampling technique adopted by the present study does not allow for generalisations to be made as it is difficult to assess the extent to which the target population is representative. This research encourages future studies to be conducted through random sampling techniques to generalise the results properly.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

## ORCID

Francisco Liébana-Cabanillas  <https://orcid.org/0000-0002-3255-0651>

## REFERENCES

- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), *Action control: From cognition to behavior* (pp. 11–39). Springer-Verlag.
- Ajzen, I., & Fishbein, M. A. (1980). *Understanding attitudes and predicting social behaviour* (1st ed.). Pearson.
- Akram, M. S., Malik, A., Shareef, M. A., & Goraya, M. A. S. (2019). Exploring the interrelationships between technological predictors and behavioral mediators in online tax filing: The moderating role of perceived risk. *Government Information Quarterly*, 36(2), 237–251.
- Aldholay, A. H., Isaac, O., Abdullah, Z., Alrajawy, I., & Nusari, M. (2018). The role of compatibility as a moderating variable in the information system success model: The context of online learning usage. *International Journal of Management and Human Science (IJMHS)*, 2(1), 9–15.
- Ambali, A. R. (2009). E-government policy: Ground issues in e-filing system. *European Journal of Social Sciences*, 11(2), 249–266.
- Azmi, A. A. C., & Kamarulzaman, Y. (2010). Adoption of tax e-filing: A conceptual paper. *African Journal of Business Management*, 4(5), 599–603.
- Belanche, D., Casalo, L. V., Flavián, C., & Schepers, J. (2014). Trust transfer in the continued usage of public e-services. *Information & Management*, 51(6), 627–640.
- Belanger, F., & Carter, L. (2008). Trust and risk in e-government adoption. *The Journal of Strategic Information Systems*, 17(2), 165–176.
- Beldad, A., De Jong, M., & Steehouder, M. (2010). How shall I trust the faceless and the intangible? A literature review on the antecedents of online trust. *Computers in Human Behavior*, 26(5), 857–869.
- Beldad, A., De Jong, M., & Steehouder, M. (2011). I trust not therefore it must be risky: Determinants of the perceived risks of disclosing personal data for e-government transactions. *Computers in Human Behavior*, 27(6), 2233–2242.
- Beldad, A., van der Geest, T., & de Jong, M., & Steehouder, M. (2012). A cue or two and I'll trust you: Determinants of trust in government organisations in terms of their processing and usage of citizens' personal information disclosed online. *Government Information Quarterly*, 29(1), 41–49.
- Berdykhanova, D., Dehghantanha, A., & Hariraj, K. (2010). *Trust challenges and issues of e-government: E-tax prospective*. 2010 International Symposium on Information Technology, Vol. 2, pp. 1015–1019, IEEE.
- Bhattacharjee, A. (2001). Understanding information systems continuance: An expectation-confirmation model. *MIS Quarterly*, 25(3), 351–370.
- Chatfield, A. T., & Alhujran, O. (2009). A cross-country comparative analysis of e-government service delivery among Arab countries. *Information Technology for Development*, 15(3), 151–170.
- Chen, J. V., Jubilado, R. J. M., Capistrano, E. P. S., & Yen, D. C. (2015). Factors affecting online tax filing—An application of the IS Success Model and trust theory. *Computers in Human Behavior*, 43, 251–262.
- Chen, J. V., Yen, D. C., & Chen, K. (2009). The acceptance and diffusion of the innovative smart phone use: A case study of a delivery service company in logistics. *Information & Management*, 46(4), 241–248.
- Chung, N., & Kwon, S. J. (2009). Effect of trust level on mobile banking satisfaction: A multi-group analysis of information system success instruments. *Behaviour & Information Technology*, 28(6), 549–562.
- Colesca, S. E. (2009). Understanding trust in e-government. *Engineering Economics*, 63(4), 7–15.

- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340.
- DeLone, W. H., & McLean, E. R. (1992). Information systems success: The quest for the dependent variable. *Information Systems Research*, 3(1), 60–95.
- Delone, W. H., & McLean, E. R. (2003). The Delone and Mclean model of information systems success: A ten-year update. *Journal of Management Information Systems*, 19(4), 9–30.
- Eid, M. (2011). Determinants of e-commerce customer satisfaction, trust, and loyalty in Saudi Arabia. *Journal of Electronic Commerce Research*, 12, 78–93.
- Eilu, E. (2018). Adoption of electronic fiscal devices (EFDs) for value-added tax (VAT) collection in Kenya and Tanzania: A systematic review. *African Journal of Information and Communication*, 22, 111–134.
- Eisingerich, A. B., & Bell, S. J. (2008). Perceived service quality and customer trust: Does enhancing customers' service knowledge matter? *Journal of Service Research*, 10(3), 256–268.
- Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research*, 18(3), 382–388.
- Gefen, D., Warkentin, M., Pavlou, P., & Rose, G. (2002). *E-government adoption*. Proceedings of the AMCIS 2002.
- Hair, J. F., Jr., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage.
- Hair, J. F., Jr., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106–121.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135.
- Herzallah, D., Leiva, F. M., & Liébana-Cabanillas, F. (2021). To buy or not to buy, that is the question: Understanding the determinants of the urge to buy impulsively on Instagram Commerce. *Journal of Research in Interactive Marketing*, . <https://doi.org/10.1108/JRIM-05-2021-0145>
- Herzallah, D., Muñoz-Leiva, F., & Liebana-Cabanillas, F. (2022). Drivers of purchase intention in Instagram Commerce. *Spanish Journal of Marketing-ESIC*, 26(2), 168–188.
- Hsu, S. H. (2008). Developing an index for online customer satisfaction: Adaptation of American Customer Satisfaction Index. *Expert Systems with Applications*, 34(4), 3033–3042.
- Huang, G., & Ren, Y. (2020). Linking technological functions of fitness mobile apps with continuance usage among Chinese users: Moderating role of exercise self-efficacy. *Computers in Human Behavior*, 103, 151–160.
- Islam, A. N. (2011). The determinants of the post-adoption satisfaction of educators with an e-learning system. *Journal of Information Systems Education*, 22(4), 319–330.
- Khayun, V., & Ractham, P. (2011). *Measuring e-excite tax success factors: Applying the Delone & Mclean information systems success model*. 2011 44th Hawaii International Conference on System Sciences, pp. 1–10, IEEE.
- Kim, J., Hong, S., Min, J., & Lee, H. (2011). Antecedents of application service continuance: A synthesis of satisfaction and trust. *Expert Systems with Applications*, 38(8), 9530–9542.
- Lallmahomed, M. Z., Lallmahomed, N., & Lallmahomed, G. M. (2017). Factors influencing the adoption of e-Government services in Mauritius. *Telematics and Informatics*, 34(4), 57–72.
- Laumer, S., Maier, C., & Weitzel, T. (2017). Information quality, user satisfaction, and the manifestation of workarounds: A qualitative and quantitative study of enterprise content management system users. *European Journal of Information Systems*, 26(4), 333–360.
- Liébana-Cabanillas, F., Muñoz-Leiva, F., & Rejón-Guardia, F. (2013). The determinants of satisfaction with e-banking. *Industrial Management & Data Systems*, 113(5), 750–767.
- Liébana-Cabanillas, F., Muñoz-Leiva, F., & Sánchez-Fernández, J. (2015a). Influence of age in the adoption of new mobile payment systems. *Revista Brasileira de Gestão de Negócios*, 17(58), 1390–1407.
- Liébana-Cabanillas, F., Muñoz-Leiva, F., & Sánchez-Fernández, J. (2015b). Payment systems in new electronic environments : Consumer behavior in payment systems via SMS. *International Journal of Information Technology & Decision Making*, 14(02), 421–449.
- Liébana-Cabanillas, F., Muñoz-Leiva, F., Molinillo, S., & Higuera-Castillo, E. (2022). Do biometric payment systems work during the COVID-19 pandemic? Insights from the Spanish users' viewpoint. *Financial Innovation*, 8(1), 1–25.
- Lin, H. H., & Wang, Y. S. (2006). An examination of the determinants of customer loyalty in mobile commerce contexts. *Information & Management*, 43(3), 271–282.

- Lin, J. C. C., & Lu, H. (2000). Towards an understanding of the behavioural intention to use a web site. *International Journal of Information Management*, 20(3), 197–208.
- Lin, W. S., & Wang, C. H. (2012). Antecedences to continued intentions of adopting e-learning system in blended learning instruction: A contingency framework based on models of information system success and task-technology fit. *Computers & Education*, 58(1), 88–99.
- Lohmöller, J. B. (1989). Predictive vs. structural modeling: PLS vs. ML. In J. B. Lohmöller (Ed.), *Latent variable path modeling with partial least squares* (pp. 199–226). Springer.
- Maillet, É., Mathieu, L., & Sicotte, C. (2015). Modeling factors explaining the acceptance, actual use and satisfaction of nurses using an Electronic Patient Record in acute care settings: An extension of the UTAUT. *International Journal of Medical Informatics*, 84(1), 36–47.
- McKnight, D. H., & Chervany, N. L. (2001). What trust means in e-commerce customer relationships: An interdisciplinary conceptual typology. *International Journal of Electronic Commerce*, 6(2), 35–59.
- McKnight, D. H., Choudhury, V., & Kacmar, C. (2002). Developing and validating trust measures for e-commerce: An integrative typology. *Information Systems Research*, 13(3), 334–359.
- Migliore, G., Wagner, R., Cechella, F. S., & Liébana-Cabanillas, F. (2022). Antecedents to the adoption of mobile payment in China and Italy: An integration of UTAUT2 and innovation resistance theory. *Information Systems Frontiers*, . <https://doi.org/10.1007/s10796-021-10237-2>
- Misuraca, G. C. (2013). e-Government 2015: Exploring m-government scenarios, between ICT-driven experiments and citizen-centric implications. In S. Mendonça & B. Sapio (Eds.), *Foresight for dynamic organisations in unstable environments* (pp. 131–148). Routledge.
- Molinillo, S., Navarro-García, A., Anaya-Sánchez, R., & Japutra, A. (2020). The impact of affective and cognitive app experiences on loyalty towards retailers. *Journal of Retailing and Consumer Services*, 54, 101948.
- McKinney, V., Yoon, K., & Zahedi, F. M. (2002). The measurement of web-customer satisfaction: An expectation and disconfirmation approach. *Information systems research*, 13(3), 296–315.
- Nabavi, A., Taghavi-Fard, M. T., Hanafizadeh, P., & Taghva, M. R. (2016). Information technology continuance intention: A systematic literature review. *International Journal of E-Business Research (IJEER)*, 12(1), 58–95.
- Nunkoo, R., Teeroovengadam, V., Thomas, P., & Leonard, L. (2017). Integrating service quality as a second-order factor in a customer satisfaction and loyalty model. *International Journal of Contemporary Hospitality Management*, 29(12), 2978–3005.
- Ojo, A. I. (2017). Validation of the Delone and Mclean information systems success model. *Healthcare Informatics Research*, 23(1), 60–66.
- Palvia, P. (2009). The role of trust in e-commerce relational exchange: A unified model. *Information & Management*, 46(4), 213–220.
- Pee, L. G., Jiang, J., & Klein, G. (2018). Signaling effect of website usability on repurchase intention. *International Journal of Information Management*, 39, 228–241.
- Petter, S., DeLone, W., & McLean, E. R. (2012). The past, present, and future of “IS Success”. *Journal of the Association for Information Systems*, 13(5), 341–362.
- Pozón-López, I., Kalinic, Z., Higuera-Castillo, E., & Liébana-Cabanillas, F. (2019). A multi-analytical approach to modeling of customer satisfaction and intention to use in Massive Open Online Courses (MOOC). *Interactive Learning Environments*, 28(8), 1003–1021.
- Ramesur, T. S. (2009). E-governance and online public service: The case of a Cyber Island. *International Journal of Computing and ICT Research*, 3(2), 12–19.
- Reddick, C. G., & Roy, J. (2013). Business perceptions and satisfaction with e-government: Findings from a Canadian survey. *Government Information Quarterly*, 30(1), 1–9.
- Ringle, C. M., Sarstedt, M., & Schlittgen, R. (2009). Finite mixture and genetic algorithm segmentation in partial least squares path modeling: Identification of multiple segments in complex path models. In A. Fink, B. Lausen, W. Seidel, & A. Ultsch (Eds.), *Advances in data analysis, data handling and business intelligence* (pp. 167–176). Springer.
- Rogers, E. M. (1995). *Diffusion of innovations* (4th ed.). The Free Press.
- Saheb, T., Liébana-Cabanillas, F., & Higuera-Castillo, E. (2022). The risks and benefits of Internet of Things (IoT) and their influence on smartwatch use. *Spanish Journal of Marketing-ESIC*, . <https://doi.org/10.1108/SJME-07-2021-0129>

- Santhanamery, T., & Ramayah, T. (2018). *Trust in the system: The mediating effect of perceived usefulness of the e-filing system*. In *User centric e-government* (pp. 89–103). Springer, Cham.
- Santhanamery, T., & Ramayah, T. (2018). Trust in the system: The mediating effect of perceived usefulness of the e-filing system. In S. Saeed, T. Ramayah, & Z. Mahmood (Eds.), *User centric e-Government* (pp. 89–103). Springer.
- Sarstedt, M., Ringle, C. M., & Hair, J. F. (2017). Partial least squares structural equation modeling. In C. Homburg, M. Klarmann, & A. Vomberg (Eds.), *Handbook of market research* (pp. 1–40). Springer.
- Srivastava, S. C., & Teo, T. S. (2009). Citizen trust development for e-government adoption and usage: Insights from young adults in Singapore. *Communications of the Association for Information Systems*, 25(1), 359–378.
- Teo, T. S., Srivastava, S. C., & Jiang, L. I. (2008). Trust and electronic government success: An empirical study. *Journal of management information systems*, 25(3), 99–132.
- Tjondro, E., Santosa, K. G., & Prayitno, N. (2019). Perceptions of service-orientation and trust of tax officers between millennials, x, and baby boomers. *MIX: Jurnal Ilmiah Manajemen*, 9(1), 1–18.
- Veeramootoo, N., Nunkoo, R., & Dwivedi, Y. K. (2018). What determines success of an e-government service? Validation of an integrative model of e-filing continuance usage. *Government Information Quarterly*, 35(2), 161–174.
- Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision Science*, 39(2), 273–312.
- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46(2), 186–204.
- Venkatesh, V., Morris, M. G., Davis, F. D., & Davis, G. B. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27, 425–478.
- Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 36(1), 157–178.
- Venkatesh, V., Thong, J. Y., Chan, F. K., Hu, P. J. H., & Brown, S. A. (2011). Extending the two-stage information systems continuance model: Incorporating UTAUT predictors and the role of context. *Information Systems Journal*, 21(6), 527–555.
- Wang, Y. S., & Liao, Y. W. (2008). Assessing eGovernment systems success: A validation of the Delone and Mclean model of information systems success. *Government Information Quarterly*, 25(4), 717–733.
- Wei, K. M., Tang, Y. T., Kao, Y. C., Tseng, L. C., & Wu, H. H. (2017). Using an updated Delone and Mclean model to assess the success of implementing the ward cleaning logistics system in a medical center. *Journal of Statistics and Management Systems*, 20(5), 965–976.
- Yang, M., Shao, Z., Liu, Q., & Liu, C. (2017). Understanding the quality factors that influence the continuance intention of students toward participation in MOOCs. *Educational Technology Research and Development*, 65(5), 1195–1214.
- Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing*, 60(2), 31–46.
- Zheng, Y., Zhao, K., & Stylianou, A. (2013). The impacts of information quality and system quality on users' continuance intention in information-exchange virtual communities: An empirical investigation. *Decision Support Systems*, 56, 513–524.

## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

**How to cite this article:** Ramdhony, D., Liébana-Cabanillas, F., Gunesh-Ramlugun, V. D., & Mowlabocus, F. (2022). Modelling the determinants of electronic tax filing services' continuance usage intention. *Australian Journal of Public Administration*, 1–16.  
<https://doi.org/10.1111/1467-8500.12559>