Towards an Understanding of the Factors Influencing the Acceptance and Diffusion of e-Government Services

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Abstract: Governments in emerging nations are relying on information technology as an important tool for their sustained development. Hence, it is an imperative to understand and influence user's acceptance and diffusion of e-Government services among citizens. This study makes use of the electronic tax filing and payment system in Mauritius, as an example of an e-Government service, to integrate two leading models (TAM and DOI) in order to explain user's intention to adopt and continue to make use of the electronic tax system. The main survey instrument, a structured questionnaire was used to capture the perceptions and intentions of users of the system. Moreover, locally this area is a fairly un-researched one and will be explored in light of the context and culture of Mauritius. This paper is expected to 1) contribute to the literature by explaining the factors which affect e-government acceptance and diffusion in the perspective of an emerging economy; and 2) identify those factors which practitioners (and the Government) could consider in their endeavour to promote the acceptance and diffusion of e-Government services.

Keywords: e-government, TAM, DOI and emerging economy

1. Introduction

The e-government paradigm is aimed to sustain internal networking and assist external partnership. It is fundamental for e-Government policy makers to appraise the demand of citizens for e-Government services, because this will serve as an indicator which can direct deployment and implementation of electronic services. Reddick (2005) insisted that Governments may be investing in the provision of online information and services, while the demand might not be real and present. As a result this situation is expected to have an indirect effect on the acceptance and diffusion of those information systems. On the other hand, researchers (Carter and Belanger, 2005) have found that the acceptance of e-government systems is not simply a technological concern. Adoption of e-government by users is largely affected by social, human, organisational and cultural factors (Carter and Belanger, 2005).

Many have set ambitious goals for making the internet the one-stop "back-bone" of service delivery (Chen and al., 2009). The objective of this study is to 'identify the factors leading to the acceptance and diffusion of e-Government systems in a developing country context'. A conceptual framework was developed based on existing literature and was tested using a questionnaire as survey instrument. The e-Tax filing system of the Mauritius Revenue Authority was used as an illustration of an e-Government service.

2. Literature review

The 'e-government' concept entails making use of IT by governmental institutions to enhance their operational efficiency and effectiveness in meeting citizens' needs and service delivery (Chen et al., 2009). The scope of e-government services extend from posting generally requested information on a website to providing and processing online requests such as electronic payment of taxes or other fees.

The main rationale of e-government initiatives is to put together services focused on citizens needs (Moon, 2002). E-government involves novel forms of delivering and tailoring information and services, connecting communities and businesses locally and globally and reforming us towards digital democracy. E-government offers flexible and convenient access to public information and services with the view of providing citizens an improved service (Moon, 2002). For example, Governmental web pages offer citizens a single channel to interact with their government (Thomas and Streib, 2003). As a result, communication is improved and citizens do not have to visit numerous government offices to obtain the service they require.

The idea of e-Government is tagged along private-sector adoption of so called e-business and e-commerce (Moon, 2002). Since more than four decades, e-commerce, which is the use of

technologies as tools to transact in the business/private sector, have been in operation. The public sector is now pursuing a similar route. Moreover, globalisation and advancements in technology have fundamentally changed and influenced the way businesses operate and how people go about their daily lives. In a similar fashion, governments have seized opportunities to reshape traditional public service structures to improve cost-effectiveness and service delivery standards. However, it is important to acknowledge that the e-commerce context cannot be replicated in the governmental settings without accounting for the specificities of the latter's environment (Hung et al., 2006). Several authors (Hung et al., 2006; Ha and Stoel, 2009) have associated the emergence of e-government to a fundamental redesign of government including changes in work processes, culture and behaviours of citizens and other stakeholders.

As mentioned earlier, the model of e-government involves major change in the work processes of public sector entities which will make them run more efficiently and effectively. Inherently, E-government projects are high risk and high budget projects which require the attention of policy makers and implementers. Current research in the field of Information Systems advocates that human and organisational issues are critical to the successful implementation of an information System and increased interest must be given to these issues during and after systems development (Ven der Heijden, 2004). Studies on e-commerce adoption have shown that 'perceived risk' of shopping online has been shown to influence attitude towards online purchasing (Ven der Heijden, 2004). Contrary to their hypothesis, 'perceived risk' (PR) was not found to be an important factor that directly influences taxpayer's choice of tax-filing method (Fu et al., 2006).

In spite of the world wide diffusion of e-Government initiatives, a proper transition to an electronic form of government will take time. To acquire the alleged benefits of e-Government has not been easy for various technological as well as organisational reasons. This holds true for both industrialised as well as developing countries (Strejeek and Theil, 2002). E-Government initiatives involve complex changes with the use of new and emerging technologies to support a transformation in the operation and effectiveness of government. A pragmatic approach that involves addressing the major hurdles of implementation as well as creating a process that would improve the performance of government and create a collaborative environment that fosters ongoing improvements is required to realise the successful implementation of e-Government.

More recent studies are undoubtedly focusing on the rising fashion of e-government development (Moon, 2002). Only few have explored the organisational and environmental factors which influence the adoption decision of e-government and online services. Further empirical studies on user acceptance of e-Government services have to be undertaken to assist governments in their endeavour to enhance the effectiveness and quality of e-Government services.

Studies performed on e-government have focused on 'performance' by appraising the services available to citizens on government web portals (Moon, 2002). In comparison, the emphasis on online services (transactional e-citizens) is less researched; few studies have made a preliminary examination of the characteristics of citizens who tend to interact with government (Thomas and Streib, 2003). Previous studies on the consequence of new technology adoption on organisational change in government have shown that computing technologies do not always come with a change in the existing process and structure of the organisation. In her study, Fountain (2001) claims that the acceptance of a new technology is not dependent on the objective technology designed by technical people. However, he argues that the technology is built to be in line with the environment of the institution.

Several authors (Moon and Kim, 2001; Gefen and Straub, 1997) have acknowledged that factors of the TAM and DOI models influence users' acceptance of e-commerce. Consequently, it is foreseen that they will also affect user adoption of e-government (Warkentin et al., 2002; Carter and Bélanger, 2005). The construct 'trustworthiness' has been found to be particularly important as it is expected to impact on citizen's intention to use state e-government services. Bélanger et al (2002) define trustworthiness as 'the perception of confidence in the electronic marketer's reliability and integrity'. Privacy and security are issues which keep coming up in e-commerce and e-government research (Miyazaki and Fernandez, 2001; Bélanger et al., 2002).

Rogers (1995) stated that the nature of managerial job provides managers with the opportunity to exercise pressure on employees to acknowledge the benefits of an innovation and accept the need

for change and recognise the latter as being the "right thing to do". According to the definition of Rogers (1983) the use of e-government services can be considered a novel approach since they are to be perceived as innovations by users (internet/citizen users). As was seen previously in the literature review, the DOI (Rogers, 1983) proposes a generic adoption model which consists of five distinct categories of adopters: innovators, early adopters, early majority, and laggards. E-government services are still in the early stage of adoption in Mauritius. As per the diffusion of innovations classification, those citizens who have already started to use e-government services can be classified as early adopters.

The DOI theory specifies that 'early adopters' of an innovation have common characteristics. Early adopters are most often educated young users enjoying fairly high incomes (Rogers, 1983) and many studies have pointed to the fact that citizens who make use of online facilities correspond to this description (Thomas and Streib, 2003). Then again, the DOI suggests that early adopters, in addition, to sharing demographic characteristics also have the same personality traits and communication patterns (Rogers, 1995).

As emerged from the reviewed literature the TAM and DOI share several common features. TAM however, stresses on two key factors: psychological predispositions and social influences. The model goes beyond the demographic classification of adopters to explain two important psychological dimensions that influences the adoption process, that is, PU and EOU. The TAM model hypothesises the following: the higher the perceived usefulness of the new technology, the more likely it is to be adopted by its consumer. This proposition points to the decisions that to adopt a new technology service (e.g. electronic government) is based on a subjective perception on the part of the user. Based on the reviewed literature on diffusion and TAM the main components of the conceptual framework were derived and tested in this study.

3. Constructs of interest for this research

3.1 Perceived usefulness

Perceived Usefulness (PU) is defined as "the extent to which a person believes that the technology, under investigation, will enhance his/her productivity or job performance" (Davis et al., 1989). In the e-Government context, it is perceived as the likelihood that the technology will benefit the user in the performance of some task. It is primarily connected with perceptions of the outcome as a result of technology usage. A significant body of TAM research has provided evidence that PU is a strong determinant of user acceptance, adoption, and usage behaviour (Davis, 1989; Mathieson, 1991; Taylor and Todd, 1995a). In fact, PU has been found to be the most significant factor in acceptance technology in the workplace, even doing better than EOU (Davis, 1989; Hu et al., 1999). Based on the previous discussion, this research proposes that PU will have a positive impact on attitude towards e-Government usage.

Hypothesis 1: *The higher the PU of the e-Government service, the more positive the attitude toward the adoption of the innovation.*

3.2 Perceived Ease of Use (EOU)

EOU is defined as "the extent to which a person believes that using a technology will be simple" (Davis et al., 1989). This construct is linked to an individual's estimation of the effort he or she will have to put in to learn and use a technology. EOU is advantageous for the early acceptance of an innovation and is necessary for adoption and subsequent diffusion of technological innovations (Davis et al., 1989). EOU has been employed widely in understanding user acceptance of technology (Venkatesh, 2000). Like PU, EOU has empirical support as a critical component of the adoption process (e.g Venkatesh, 1999). The influence which EOU has within TAM, however, is less clear. Occasionally, EOU has shown to have both a direct effect on attitude, whereas in other cases only an indirect effect (via PU) has been found (Davis et al., 1989; Venkatesh, 1999). The direct effect suggests that EOU could improve attitude toward adoption regardless of the product's usefulness. By contrast, the indirect effect stems from the situation where, other things being equal, the easier a technology is to use, the more useful it is perceived to be, thus, the more positive one's attitude and intention toward using the technology (Davis et al., 1989). Both direct and indirect effects have been tested and found positive and significant in the workplace context (Adams et al., 1992; Davis et al, 1989). Thus, the following hypotheses emerge:

Hypothesis 2: the higher the EOU of the e-Government service, the greater the perceived usefulness of the technological innovation.

3.3 Social influence

We define social influence as the "degree to which an individual believed that others thought they should use electronic government services". The original TAM has been criticised by several authors for disregarding the impact of 'social influence' on adoption and diffusion of technological innovations (Melone, 1990; Davis et al., 1989). Malhotra and Galletta (2005) investigated the effect of social influences and found that the latter plays a vital role in determining the acceptance and usage behaviour of new adopters of technological innovations. In the UTAUT model, social influences were recognised as being one of the four determinants of BI to use. Social influence may be divided into external and interpersonal. The first includes mass media reports, expert opinions, and other non-personal information, while the other includes word-of-mouth from friends, colleagues, and superiors. This study makes reference to 'social influence' as interpersonal influence.

Social influences are related to a person's attitude towards e-government services and are based on the concept of personal innovativeness. Personal innovativeness in using IT is a trait reflecting a willingness to try out any new technology (Agarwal and Prasad, 1998). Innovations create uncertainty about their expected consequences, and individuals who are uncomfortable with uncertainty will tend to interact with their social network before making a decision. Overall, using an innovation is seen as a form of public consumption; it can be significantly influenced by friends and colleagues (Hong and Tam, 2006). In this research we propose that socially-communicated perceptions and beliefs may influence usage behaviour of e-Government services. Based on the above the following hypothesis is proposed:

Hypothesis 3: Social Influence has a positive effect on a person's attitude towards e-Government innovations.

Although EOU is dependent on technology and user skills, explicit opinions expressed by others will affect it. Recently, Hsu and Lu (2004) studied the impact of social norms and found that this construct explains a determining factor in user's decision to accept a new technology. People's attitudes, behaviour, and perceptions are affected by the information he or she receives from the social environment. Social influences may shape his or her confidence in or ability to use a technological system. Potential users of e-Government services may feel that adopting the services and technologies will not require much effort if others in their social environment say that the system is easy to use. Social influence encourages people to use a technology, though it has an indirect impact on their intention to adopt. Based on the above, this study posits that:

Hypothesis 4: Social influence has a positive effect on EOU of the e-Government service.

3.4 Voluntariness

Voluntariness is defined as "the degree to which the use of the innovation is perceived to be voluntary or of free will" (Rogers, 1983); and is an objective condition about the adoption opportunity. Voluntariness is closely related to EOU and reflects user's perceptions of specific IT adoption settings, rather than a subjective consciousness. Many organisations have implemented non-mandatory information systems that escape the conventional logic of understanding acceptance and usage. In most organisation technologies are mandated; hence the basic relationships of conventional technology acceptance models will be different (Brown et al., 2002). Because voluntary systems require voluntary behaviour, researchers have traced recent implementation failure to lack of user commitment. Malhotra and Galetta (2005) found that user commitment plays a critical role in the volitional acceptance and usage of information systems. In the case of e-Government, most e-Services implemented will be done on a mandatory basis and hence, it is justified to study the user perceptions of voluntariness on the e-Government service implemented. Thus the following hypothesis is proposed:

Hypothesis 5: The perceptions of voluntariness of using e-Government services will have a positive effect on BI.

3.5 Compatibility

Compatibility is an 'integration factor' and is defined as "the degree to which an innovation is perceived as consistent with the existing values, past experience, and needs of potential adopters" (Rogers, 1983). As the user's utilisation of the target technology deepens, the compatibility will gradually change influencing in complex interaction with both PU and EOU. Agarwal and Prasad (1998) found that the degree to which potential adopters are prepared to accept an Information Technology is affected by the way they are accustomed to work. Moreover, the compatibility construct was also found to be a significant determinant in citizen's intention to use an e-Government service (Carter and Belanger, 2005; Hung et al., 2006). Thus for this study the following hypotheses has been formulated:

Hypothesis 6: *The perception of compatibility of the target technology will have a positive effect on EOU*

3.6 Trust

Trustworthiness has been defined as "the perception of confidence in the electronic marketer's reliability and integrity" (Belanger et al, 2002) and the challenges presented by issues related to 'privacy' and 'security' in the e-commerce literature keeps recurring (Belanger et al., 2002). In the same way, it is expected that citizens will need to have a certain degree of confidence in the electronic services provided by the Government before they accept and use the latter. Carter and Belanger (2005) found that 'trust' was in fact an indicator of citizen's acceptance of e-services. Moreover, Hung et al (2006) also confirmed 'trust' as an important determinant of user acceptance of electronic tax filing and payment system.

Trust has been supported as a determining factor of on-line commerce usage which is as widely accepted as the two technology acceptance model use-antecedents (Ha and Stoel, 2009). The connections between trust and the technology acceptance model have been amply discussed in literature in regard to the relationships between PU, EOU and trust (Ha and Stoel, 2009). A previous study found trust to be an antecedent of PU; and EOU as an antecedent of trust, and trust as having a direct influence on BI to use. Trust has direct and positive influence on PU; EOU has a direct and positive influence on 'trust' (Gefen et al., 2003). Kim and Lee (2009) also found that trust has a positive effect on PU to use mobile banking and Tung et al (2008) found that 'trust' have positive effect on BI and PU. Hence, for the research on hand, 'trust' is an important 'research variable', and the following is hypothesised:

Hypothesis 7: *Trust will have a positive effect on BI to use e-Government services.*

3.7 Civic mindedness

Hitherto, research on e-Government suggests that e-government services have been offering greater convenience and flexibility to those citizens who ought to use government services anyway (Thomas and Streib, 2003). As a result, we can foresee that e-government users will be similar to those who already use face to face services and are more engaged in civic affairs. Typically, those citizens are likely to have the following characteristics: socially engaged, politically active, and paying close attention to the news media. In the case of the latter category of citizens, the use of electronic means to interact with government is likely to be an extension of their civic and political involvement via traditional channels. Hence, we hypothesise that:

Hypothesis 8: *Individuals with higher civic mindedness will have a positive effect on BI to use e-Government services.*

3.8 Facilitating Conditions (FC)

Venkatesh et al (2003) defined Facilitating Conditions as "the degree to which an individual believes that an organisational and technical infrastructure exists to support the use of the system". The 'facilitating condition' construct was added as a direct determinant of BI and usage in the DTPB. Facilitating Conditions can be related to the 'triability' construct of the DOI Theory, as the availability of the technological innovation will support its usage (Taylor and Todd, 1995b). Studies have shown that Facilitating Conditions construct was not significant enough to predict intention, however, was found significant in determining usage (Venkatesh, et al., 2003). Moreover, a study of Taylor and

Todd (1995b) demonstrated that the presence of facilitating conditions do not necessarily encourage usage. It has been hinted that the absence of facilitating resources may represent an obstacle to usage and thus prevents the creation of intention to usage. Facilitating Conditions as a construct has not been widely studied. It is being predicted that its impact as a direct determinant of usage will be revealing and needs to be investigated. Preliminary interviews have shown that facilitating conditions (resource facilitating conditions and technology facilitating conditions) are motivating factors for citizens' use of e-Government services. Thus, this research proposes the following hypothesis:

Hypothesis 9: *Facilitating Conditions has a significant influence on usage of e-Government behaviour.*

3.9 Culture

Individuals are shaped by their culture (Hofstede, 1997). Hofstede (1997) also asserted that culture determines the values of an individual and impacts on behaviour and varies across countries. The theories/models of technology acceptance have been applied and investigated upon in the U.S mainly and; only few studies (Gefen and Straub, 1997) have been tested in non U.S cultures. Thomas and Streib (2003) have referred to the recognition of cultural and contextual variations when nations adopt information technologies. They have also stressed that the influence of culture is even greater when the borrowed technology is being implemented in a developing country. It is therefore important that managers are conscious that factors influencing technology adoption will vary depending on the prevailing culture (Schepers and Wetzels, 2007).

Cultural factors can be categorised into national and organisational cultures. They are distinguished by their different mix of values and practices. It has been suggested that both types of cultural factors will have a significant influence on usage behaviour. To study the acceptance of e-Government services in Mauritius, an important cultural aspect (i.e language) will be examined. In Mauritius, English is the official language, however French and Creole (a French dialect) is popularly spoken. Thus, this research will look into the impact which Language will have on user's intention to use e-Government services. Also, the e-government literature converges on the fact that high income earners are those who are more likely to access government information and services online (Shelley et al., 2004; Thomas and Streib, 2003). Hence, the influence of social class on user behaviour will also be investigated.

Hypothesis 10: *Language has a direct and positive effect on PU of e-Government services.*

3.10 Attitude

Attitude can be defined as "the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour" (Ajzen, 1991). Attitude is an important construct of the Theory of Reasoned Action (TRA) (Ajzen and Fishbein, 1980) which theorises that 'attitude' towards a technological innovation is hypothesised to determine by the users' perceived usefulness and perceived ease of use. Both the TRA and TAM argue that, all other conditions constant, individuals execute behaviours towards which they have a positive affect (Ajzen and Fishbein, 1980). It is also suggested that individual users who develop a positive attitude toward adopting a technology are more inclined to build up firmer intentions to do so too. However, attitude though being a necessary condition might not be sufficient for success (Jackson, et al., 1997). Therefore, for this study it has been important to establish the following hypothesis for test the influence of the construct 'attitude':

Hypothesis 11: *Attitude toward adopting the technology has a direct and positive effect on BI to adopt the technology.*

3.11 Behavioural Intention (BI) and usage behaviour

BI is defined as "the strength of the prospective user's intention to make or to support the adoption of e-Government innovation". BI to accept a new technology is an important indicator of the ultimate adoption decision and is hypothesised to be determined by attitude towards adopting the technology. It is being predicted that behavioural intention will have a positive influence on usage behaviour. A user's stated preference to use the e-Government service will be closely related to the fact that they actually use the system; this assumption only applies when the behaviour is under a person's volitional control (Ajzen and Fishbein, 1980). Therefore it is claimed that user's intention to use the

system will be closely related to their usage behaviour if the use of the technology depends on their free will. Also, much previous research (Davis, 1989; Dishaw and Strong, 1999; Szajna, 1996; Moon and Kim, 2001; Venkatesh and Davis, 2000; Venkatesh et al., 2003) found that BI and usage intention have a significant relationship (see figure 1).

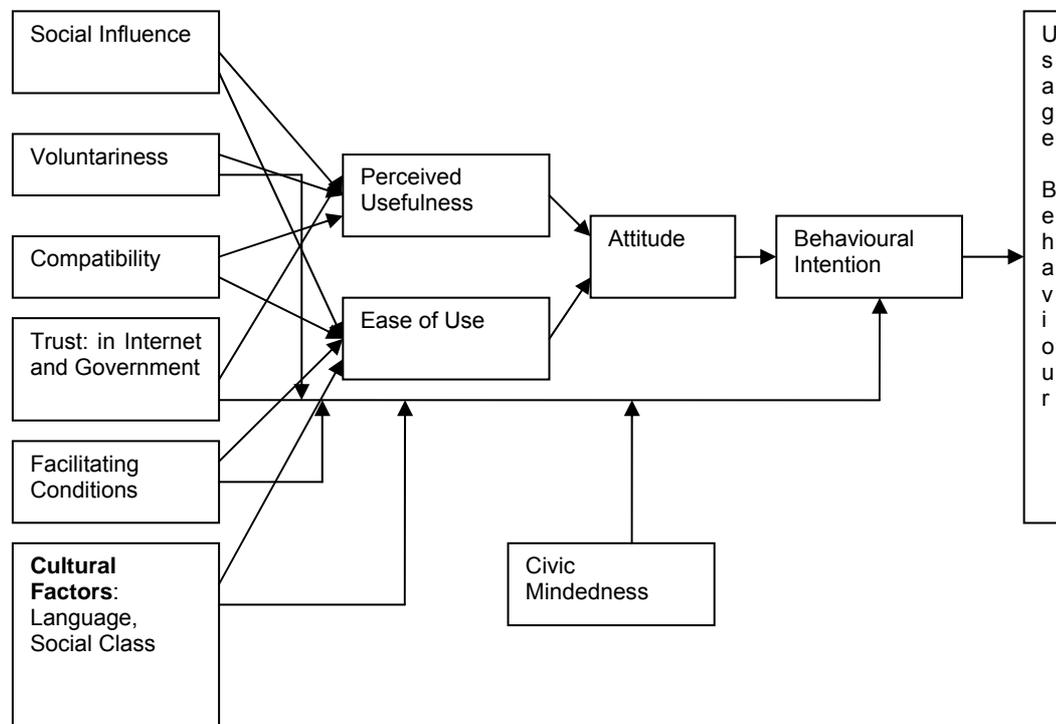*Hypothesis 12*: *BI to adopt e-Government services has a direct and positive effect on subsequent usage behaviour.*

Figure 1: Usage behaviour

4. Methodology

The Mauritius Revenue Authority (MRA) offers an interesting case to be studied since it has been offering an online tax filing and payment service to citizens for the last two financial years. To answer to the objectives of this study, the Government to Business (G2B) perspective will be investigated, that is, the electronic relationship between businesses and the MRA. Preliminary fieldwork was performed by informally interviewing the stakeholders, namely officials of the Mauritius Revenue Authority, Government Online Centre and the Ministry of Information Technology. The following represents the specific research issue identified.

'To identify the factors that contributes to the successful acceptance and diffusion of e-Government services in Mauritius'.

5. Survey instrument

The survey instrument is a two-part questionnaire. The first part uses nominal scales and captures demographic data while the second part of the questionnaire contains items used to measure the independent variables. Multi-items were used to measure each. A seven-point Likert Scale from strongly disagree to strongly agree was used to measure the items.

6. Sample surveyed

The TOP 100 Business List and the Yellow Pages directory were used as sample frame for the study. A total of 200 companies were randomly chosen from the directory and 200 questionnaires were mailed to the Head of the Accounting department of each company. Follow-up phone calls were made to ensure that the questionnaire has been received. 115 completed questionnaires were received and 20 were returned undeliverable. Of the 115 questionnaires returned, 7 were not entirely completed by the respondents and were rejected. Hence, 108 questionnaires were considered

usable constituting a response rate of 54%. Appendix 1 below gives the list of constructs in this study and the items used in this questionnaire to measure them.

7. Findings

The hypothesis testing performed in this chapter is been based on regression analysis performed using SPSS 11.5. A series of linear regression analyses were undertaken to estimate the path coefficients (β). Table 1 provides the results of hypothesis testing with the values for Rsquare, standard coefficient, and significance.

Table 1: Summary of results of hypothesis testing

Hypothesis	R Square	Standardised Coefficient β	Result
H1	0.102	0.320	Supported (p < 0.001)
H2	0.490	0.221	Supported (p < 0.05)
H3	0.188	0.481	Supported (p < 0.001)
H4	0.062	0.255	Supported (p < 0.05)
H5	0.081	0.285	Supported (p < 0.005)
H6	0.146	0.382	Supported (p < 0.001)
H7	0.153	0.322	Supported (p < 0.001)
H8	0.024	-0.179	Not Supported
H9	0.009	0.094	Not Supported
H10	0.003	-0.53	Not Supported
H11	0.252	0.502	Supported (p < 0.001)
H12	0.001	-0.31	Not Supported

The results indicated that intention to use the e-Tax filing systems was largely influenced by PU, EOU and positive Attitude. It was found that the impact of PU on attitude was stronger than that of EOU. This result is consistent with previous studies. PU was positively affected by PEOU which is in turn affected by Social Influence which implies that peer influence and management support influence the usage of the e-Tax filing system. The relationship between PU and EOU has been well documented and the results confirm the importance of the link between them. The findings also suggest Behavioural Intention to Use is positively affected when the use perceive that the use of the system is optional.

This study has combined the TAM, DOI and other relevant constructs from the literature to put forward a hybrid model to study business users' acceptance of the e-Tax filing system. The questionnaire and field survey yielded several significant and interesting outcomes.

Firstly, the results showed that users' 'attitude' towards the e-Tax filing and payment system has been the most powerful predictor for user intention. Attitude is an important construct of the base model, Theory of Reasoned Action (TRA) (Ajzen and Fishbein, 1980) which theorises that attitude towards a technological innovation is hypothesised to be determined by the users' perception of the usefulness and ease of use of the system. Both the TRA and TAM argue that, "all other conditions constant, individuals execute behaviours towards which they have a positive affect" (Ajzen and Fishbein, 1980).

'Social Influence' was found to be next most determining factor in users' decision to accept the technology. The original TAM was criticised for ignoring 'social influence' in the adoption and diffusion of technological innovations (Melone, 1990; Davis et al., 1989). The construct was used in many other studies (Malhotra and Galletta, 1999; Lopez-Nicolas, 2008) (among which the UTAUT) where its influence on adoption was supported. In the present study, it can be determined that the importance of what others believe and think of this e-Government service is of special interest.

'Compatibility' was found to be the next most important predictor after 'social influence'. Compatibility has been defined as "the degree to which an innovation is perceived as consistent with the existing values, past experience, and needs of potential adopters" (Rogers, 1983). Hence, the results indicate that if the technology is compatible with the user's working and life style, it is likely that he or she will adopt the system.

It has been claimed extensively in the literature, that user's intention to use the system will be closely related to their usage behaviour if the use of the technology depends on their free will. Also, much previous research (Davis, 1989; Szajna, 1996; Moon and Kim, 2001; Venkatesh and Davis, 2000; Venkatesh et al., 2003) found that BI and usage intention have a significant relationship. The findings

of this study, however, have not been supportive of the relationship between intention and usage behaviour. This may be attributed to the fact the sample studied did not use the system under volitional conditions.

The study of Taylor and Todd (1995b) demonstrated that the presence of 'facilitating conditions' do not necessarily encourage usage. It has been hinted that the absence of facilitating resources may represent an obstacle to usage and thus prevents the creation of intention to usage. However, our study could not find a significant positive impact of facilitating conditions on usage behaviour. This is probably due to the fact that accountants who are filing taxes online are used to similar technological applications and are not finding the presence or not of 'facilitating conditions' critical.

The findings of this study do not coincide with other research on e-Government which suggested that e-government services have been offering greater convenience and flexibility to those citizens who ought to use government services anyway (Thomas and Streib, 2003). The results of the current investigation show that the construct 'civic mindedness' do not influence user's decision to accept the system. As a result, it can be foreseen that e-government users will be similar to those who already use face to face services and are more engaged in civic affairs. Also, it is important to be cautious with the interpretation of findings since only business uses have been surveyed.

8. Conclusion

The contribution of this study has been to extend the literature by 1) examining the two base models, namely the TAM and DOI and all extensions of the models; and 2) reviewing the extant literature. One model has been used to critically assess the other, an endeavour which has not been attempted in prior research. Following this critical review of both models as well as a through assessment of the relevant literature, a conceptual framework was devised to test the data collected for any relationships among the constructs. Hence, this study has presented an important theory based empirical test.

Given the importance of the successful implementation of electronic government services and from a practical perspective, the Government and other responsible bodies should take a positive position towards the factors which influence system acceptance. The instrument developed and tested as a result of this study could be utilised to determine user's perceptions of the system and help predict with much precision the expected behaviour of users. Care could then be taken to encourage use, eg 'subjective norm' which is seen as an important determinant can be created by word of mouth (Schepers and Wetzels, 2007). Also, such an understanding requires that key factors be examined in the larger context to assess their significance (Jackson et al., 1997). All this is guided towards providing a better and more effective adoption of electronic government information systems, in light of several potentially important implications.

9. Appendix 1: list of items used in survey

Construct		Items
Perceived Ease of Use	EOU1	I find it easy to prepare income tax filing using the E-tax filing and payment system.
	EOU2	My interaction with the E-tax filing and payment system is clear and understandable.
	EOU3	It is easy for me to become skilful at using the E-tax filing and payment system.
	EOU4	I find the E-tax filing and payment systems easy to use.
Perceived Usefulness	PU1	Using the E-Tax filing and payment system improves my productivity in preparing income tax filing.
	PU2	Using the E-Tax filing and payment system makes it easier for me to complete tax filing and payment.
	PU3	Using the E-Tax filing and payment system enhances my effectiveness in preparing income tax filing.
	PU4	Overall, I find E-Tax filing and payment system useful in preparing income tax filing and payment.
Compatibility	COM1	Using the E-Tax filing and payment system is compatible with the way I like to do things.
	COM2	Using the E-Tax filing and payment system fits with my work style
	COM3	The set up (and aspects) of E-Tax filing and payment system is compatible with the way I work.
Trust	TRS1	I trust the E-Tax filing and payment system
	TRS2	Even if not monitored, I trust the E-tax filing and payment system to do the processing (and calculations) right.

Construct		Items
Behavioural Intention to Use	BI1	It is likely that I will use the E-tax filing and payment system
	BI2	I expect that the E-Tax filing and payment system will make paying taxes even easier in the future.
Attitude	AT1	I like the idea of using the E-Tax filing and payment systems for tax-filing action.
	AT2	Using the E-Tax filing and payment system is beneficial.
	AT3	Using the E-Tax filing and payment system is a pleasant experience.
Social Influence	SOC1	The senior management of my organisation has supported and encouraged the use of E-Tax filing system.
	SOC2	On the whole my organisation has supported the use of the E-tax filing and payment system.
Facilitating Conditions	FAC1	Resources required to use online tax filing and payment system were available to me (financial and non financial information)
	FAC2	I had access to hardware, software, and services needed to use E-Tax filing and payment system (eg computer facilities, good internet connection)
	FAC3	I was constrained by the lack of resources needed to use E-Tax filing and payment system.
	FAC4	It is easy for me to get assistance/ support if I needed help using the E-Tax filing and payment system.
Civic Mindedness	CVM1	I make use of electronic government services frequently.
	CVM2	I am interested in contacting the government electronically for other business purposes.
	CVM3	I make use of media for public affairs (eg publishing corporate information electronically)
Voluntariness	VOL1	I believe the filing and payment of taxes electronically should be optional.
	VOL2	I believe voluntary electronic tax filing and payment systems will enhance intention to use the system.
Language	LAN1	The French language is commonly used in Mauritian organisations; do you think a French version of the system will be helpful?
	LAN2	A French version of the system will make it easier to use the systems.

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