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FACTORS INFLUENCING THE ADOPTION OF E-GOVERNMENT SERVICES

Final Report

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Factors Influencing the Adoption of e-Government Services

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Executive Summary

Mauritius is the second top most e-government ready country in Africa behind Tunisia. Despite being ranked second in Africa for e-readiness and having the necessary infrastructure, Mauritians are reluctant to adopt e-government services. This presents a serious challenge for the government as the success of any e-government initiative depends on the willingness of the citizens to adopt such a service. A lack of e-government adoption hampers the realisation of benefits and is a waste of tax payers' money. Moreover, empirical research on e-government in Sub-Saharan Africa is scant.

Against this backdrop, this study aims to examine the factors that influence e-government adoption in Mauritius through a technology adoption lens. We employ an extended model using the unified theory of acceptance and use of technology and the government adoption model to investigate factors that would lead to a greater uptake of e-government services in Mauritius. Using a convenience sampling strategy, a cross-sectional survey of 229 Mauritian citizens was carried out.

The findings of our study demonstrate that citizens perceive that using e-government will be beneficial to them with improvements such as time savings and faster feedback. Our respondents feel that there are adequate facilities provided by the government to gain access to e-government services. However, our research also shows that there is a lack of awareness amongst the public on e-government offerings. Citizens are unaware of the different online services available to them and thus do not perceive the trade off between the benefits of using e-government services and the monetary cost of using traditional government offices. Although, citizens have the necessary computer skills to use e-government services, they would rather choose not to do so. Unfriendly and overly complicated website to use, wrong design principles, and out-dated information may be the cause. Trust in the internet has been found to be an important motivator to adopt e-government services. On the other end, our findings suggest that there is a lack of trust in the government by the citizens which hampers adoption of e-government services. Finally, resistance to change inhibits citizens from choosing e-government services over traditional government offices. We offer further recommendations to policy makers in areas where interventions should be made.

Acknowledgments

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1.0 Introduction

With the rapid growth of the World Wide Web and new developments in information and communication technologies, governments have jumped on the bandwagon to offer online services to their citizens (Wang & Liao, 2008; West, 2002; Gupta, Dasgupta, & Gupta, 2008; Teerling & Pieterson, 2010; de Róiste, 2013). This has led to numerous government projects such as digital pay services, information kiosks (Wang & Shih, 2009) and one stop points for citizens.

E-government (eGov) is "the use of information and communication technologies and its application by the government for the provision of information and public services to the people" (UN E-Government Survey, 2014, p.2). These services can be geared towards citizens, businesses and even other governments (Lean, Zailani, Ramayah, & Fernando, 2009; Wang & Liao, 2008; Gupta et al., 2008). eGov is classified according to the interactions with its stakeholders and the three main types of eGov services are government to citizen (G2C), government to business (G2B) and government to government (G2B) respectively (Carter & Belanger, 2003; Wang & Liao, 2008).

eGov services are being offered to enhance citizens' convenience (Layne & Lee, 2001) and are reported to increase effectiveness and efficiency of government services through improved connectivity and better access (Tung & Riek, 2005; Lin, Fofanah, & Liang, 2011; Yildiz, 2007). The use of eGov services is on the rise with 19 percent of all governments worldwide providing online services (West, 2005) and currently there is not a single government among the 192 countries of the United Nations (UN) that do not have some sort of eGov service (Ozkan & Kanat, 2011). Governments in the developing world have been following their counterparts in more developed countries by implementing online services without much consultation with their citizens. Shareef, Kumar, Kumar, and Dwivedi (2011) argue that researchers from different countries investigating eGov agree that the basic value of eGov services should be focused on the citizens.

Mauritius, a small island developing state located off the eastern coast of Africa with a population of around 1.2 million inhabitants (Statistics Mauritius, 2014), is the first country in Sub Saharan Africa to obtain a high score on the United Nations E-Government Development Index for 2014. The island's ranking has improved and is now the second top

most E-Government ready country in Africa behind Tunisia (UN E-Government Survey, 2014, p.25). The UN E-Government readiness is assessed based on five attributes namely connectivity, E-leadership, information security, human capital and E-business climate. Despite being ranked second in Africa, and having sustained an increase in internet and mobile subscriptions as well as an overall increase in international bandwidth quality (Statistics Mauritius, 2014), the island suffers from a lack of participation by its citizens in eGov services. For instance, Shalini (2009) contend that even though Mauritius is ready in terms of information and communication infrastructure, the high e-readiness index fare poorly when it comes to assessing the willingness of citizens to adopt eGov services.

Shalini (2009) further states that "Mauritius is e- ready but the Mauritians are not" and concludes without much empirical support that factors such as lack of awareness, trust and resistance to change may be responsible for the lack of adoption of eGov facilities by Mauritians. Moreover, The UN report states that this presents a severe challenge to governments and effective strategies should be used to improve engagement, hence adoption. Furthermore, governments have been focusing on the technological part of setting up online services while neglecting to address the sociological part that this technology plays, contributing to the lack of adoption of eGov among their citizens and businesses (Rowley, 2011; Savoldelli, Codagnone, & Misuraca, 2014). The citizens' uptake of these services remains low in both developed as well as developing countries despite the ever increasing eGov capabilities and services (Trkman & Turk, 2009; Zhang, Guo, & Chen, 2011; Tan, Benbasat, & Cenfetelli, 2008; Lee, Kim, & Ahn, 2011, Salvoldelli et al., 2014). For instance, Zhang et al. (2011) argue that the diffusion of eGov has not gained impetus or produced the desired outcomes and the adoption rates of eGov are disappointingly low (Tan et al., 2008).

Since the adoption and success of eGovernment services depends on their citizens' willingness to adopt these services (Shareef et al., 2011; Shareef, Kumar, & Kumar, 2009), a lack of eGov adoption hampers the realisation of benefits of these facilities (Zhao, Shen, & Collier, 2014). This results in unsuccessful services and is a waste of tax payers' money (Ozkan & Kanat, 2011). Salvoldelli et al. (2014) contend that if online services are not employed, there will be no electronically processed documents, resulting in no gains in effectiveness and efficiency. Moreover, Venkatesh, Brown, Maruping, and Bala (2008) state that for any technology to be fruitful, it has to be used.

Although, there has been a change from a supplier side inward looking approach towards a demand side outward looking citizen centric approach (Nam, 2014; Lee et al., 2011), and growing body of research on eGov, research on this topic are still at its infancy (Shareef et al., 2011) where the views of the citizens are not fully studied (Van Deursen, Van Dijk, & Ebbers, 2006). Moreover, Lee et al. (2011) argue that few studies have examined the decision to adopt eGov services by their citizens and there is considerable room for improvement (Zhang, Xu, & Xiao, 2014). Studying eGov adoption can lead governments to better understand their citizens' needs and eventually lead to a successful delivery of online services (Ozkan & Kanat, 2011).

In this vein, this research seeks to investigate the factors that affect adoption of eGov services in Mauritius. Hence, we ask two questions in that respect: What factors influence the intention to use eGov services in Mauritius? What impact do acceptance predictors have on behavioural intention to adopt eGov services in Mauritius? The rest of this paper is organized as follows: in the next section, we discuss eGov adoption and technology adoption models. In Section 3, we discuss eGov in developing and African states well as the state of eGov services in Mauritius. We present the research model and hypotheses in Section 4. In Section 5, the research methodology and data collection process is described. Section 6 reports the data analysis and a discussion of our findings is presented in Section 7. In Sections 8 and 9, we present the implications and limitations of our study. Finally, we provide conclusions in the last section.

2.0 E-Government Adoption

Several studies have investigated the adoption of eGov services based on technology acceptance models such as the Technology Acceptance Model (Davis, 1989; Davis, Bargozzi, & Warshaw, 1989), the Theory of Reasoned Action (Fishbein & Ajzen, 1975), the Innovation Diffusion Theory (Rogers, 1995) and the Unified Theory of Use and Acceptance of Technology (Venkatesh, Morris, Davis, & Davis, 2003). Although, there is no standard definition of acceptance in the literature, based on previous studies (Venkatesh et al., 2003; Adams, Nelson, & Todd, 1992; Davis, 1993), Lallmahomed, Ab. Rahim, Ibrahim, and Rahman (2011) contend that technology acceptance refers to the study of factors that would (1) cause an individual to accept or reject a technology, (2) factors that would improve an individual uptake of a technology and (3) factors that would predict future utilization of a technology. Since technology adoption is the most mature research area in the Information System literature (Brown, Dennis, & Venkatesh, 2010; Sykes, Venkatesh, & Gosain, 2009) and numerous models are available (Brown et al., 2010), our discussion of the adoption models will be selective.

2.1 The Technology Acceptance Model (TAM)

The TAM is considered to be the model of IS acceptance par excellence (Yousafzai, Foxall, & Pallister, 2007) as seen in Figure 1. It is a parsimonious and robust model that has been extensively employed in IS adoption research (Igbaria, Guimaraes, & Davis, 1995). The TAM is adapted from the Theory of Reasoned Action and posits that perceived usefulness and perceived ease of use affects the user's behavioural intention which in turn leads to usage behaviour (Davis et al., 1989). Perceived usefulness refers to the belief that the system will increase one's job performance in an organisational setting while perceived ease of use refers to the degree of facility that the prospective user expects of the system. Behavioural intention is a measure of the strength of one's intention to perform a specified behaviour (Davis et al., 1989). Adoption models based on the intentionality framework suggest that behavioural intention is the best predictor of the individual users' future behaviour (Davis, 1989). TAM predicts around 40 percent of usage intentions (Burton-Jones & Hubona, 2006). Despite having received extensive empirical support through validations, applications, and replications for its power to predict usage of information systems (Davis & Venkatesh, 1996;

Taylor & Todd, 1995; Dishaw & Strong, 1999), TAM has been criticised for its shortcomings. For instance, Benbasat and Barki (2007) suggest that the antecedents of perceived usefulness and ease of use are not discussed as well as TAM's omission of the social influences on technology adoption (Chen, Gillenson, & Sherrell 2002). In order to address those lacking, TAM has been improved through the addition of numerous constructs such as antecedents to perceived usefulness and perceived ease of use (Wixom & Todd, 2005; Davis & Venkatesh, 1996; Oh, Ang, & Kim, 2003). The TAM has been further extended through the addition of the subjective norm construct. For instance, TAM2 theorizes that subjective norm will positively influence behavioural intention because important members of a person's social group believe that he or she should perform a behaviour. TAM has been employed to study eGov adoption. Rana, Dwivedi, and Williams's (2013) meta-analysis of acceptance models used in the eGov context found 54 studies that implemented the TAM or part of the TAM model.
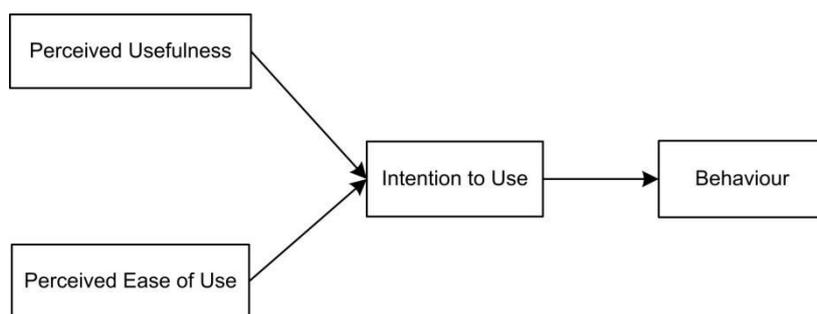
Fig 1. The Technology Acceptance Model (Davis, 1989).

2.2 Theory of Reasoned Action (TRA)

The TRA was developed by Fishbein and Ajzen in 1975 to investigate the effects of attitudes, social norms and intention on behaviours. TRA posits that an individual behavioural intention would be determined based upon the latter's personal and social factors (Fishbein & Ajzen, 1975) as can be seen in Figure 2. Personal factors are the individual's attitude towards performing a behaviour while social factors are the social pressures to perform or disregard that behaviour (Ajzen & Fishbein, 1980). TRA has been employed in numerous contexts from word processing (Davis et al., 1989), business process re-engineering (Wu, 2003) to e-banking (Rouibah, Hamdy, & Al-Enezi, 2009). The TRA is appropriate in situation where individuals have volitional control of their behaviour (Ajzen, 1988; Ajzen & Fishbein, 1980).
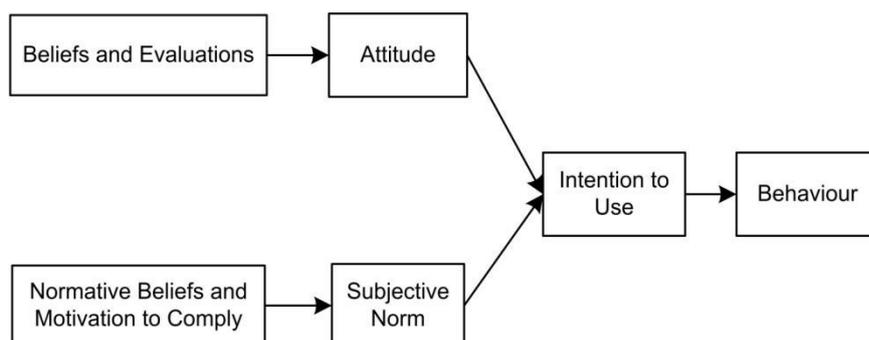
Fig 2. Theory of Reasoned Action (Fishbein & Ajzen, 1975)

2.3 Innovation Diffusion Theory

The Innovation Diffusion Theory (IDT) stems from sociology and was developed by Rogers (1995) in the 1960s and adopted to the Information System discipline by Moore and Benbasat (1991). Diffusion research deals with factors that would lead to the adoption of innovations and the rates of adoption (Lean et al., 2009). The IDT suggests that an innovation is a type of communication process among members of a social system, where messages are passed about the innovation (Yi, Jackson, Park, & Probst, 2006; Rogers, 1995; Yu & Tao, 2009). Innovation is defined as "*an idea, practice, or object that is perceived as new by an individual or other unit of adoption*" (Rogers, 1983, p. 11). The IDT posits that the adoption rate of an innovation is based on a five attributes related to that particular innovation namely relative advantage, compatibility, complexity, triability and observability (Rogers, 1995). Rogers (1983) also categorises the adopters as innovators, early adopters, early majority, late majority and laggards. IDT has been extensively used to investigate the adoption of eGov services as they include important attributes employed to assess the eGov success (Al-Hadidi & Rezgui, 2010). Several authors (Carter & Belanger, 2005; Shareef et al., 2007; Carter & Belanger, 2005; Lean et al., 2009; Gilbert, Balestrini, & Littleboy, 2004; Alomari, Sandhu, & Woods, 2009) have validated the IDT model in the eGov context and have found support for the relationship between relative advantage, compatibility, complexity with behavioural intention. Meta-analysis of articles that employ IDT by Tornatzky and Klein (1982) shows that only relative advantage, compatibility, complexities were consistently related to innovation adoption.

2.4 Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB) is an extension of the TRA (Ajzen, 1991) and is widely used in explaining human behaviour across various technologies (Wu & Chen, 2005; Gumussoy & Calisir, 2009). The TPB posits that intention to use information systems is based on the users' attitude, subjective norm and perceived behavioural controls towards that system. The higher is the positive attitude, subjective norm and perceived behavioural control towards a behaviour, the more likely is an individual going to perform such behaviour (Ajzen, 1991). TPB has been proposed as a means to deal with the limitations of TRA in that the TRA cannot account for situation where users have no volitional control over their behaviour (Ajzen, 1991). Perceived behavioural control captures the user's difficulty to perform a specific behaviour based on the availability of resources and opportunity to carry out the specific behaviour (Rana et al., 2013) and thus addresses the issue of volitional control. TPB has been employed in numerous contexts including eGov research (Ozkan & Kanat, 2011; Susanto & Goodwin, 2011; Gumussoy & Calisir, 2009; Hung, Chang, & Yu 2006). For instance, Ozkan and Kanat (2011) used an extended model of TPB to investigate the adoption of eGov in Turkey. The authors found that trust, perceived behavioural control and attitudes are significantly related to intention to use eGov service.

2.5 e-Government Adoption Model (GAM)

Shareef et al. (2011) proposed a new model of government adoption to complement and extend adoption models commonly employed in investigating eGov services. Shareef et al. (2011) argue that previous studies have not been extensively investigated; lacks theoretical grounding (Heeks & Bailur, 2007) and current adoptions models do not account for the technological and social perspectives of eGov adoption. The GAM aims to capture eGov adoption based on two different levels: the static and the interaction stages. eGov implementation follows different maturity stages based on the differing technologies and stakeholders involved as well as the level of interaction desired (Layne & Lee, 2011; Valdés, Solar, Astudillo, Iribarren, Concha, & Visconti, 2011). The static stage is concerned with only one way communication where users' interaction is limited only to viewing, downloading forms. Government usually do not respond electronically to citizens (Accenture, 2005; Shareef et al., 2011). On the other hand, the interaction stage allows for two way communication, improves interactivity between citizens and government authority where

citizens can apply for services online and issues are resolved online (Accenture, 2005; Shareef et al., 2011). Although, the initial GAM model make use of extensive predictor variables, the results from the static stage showed that only three out of eleven predictors were found to be significantly related to adoption intention (Shareef et al., 2011). These are perceived awareness, perceived ability to use and perceived functional benefit. Perceived awareness is concerned with gaining sufficient knowledge that would allow the users to comprehend the benefits of the system. Perceived ability to use denotes the degree of perceived competence of the user that would allow him/her to use the eGov system. Perceived functional benefit deals with the overall benefits that the user can obtain while using the online systems (Shareef et al., 2011).

2.6 Unified Theory of Acceptance and Use of Information Technology (UTAUT) / Unified Theory of Acceptance and Use of Information Technology 2 (UTAUT2)

In an attempt to unify models of adoption, the UTAUT was developed by Venkatesh and colleagues in 2003 and has been one of the most widely used theory in the IS literature (Schaupp, Carter, & McBride, 2010; Rana et al., 2013) with over 5000 citations according to Google scholar (vvenkatwesh.com, 2012). The UTAUT model comprises of four predictor variables namely performance expectancy, effort expectancy, social influence, facilitating conditions which are used to predict behavioural intention. These variables were derived from several competing models of technology adoption that have been found to yield significant relationships over time. Ventaktesh et al. (2003) also argues that the relationship between the predictor variables and behavioural intention are moderated by gender, age, experience and voluntariness. The UTAUT model has been used in many contexts such as education sector (Anderson, Schwager, & Kerns, 2006), digital learning environment (Pynoo, Devolder, Tondeur, Van Braak, Duyck, & Duyck, 2011), mobile banking (Zhou, Lu, & Wang, 2010) as well as eGov acceptance (Yeow & Loo, 2009). For instance, UTAUT has been used by Wang and Shih (2009) to assess usage behaviour of information kiosk in Taiwan while Yeow and Loo (2009) examined the acceptance of MyKad applications in the Malaysian context. Meta-analysis carried out by Rana et al. (2013) have found that 13 out of the 103 empirical studies on eGov have employed the UTAUT model and found support for the model. In 2012, Venkatesh, Thong, and Xu extended the UTAUT model to the consumer context as shown in Figure 3. Three new constructs were added to the original UTAUT model namely hedonic motivation, price value, and habit. Venkatesh et al.'s (2012) extension

to the UTAUT model has produced an 18 percent increase of explained variance in behavioural intention. UTAUT2, being relatively new to the IS field, is currently being employed to investigate mobile government adoption in Saudi Arabia (Baabdullah, Dwivedi, & Williams, 2014).
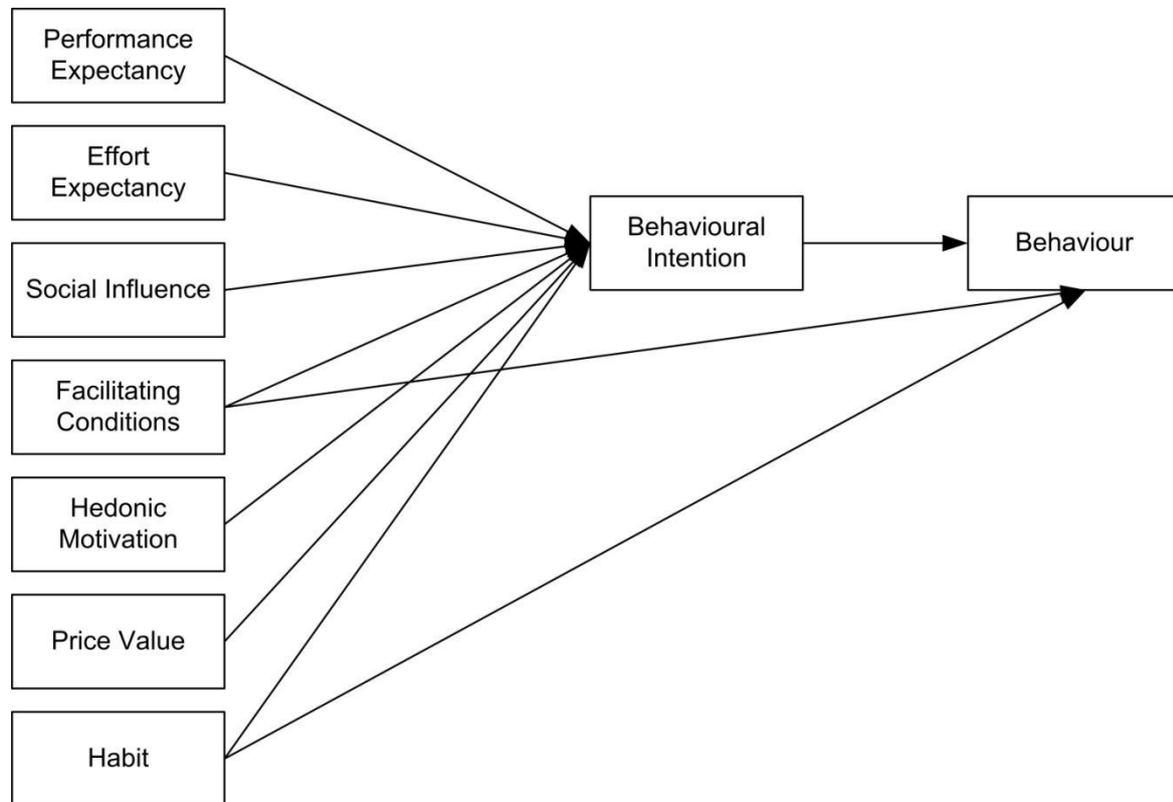
Fig 3. UTAUT2 Model without moderators (Venkatesh et al., 2012)

3.0 E-Government in Developing States

Governments in the developing countries have been jumping on the bandwagon of innovations in the ICTs sector (Elsheikh, Cullen, & Hobbs, 2008) by providing various eGov services ranging from smartcard applications (Loo, Yeow, & Chong, 2009), information kiosks (Wang & Shih, 2009) to day to day services. As we are mainly concern with technology adoption, we will limit our discussion to empirical research that employed adoption models. Researchers have used combined models of technology adoption to investigate the uptake of eGov services in their respective context (Lean et al., 2009; Sang, Lee, & Lee, 2009; Alomari, Woods, & Sandhu, 2012; Wang & Lo, 2012). For instance, Alomari et al. (2012) used a combined model of the TAM, DOI with Trust to investigate

eGov adoption in developing countries. Their research shows that trust, website design, beliefs, complexity and perceived usefulness were significant factors in Jordanian citizens' intention to use e-government websites. Lean et al. (2009); Sang et al. (2009) research demonstrate that trust, perceived usefulness, perceived relative advantage has a positive significant relationship towards intention to use eGov service. Alwadhi and Morris (2008); Al-Shafi and Weekkody (2009); Alshehri, Drew, and AlGhamdi (2013); Gupta et al. (2008); Loo et al. (2009) used the UTAUT model to examine adoption of eGov. Their research indicates that performance expectancy, effort expectancy, social influence and facilitating conditions are significantly related to intention to use eGov services. Elsheikh et al. (2008) contend that some factors that affect traditional government services have same impact of eGov namely bureaucracy, lack of accountability and transparency, and lack of citizen participation in democratic institutions and processes.

3.1 E-Government in sub-Saharan African countries

Mauritius, although being an island state is considered part of the African continent. In sub-Saharan African countries, the uptake of eGov services has been slow (Bwalya, Plessis, & Rensleigh, 2011) and uneven (UN E-Government Survey, 2014). African governments fall short in eGov developments (Mundy & Musa, 2010). The UN E-Government survey demonstrates that 16 out of 54 African countries are at the bottom 10 per cent of the world ranking. Moreover, connectivity is still nearly nonexistent in rural sub-Saharan regions where 70 percent of the population reside (UN E-Government Survey, 2014). Researchers have ascribed several reasons to this state of affairs ranging from inefficient public delivery systems, ineffective information management practices (Adeyemo, 2011), lacking of a clear strategy and evaluation frameworks (Kaisara & Pather, 2009), digital divide (Moloi & Mutala, 2007), deficient infrastructure and budgetary constraints (Carter & May, 2001; Gebremichael & Jackson, 2006) to adult population illiteracy and lowest PC penetration in the world (Lin et al., 2011). Nevertheless, some governments in sub-Saharan Africa are embarking on eGov projects but these projects are still limited in scope and thus eGov websites are still basic with little interactive functionalities (Maumbe, Owei, & Alexander, 2008; Matula, 2008; Schuppan, 2007). Research on eGov in African countries is mostly descriptive and qualitative in nature (Maumbe et al., 2008; Kaisara & Pather, 2009; Moloi & Mutala, 2007; Mutala, 2008; Mutula & Mostert, 2010). For instance, Kaaya (2004) perform a content analysis of eGov websites in four African countries. Their study indicates that 30

percent of websites analysed provide basic mechanisms for citizens to interact with government services. Further, Kaaya (2004) concludes that all of the East African countries' websites are at the beginning stages of the website development and corresponding eGov services. Studies that have used adoption models to investigate the uptake of eGov services in African countries are few (Lin et al., 2011). For instance, Bwalya et al. (2014) and Lin et al. (2011) analysed eGov adoption in two different countries namely Zambia and Gambia using an extended TAM model. Their findings show support for the core constructs posited in the TAM model and their relationship with citizen's behavioral intentions. This research aims to address this gap by proposing an extended model based on UTAUT2 to investigate eGov adoption.

3.2 E-Government in Mauritius

Schuupan (2009) contend that eGov success will not take place if illiteracy, rural area problems, and weak infrastructure, inadequate access methods prevail. Mauritius does not suffer from the same issues as its counterparts on the African continent. According to the Mauritius Central Statistics Office census (Statistic Mauritius, 2014) as well as the UNESCO (Unesco, 2015), Mauritius has close to 100 per cent electricity penetration (Mutala, 2008) and 88 to 89 percent adult literacy rate. The UN E-Government survey 2014 lists Mauritius as one of the top six countries in Africa that have an eGov index above the world average. Mauritius itself has improved its ranking from 93 in 2012 to 76 in 2014 (UN E-Government Survey, 2014). Figures from the Central Statistics Office, the number of internet subscriptions have increased to 735,000 with a figure of 58.3, number of internet subscriptions per 100 inhabitants. The report also states that Mauritians are moving towards broad band connection with 579,000 broadband internet subscriptions in 2014. 31 percent of broadband internet subscriptions have access to the service through a fixed line and 68.6 percent have access through a mobile device. Proportion of households with a computer is 53.1 percent and those with internet access are 52 percent. Concerning information and communication technology (ICT) infrastructure, the island currently has 2 fixed line telephone service providers, 3 mobile service providers and 11 internet service providers (Statistic Mauritius, 2014).

The Government of Mauritius offers its online services through the eGov portal www.govmu.org. The website offers citizens with a list of 139 services to choose from and they are categorised according to Ministries and Departments (UN E-Government Survey,

2014). As demonstrated by its eGov strategy 2013-2017, the Government of Mauritius aims to provide eServices on the mobile platform as well as to increase citizen's convenience and accessibility (Mauritius eGov Strategy, 2015). The eGov strategy 2013-2017 also calls for the implementation of online payment facilities; help desk services and a call centre to address any issue that may arise from using the system (Mauritius eGov Strategy, 2015).

Despite the aforementioned figures, usage of eGov services is still lacking. For instance, the ITU ICT Development Index 2013-2014 (ITU, 2014) shows that ICT usage index in Mauritius is far below that of ICT access and skills. Shalini (2009) contend that in spite of the country's high ranking in coverage and ICT infrastructure, this does not necessarily translate into usage of eGov services. The eGov services in Mauritius are only form based with limited interactivity (Shalini, 2009) and at the static maturity level. Mutala (2008) argues that most eGov websites in sub-Saharan Africa are under developed.

4.0 Theoretical Model

This research extends the UTAUT2 Model with the GAM Model of Shareef et al. (2011) to the eGov context. Venkatesh et al. (2012) contend that the UTAUT model is mainly employed in the organisational context whereas UTAUT2 model is geared towards the consumer context. Citizens are the prime consumers of eGov services (Shareef et al., 2011). Moreover, UTAUT2 is a further improvement of the UTAUT model which is widely employed in the Information System literature. The UTAUT Model is considered to be one of the most influential papers in business and economics with more than 18000 citations according to Google scholar (vvenkatwesh.com, 2012).

Hence, the UTAUT2 model is based on a tried and tested theory. UTAUT2 increases the explained variance in behavioural intention in the consumer context from 56 to74 percent (Venkatesh et al., 2012). On the other hand, Shareef et al. (2011) sought to capture the essence of eGov websites at different service maturity levels and argued that current adoption models do not account for technological and social perspectives. However, since eGov website is still largely in the static stage in Mauritius, we choose to consider the GAM model at the static maturity level. Three constructs were found to be significant in the GAM Model namely perceived awareness, perceived ability to use and perceived functional benefits

(Shareef et al., 2011). We choose not to include perceived ability to use in the model. Perceived ability to use has been conceptualised based on the complexity construct from DOI and TAM's perceived ease of use (Shareef et al., 2011). As we are using the UTAUT/UTAUT2, UTAUT itself being a unified model, has already accounted for these two constructs through effort expectancy (Venkatesh et al., 2003). Shareef et al. (2011) contend that perceived usefulness and relative advantage were integrated into perceived functional benefit while Venkatesh et al. (2003) included both constructs in the UTAUT model as performance expectancy (Carter & Belanger, 2005). Hence, we choose to employ performance expectancy instead of perceived functional benefit. The conceptual model for this research is shown in Figure 4.
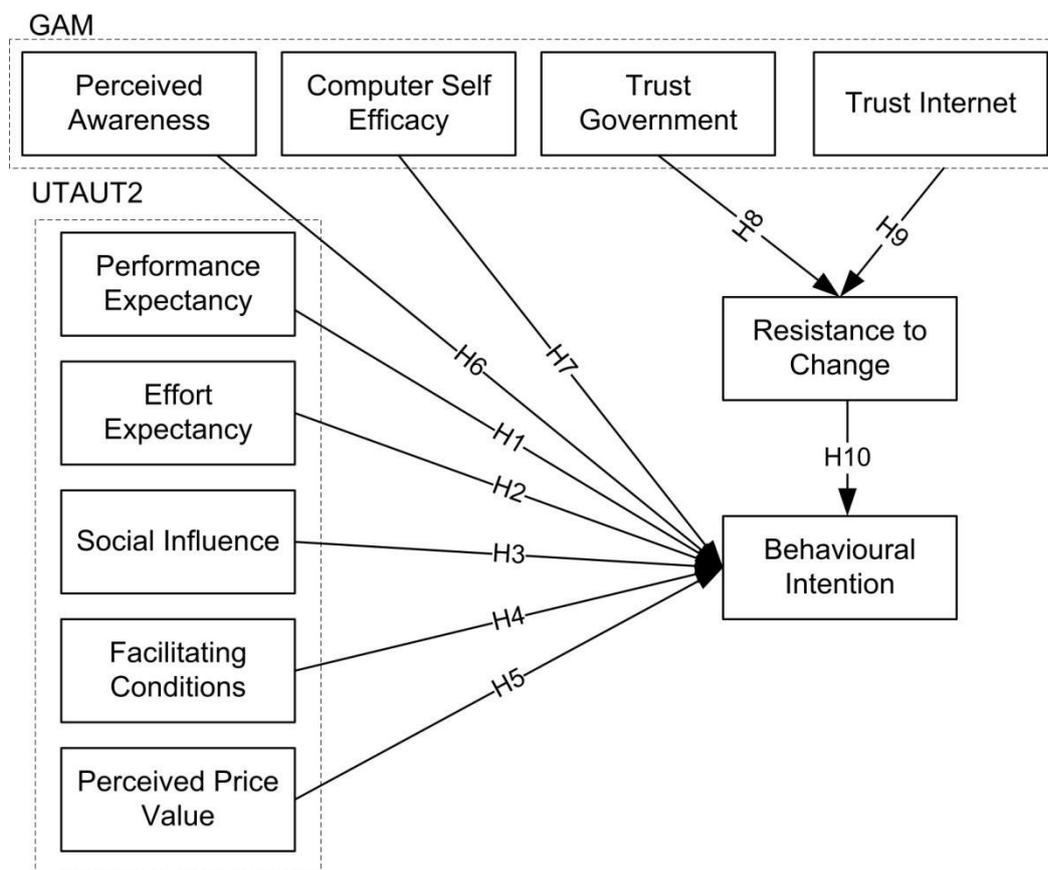

Fig 4. Conceptual Model

4.1 Performance Expectancy, Effort Expectancy and Social Influence

Venkatesh et al. (2012) redefined and adapted the original UTAUT model into the consumer context. Hence, performance expectancy is defined as the "*degree to which using a technology will provide benefits to consumers in performing certain activities*"; Effort expectancy is the "*degree of ease associated with consumers' use of technology*" and social influence is the "*extent to which consumers perceive that important others (e.g., family and friends) believe they should use a particular technology*" (Venkatesh et al., 2012, p.159). Performance expectancy, effort expectancy and social influence constructs have been extensively used in the UTAUT model to predict behavioural intention (Venkatesh et al., 2012). These constructs have been tested in different contexts such as online banking (Abu-Shanab & Pearson, 2009), information technology use (Al-Gahtani, Hubona, & Wang, 2007), instant messaging (Lin & Bhattacherjee, 2008) and yielded positive relationship with behavioural intention. In the eGov context, Wang and Shih (2009) investigate the adoption of information kiosks as part eGov policies in Taiwan. Their results demonstrate that performance expectancy ($\beta=0.576$, $p<0.001$), effort expectancy ($\beta=0.113$, $p<0.05$) and social influence ($\beta=0.239$, $p<0.001$) have significant relationships with behavioural intention. Gupta et al. (2008) investigate the adoption on eGov in India and their study demonstrates that all three constructs: performance expectancy ($\beta=0.317$, $p<0.01$), effort expectancy ($\beta=0.487$, $p<0.01$), social influence ($\beta=0.443$, $p<0.01$) are strongly significant with behavioural intention. Al-Shafi and Weerakkody (2009) applied the UTAUT model in Qatar. The authors found that performance expectancy, effort expectancy and social influence have a positive relationship with behavioural intention. AlAwadhi and Morris (2008) examine the adoption of eGov services in Kuwait and show that performance expectancy, effort expectancy and social influence determine students' behavioural intention. Several authors (Loo et al., 2009; Gupta et al., 2008; Alshehri et al., 2012; AlAwadhi and Morris, 2008; Schaupp, Carter, & McBride, 2010; Yeow & Loo, 2009) have applied UTAUT model in the eGov context and have found support for the model. In a number of studies, some of relationships tested were not supported. For instance, Alshehri et al.'s (2012) findings show that social influence is non-significant with behavioural intentions in Saudi Arabia. This may be due to contexts specific factors such as culture. Nevertheless, Rana et al. (2013) conducted a meta-analysis of the UTAUT model and conclude that performance expectancy, effort expectancy and social influence relationships with behavioural intention have been found to be significant. Therefore, we posit that:

H1: Performance expectancy will have a positive effect on behavioural intention.

H2: Effort expectancy will have a positive effect on behavioural intention.

H3: Social influence will have a positive effect on behavioural intention.

4.2 Facilitating Conditions

Facilitating conditions is defined as "the *consumers' perceptions of the resources and support available to perform a behaviour*" (Venkatesh et al., 2012, p.159). Facilitating conditions are the resources that would remove the impediments to using a system such as hardware/software and technical support (Šumak, Polančič, & Heričko, 2010; Chang, Hwang, Hung, & Li, 2007). Venkatesh et al. (2003) argues and demonstrates that the relationship between facilitating conditions and behavioural intention is not significant in the original UTAUT model. This is caused by effort expectancy which fully mediates the relationship between facilitating conditions and behavioural intention (Venkatesh, 2000). For this reason, a large body of research analysed the relationship between facilitating conditions and usage behaviour while failing to address that of facilitating conditions and behavioural intention. In UTAUT2, Venkatesh et al. (2012) theorises that facilitating conditions would also influence behavioural intention. Their results show that facilitating conditions is significantly related to behavioural intention (β=0.16, p<0.01). Escobar-Rodríguez and Carvajal-Trujillo's (2013) study yielded similar results in the context of online airline tickets purchase. Hence, we posit that:

H4: Facilitating conditions will have a positive effect on behavioural intention.

4.4 Price Value

Defined as "*consumers' cognitive trade-off between the perceived benefits of the applications and the monetary cost for using them*" (Venkatesh et al., 2012, p.161); Price value is thought to play a significant role in consumer technology adoption as they bear a monetary cost compared to employees in an organisational setting. When the benefits of using a technology is greater than its monetary cost, then the price value is argued to have a positive impact on behavioural intention (Venkatesh et al., 2012). Citizens using the offline government services

will have to go on site, fill in applications by hand and make several trips depending on the service they are applying for. Hence, we reconceptualise price value as the citizen's perceived trade off between the benefits of using eGov service and the monetary cost of using traditional government offices. Using eGov rather than traditional government offices is expected to result in savings for the citizens. Chong and Ngai's (2013) study has yielded positive significant relationship between price value and behavioural intention (β=0.17, p<0.05) in the context of location-based social media. Venkatesh et al.'s (2012) study on mobile internet technology shows that price value is significantly related to behavioural intention (β=0.14, p<0.05). Hence, we posit that:

H5: Perceived price value will have a positive effect on behavioural intention.

4.5 Perceived Awareness

Perceived awareness is defined as "*gaining and acquiring knowledge, education, and consciousness as much as users perceive to be sufficient to learn the characteristics of a system, use it with skill, and realize its strategic functionality and competitive advantages and disadvantages*" (Shareef et al., 2011, p. 31). Perceived awareness is argued to affect the adoption of eGov services as informing citizens about these services, their benefits and credibility of the system, will eventually lead to the adoption of such a system (Shareef et al., 2011). Based on the TRA and TPB, attitude towards a system lead users to form their intention to use or reject such a system. Hence, in a newly developed eGov service where citizens are just beginning to develop beliefs, being aware of the facilities provided by eGov will lead citizens to develop their attitude about using the system (Limayem, Hirt, & Cheung, 2007; Shareef et al., 2011). Several scholars (Zhao, Scavarda, & Waxin, 2012; Al-Soud, Al-Yaseen, & Al-Jaghoub, 2014; Rehman, Esichaikul, & Kamal, 2012; Tung & Rieck, 2005; Eggers, 2004; Parent, Vandebeek, & Gemino, 2005) contend that lack of awareness is a major inhibitor in the uptake to eGov services. For instance, Zhao et al. (2012) argue that lack of awareness about eGov services among local communities is inhibiting the uptake of eGov in Dubai. Tung and Rieck (2005) analysed the adoption eGov services among business organizations in Singapore. The authors conclude that governments should increase public awareness of the benefits of using eGov services if they are to increase adoption. Shareef et

al. (2011) found that perceived awareness is strongly related to behavioural intention (β=0.23, p<0.001). Hence, we posit that:

H6: Perceived awareness will have a positive effect on behavioural intention.

4.6 Computer Self-Efficacy

Self-efficacy stems from work of Wood and Bandura on the Social Cognitive Theory (Igbaria & Livari, 1995). Self-efficacy refers to individuals' judgment about their ability to perform particular tasks (Bandura, 1977). Perceived self-efficacy influences behavioural intention, effort and determination required to carry out such behaviours (Wang et al., 2008; Igbaria & Livari, 1995). Venkatesh et al. (2003) contend that the Social Cognitive Theory model was extended to study computer utilisation by Compeau and Higgins (1995). Computer self-efficacy (CSE) is defined as "*a judgment of one's capability to use a technology to perform a particular task*" (Compeau & Higgins, 1995, p. 122). CSE was not included into the UTAUT model as it became non significant with behavioural intention over time. Venkatesh et al. (2003) state that the effect of CSE dissipates as it is being captured by effort expectancy. Several authors (Agarwal, Sambamurthy, & Stair, 2000; Venkatesh, 2000; Yi & Hwang, 2003) have analysed the effects of self efficacy in their studies. Yi and Hwang's (2003) research on web based information systems found significant positive relationship with system use (β=0.30, p<0.001). Venkatesh and Davis (1996); Venkatesh (2000) examine the effects of CSE on perceived ease of use and found positive relationship between CSE with perceived ease of use. Based on the aforementioned studies, the effects of CSE may dissipate as users get more accustomed with the system. In newly developed systems where users have no prior knowledge, we argue that computer self efficacy still needs to be examined. Hence, we posit that:

H7: Computer self efficacy will have a positive effect on behavioural intention.

4.7 Trust of the Internet, Trust of the Government

Trust is thought to impact citizens' intention to adopt e-government services (Carter & Belanger, 2005; Beldad, De Jong, & Steehouder, 2010). Trust refers to the expectancy that

the promise of an individual or group can be relied upon (Rotter, 1971). Carter and Belanger (2005); Lee and Turban (2001); Tan and Theon (2001) contend that citizens must trust both the government agency which is the service provider and the underlying technology through which the service is being provided, i.e. the internet. In the first stages of eGov adoption, citizens will make use of any information available to them in order to ascertain the trustworthiness of the government agency (McKnight, Choudhury, & Kacmar, 2002). Belanger and Carter (2008) contend that trust in eGov is composed of trust in a specific entity (trust of the government) and trust in the reliability of the enabling technology (trust of the internet). Trust of the Internet which is an institution-based trust is defined as "*an individual's perceptions of the institutional environment, including the structures and regulations that make an environment feel safe*" (Belanger & Carter, 2008, p. 167). On the other hand, trust in the government refers to "*one's perceptions regarding the integrity and ability of the agency providing the service*" (Belanger & Carter, 2008, p. 167). The adoption of eGov services relies on upon the belief that government agencies have the necessary resources to implement electronic services effectively and are capable of securing such systems (Belanger & Carter, 2008; Carter, 2008). During the initial stages of eGov adoption, citizens will offer some resistance as they are not familiar with the potential risks associated with eGov (Abu-Shanab, 2014). We argue that lack of trust will definitely results into an increase in resistance to adopt eGov services. Therefore, we posit that:

H8: Trust of the Government will have a negative effect on resistance to change.
H9: Trust of the Internet will have a negative effect on resistance to change.

4.8 Resistance to Change

Resistance to change has been argued to be amongst one of the factors that is impeding the adoption of eGov services (Savoldelli et al., 2014; Zhao et al., 2012; Maumbe et al., 2008; Alomari, Sandhu, & Woods, 2014) as well as for the failure of new systems (Kim & Kankanhalli, 2009; Dwivedi et al., 2014). However, there is a dearth of research on resistance to change in the eGov context (Alomari et al., 2014). Majority of African governments face hurdles from deep-rooted negative attitudes and resistance to change (Maumbe et al., 2008). Shalini (2009) suggests that resistance to change is affecting the uptake of eGov in Mauritius. Whenever faced with changes, some users prefer to remain in

the status quo or avoid and oppose them while others readily accept changes (Kim & Kankanhalli, 2009; Dwivedi et al., 2014; Oreg et al., 2008). Resistance to change is likely responsible for the negative attitudes that people feels towards specific changes they encounter (Oreg, 2006).

In the information system literature, resistance to change refers to adverse reaction of users to the proposed change in IS (Hirschheim & Newman, 1988) or the opposition of users to perceived change related to a new IS implementation (Markus, 1983). In this research, resistance to change is conceptualised as the citizen's opposition to switching from using traditional government offices to adopting eGov services. Research in the IS has been mainly on investigating the relationship between resistance to change and continuance (Zhou, 2014; Bhattacherjee & Hikmet, 2007; Al-Somali, Gholami, & Clegg, 2009). Citizens will offer some resistance to newly implemented eGov services in the pre-adoption phase (Abu-Shanab, 2014). Hence, citizens' offering some resistance to eGov services will have an inverse effect on their intention to adopt such a service. Therefore, we posit that:

H10: Resistance to change will have a negative effect on behavioural intention.

5.0 Methodology

5.1 Data Collection and Measurement

In order to test the hypotheses posited, a cross-sectional survey of Mauritian citizens were carried out using a convenience sampling strategy. Mauritian citizens of 18 years old and above were targeted as they are of legal age and are able to access eGov services. Questionnaires were distributed to the respondents' email addresses in universities and government offices as well as hand-delivered for those who could not be reached by email. SurveyMonkey.com was used to build the online questionnaires. We collected 231 questionnaires. Using the Mahalanobis Distance statistic test, the data collected were tested for outliers. 2 outliers were excluded from further analysis. This resulted in 229 usable responses for the data analysis. Variables were all measured on a 5 point likert scale ranging from 'Strongly Disagree' to 'Strongly Agree' with neutral in between. Since this research is on eGovernment, measures were changed to fit the context. In order to preserve content validity, measures were adapted from previous research. For instance, performance

expectancy, effort expectancy, social influence and facilitation conditions were adapted from Venkatesh et al. (2003). Trust of the internet and trust of the government were adapted from Belanger and Carter (2008). Perceived awareness and computer self- efficacy were adapted from Shareef et al. (2011). Behavioural intention was adapted from Venkatesh et al. (2012). Resistance to change and price value were adapted from Zhou (2014).

6. Findings and discussion

6.1. Descriptive statistics

Majority of our respondents were from 20 to 29 years old, with 54% male. The bulk of our respondents have been using the Internet several times each day. Most of them have more than 10 years experience using the computer and hold an undergraduate degree. Table 1 shows the demographics of our respondents.

Table 1. Descriptive Statistics

Description	Options	Frequency	Percentage (%)
Gender	Male	124	54.1
	Female	105	45.9
Age (years)	<20	53	23.1
	20 - 29	95	41.5
	30 - 39	38	16.6
	40 - 49	15	6.6
	>50	28	12.2
Frequency (Internet Use)	Few times monthly	4	1.7
	Several times monthly	6	2.6
	Few times weekly	7	3.1
	Several times weekly	26	11.4
	Several times each day	186	81.2
Education	Undergraduate	185	80.8
	Postgraduate	44	19.2
Experience (years)	< 5 years	21	9.2
	5 - 10 years	89	38.9
	> 10 years	119	52.0

6.2 Measurement Model

We use SmartPLS version 3.0 (Ringle, Wende, & Becker, 2015) to test our model. Partial Least Square Structural Equation Modelling (PLS) can be used in situations where the sample size is small, the goal of the research is to analyze causal predictive relationships and offers less stringent assumptions on the distributions of the model (Lee & Chen, 2010; Henseler, Ringle, & Sinkovics, 2009). SmartPLS requires a sample size of at least 10 times the ten times the largest number of structural paths directed at a particular latent construct (Hair, Hult, Ringle, & Sarstedt, 2014, p. 19). Our sample meets the required conditions. To validate our measurement model, internal consistency, convergent and discriminant were assessed. Internal consistency is assessed through composite reliability which is similar to Cronbach's alpha. Recommended alpha's value for exploratory research should be greater than 0.6 (Nunnally, 1967:1978; Hair, Black, Babin, Anderson, & Tatham, 1998) and greater than 0.80 for composite reliability (Nunnally & Bernstein, 1994). Item reliability (Cronbach's alpha), composite reliability and average variance extracted (AVE) is used to assessed convergent validity (Zhang, Li, & Sun, 2006). Significant factors should load above 0.7 and the AVE should be 0.5 and above (Fornell & Larcker, 1981). All loadings above 0.7 were retained. As shown in Table 3, the composite reliability of our measures is greater than 0.80 and the AVE exceeds the recommended value of 0.5, hence denotes acceptable convergent validity.

Table 3. Internal Validity

Constructs	AVE	Composite Reliability	Cronbach's Alpha
Behavioural Intention (BI)	0.80	0.92	0.88
Computer Self-Efficacy (CE)	0.89	0.94	0.88
Effort Expectancy (EE)	0.68	0.89	0.84
Facilitating Conditions (FC)	0.71	0.83	0.64
Perceived Awareness (PA)	0.76	0.86	0.69
Performance Expectancy (PE)	0.75	0.92	0.89
Perceived Value (PV)	0.78	0.91	0.91
Resistance to Change (RT)	0.82	0.93	0.89
Social Influence (SI)	0.80	0.92	0.88
Trust in Government (TG)	0.78	0.93	0.91
Trust of Internet (TI)	0.78	0.91	0.85

Discriminant validity is shown by comparing the squared correlations between constructs and variance extracted gives the discriminant. Since the square root of the AVE is greater than the

correlations among all the constructs, this demonstrates that they share greater variance with their own measures than with other constructs (Fornell & Larcker, 1981). Hence, the psychometric properties of our measuring instrument exhibit acceptable convergent and discriminant validity.

Table 4. Correlations among latent construct

	BI	CE	EE	FC	PA	PE	PV	RT	SI	TG	TI
BI	**0.90**										
CE	-0.15	**0.94**									
EE	0.40	-0.04	**0.82**								
FC	0.33	0.30	0.28	**0.84**							
PA	0.31	0.04	0.38	0.18	**0.87**						
PE	0.42	-0.10	0.61	0.20	0.39	**0.87**					
PV	0.14	0.36	0.17	0.25	-0.11	0.13	**0.89**				
RT	-0.36	0.24	-0.41	-0.10	-0.38	-0.31	0.18	**0.91**			
SI	0.34	0.07	0.60	0.26	0.40	0.57	0.26	-0.28	**0.89**		
TG	0.38	0.00	0.48	0.17	0.61	0.53	0.07	-0.38	0.53	**0.88**	
TI	0.44	-0.15	0.40	0.08	0.52	0.44	-0.05	-0.48	0.47	0.70	**0.88**

Note: Bold items on the diagonal represent the square root AVE.

6.3 Structural Model

The path coefficients and variance explained are examined in order to assess the structural model. A bootstrap methodology was used with 1000 sub-samples to generate t-statistics. The structural model (see Fig. 5) demonstrate that 5 out of 10 relationships posited are significant at $p<0.05$ level. The relationship between perceived awareness and behavioural intention is significant at $p<0.10$ level. The relationships between effort expectancy, social influence, facilitating conditions, trust in government and behavioural intention are not significant. The variance explained by the model in resistance to change is 23 percent and that of behavioural intention is 35 percent. Overall, 5 out of 10 hypotheses tested were not supported. Table 5 provides further detail on the hypotheses posited and outcomes. Next, we provide a discussion of the salient findings of our research.
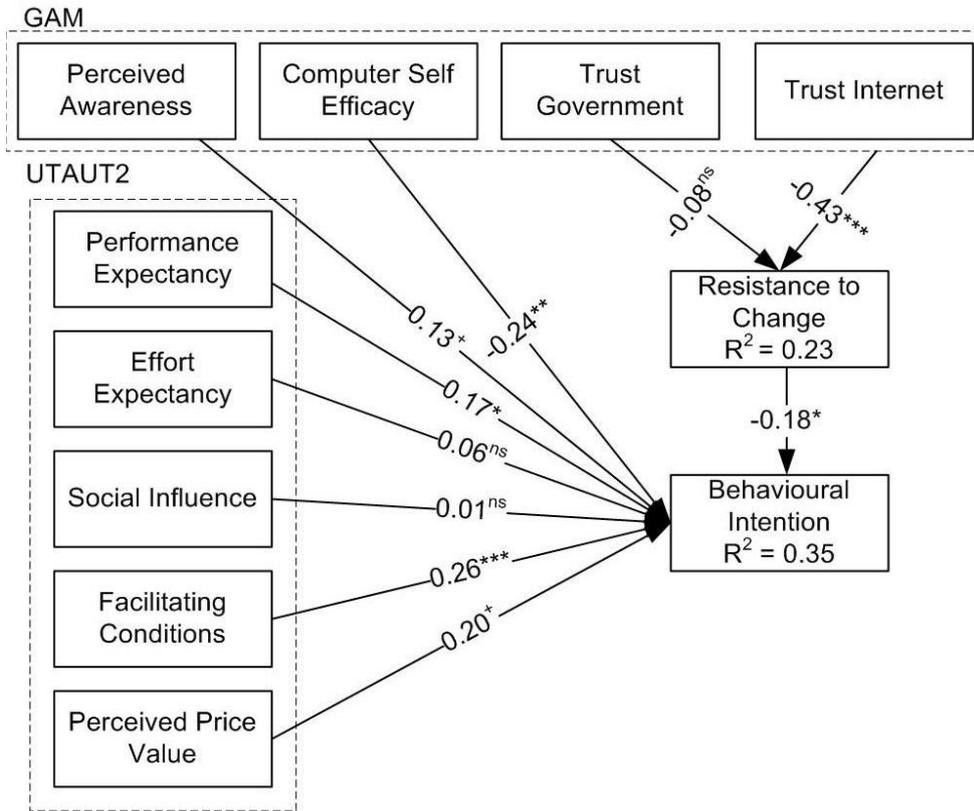
Fig 5. Structural Model (ns = non-significant, +p < 0.10, * p < 0.05, **p < 0.01, *** p < 0.001, R^2 = Variance Explained)

Table 5. Hypotheses and Results

No	Hypothesis	Path	T-Value	Significance	Supported
H1	PE → BI	0.17	2.14	0.05*	Yes
H2	EE→ BI	0.06	0.58	ns	No
H3	SI→ BI	0.01	0.17	ns	No
H4	FC→BI	0.26	3.81	0.001***	Yes
H5	PV→BI	0.18	1.72	0.10+	No
H6	PA→BI	0.13	1.76	0.10+	No
H7	CE→BI	-0.24	3.42	0.01**	Yes
H8	TG→RT	-0.08	0.80	ns	No
H9	TI→RT	-0.43	5.05	0.001***	Yes
H10	RT→BI	-0.18	2.43	0.05*	Yes

In order to investigate the impact of each predictor on behavioural intention, effect sizes of excluding each of the significant predicators were examined. Effect sizes in the path model were calculated using Cohen's (1992) f^2 formula: $f^2 = (R^2\text{included} - R^2\text{excluded}) / (1 - R^2\text{included})$. The effect size calculates the impact of the increase/decrease in variance explained as compared to that of the base model. According to Cohen (1992), f^2 values of 0.02, 0.15, and 0.35 signify small, medium and large effects respectively. Table 6 shows the change in variance and their effects on behavioural intention when each significant predictors of intention is excluded.

Table 6. Change in Variance and Effect Sizes

Model	Change in R^2 in Behavioural Intention		Effect Size
	R^2	ΔR^2	f^2
Main Model	0.351		
Excluding PE	0.335	0.016	0.025
Excluding FC	0.297	0.054	0.083
Excluding CE	0.309	0.042	0.065
Excluding RC	0.328	0.023	0.035

R^2 = Variance Explained, ΔR^2 = Change in Variance Explained.

Results from Table 6 shows that excluding facilitating conditions and computer self-efficacy produces a small-medium effect on behavioural intention. This effect is larger than all other predictors while performance expectancy produces the smallest effect on behavioural intention.

7. Discussions

Following the gap that exists on empirical research on eGov in the African context and dearth of research on resistance to change, this study uses a combined model of the UTAUT2 and the GAM to investigate factors that influence the adoption of eGov services in Mauritius. We extend the UTAUT2 model to the eGov context in a small island developing state context. Further, we investigate the relationship between constructs such as price value, computer self-efficacy and resistance to change with behavioural intention. The adoption of eGov services in developing countries are still at its infancy and understanding the factors that would improve eGov uptake will provide important insights to help governments with their

policy planning. In line with previous studies that employed the UTAUT model, our results show that performance expectancy has a positive significant relationship with behavioural intention ($\beta=0.17$, $p<0.05$) suggesting that citizens recognise that fact that using eGov services may help them gain in benefits in terms time savings required to fill offline forms. Further, using eGov services will help in reducing the feedback time, especially the time taken from when the applications were made and time the results of these applications were known. Contrary to previous research, this study shows that effort expectancy ($\beta=0.06$, $p>0.05$) and social influence ($\beta=0.01$, $p>0.05$) are not significantly related to behavioural intentions. Despite being top six in Africa (UN E-Government Survey, 2014), Mauritius eGov websites have few functionalities and its use among the populations is very limited. Hence, very few of our respondents have employed eGov websites to complete transactions and thus they are not able to comment on its ease of use. One of the aims of this research is to investigate factors that would improve eGov use in a pre-adoption context. As the uptake of eGov services is limited, the pool of users that have been using eGov are few, hence critical mass or network externalities could not be established. This explains the reasons behind social influence being non-significant with behavioural intention. Critical mass is defined as the degree to which a potential user perceive that there is enough users that have adopted the innovation so that it's uptake is increased and adoption of the innovation becomes self-sustaining (Van Slyke, Ilie, Lou, & Stafford, 2007; Lou, Luo, & Strong, 2001). Critical mass has been found to be significant predictor of behavioural intention in instant messaging (Lou et al., 2001; Li, Chau, & Lou, 2005), groupware (Van Slyke et al., 2007) and social networking sites (Sledgianowski & Kulviwat, 2009).

Research on peer externalities suggest that the value a user gains from a product or service will be enhanced with an increase in the number of users or complementary product or service (Katz & Shapiro, 1985). Lin and Bhattacherjee, (2008) argue that as the number of users reaches a critical point, causing external benefits such as an increase in users or service offerings and thus attracting more users. Hence, in eGov context, as a critical pool of users have been achieved, the number of eGov services will increase and thus enticing other users to adopt the service. The more the numbers of users and availability of complementary goods or services, the more value the users will gain from the service (Lin & Lu, 2011).

Our results show that facilitating conditions are strongly related to behavioural intention ($\beta=0.26$, $p<0.001$). Despite the fact that 53 percent of Mauritian households have a computer

and broadband internet subscriptions (Statistic Mauritius, 2014; Unesco, 2015), our results demonstrate there is much improvement to be done in providing the necessary infrastructure so as increase the ubiquity of computers, especially with the availability of internet.

Contrary to findings of Shareef et al. (2011), perceived awareness (β=0.13, p>0.05) and perceived value (β=0.18, p>0.05) are not related to behavioural intention. Hence, the knowledge about the eGov services and monetary trade-offs between using eGov over traditional government offices do not contribute to citizens forming their intention to use the system. There is a lack of information about the online services offered by the government and their concrete benefits to the citizens. Thus, citizens are unaware of the different online services available and thus do not perceived the trade-offs between benefits and monetary value of using eGov services. Other reasons might also be that citizens do not perceive that using eGov will incur any monetary savings to them as they are more accustomed to using traditional government offices.

The relationship between computer self-efficacy and behavioural intention is scant in the literature as studies have examined for the relationship between computer self-efficacy and use (Yi & Hwang, 2003) or computer self-efficacy and perceived ease of use (Agarwal et al., 2000; Venkatesh, 2000). Our findings contribute to the extant literature as we show that computer self-efficacy has a negative relationship with behavioural intention (β= -0.24, p<0.01) suggesting that although the citizens are capable of using eGov services, they would rather choose not to do so. Luarn and Lin (2005) argue that perceived self efficacy has a direct or indirect effect on behavioural intention through ease of use. Hence, factors such as information quality and website design that affect ease of use may explain the negative relationship with behavioural intention. For instance, citizens may be reluctant to adopt eGov services if the website is too complicated to use, wrong design principles were used and the information provided is not up-to date. This in turn can lead to resistance to change. Abu Shanab (2014) argues that the citizens' intention to adopt eGov increases with attractive and well organised eGov websites.

Despite being argued to be an important factor in the adoption of eGov (Savoldelli et al., 2014; Zhao et al., 2012), there is very limited research on resistance to change (Alomari et al., 2014). Current research investigated resistance to change in the continuance literature and not in a pre-adoption phase (Zhou, 2014; Bhattacherjee & Hikmet, 2007; Al-Somali et al.,

2009). Hence, the findings of this research contribute to the extant literature. Resistance to change is found to be negatively related to behavioural intention ($\beta = -0.18$, $p<0.05$). This shows that resistance to change is an important inhibitor of eGov uptake in a pre-adoption phase. Our findings also demonstrate that trust in the internet has a negative significant relationship with resistance to change ($\beta = -0.43$, $p<0.001$). As trust in the internet is increased, citizens' resistance to adopt eGov decreases. Moreover, in a post hoc analysis, perceived trust in the internet was regressed on behavioural intention. Perceived trust in the internet has a positive significant relationship with behavioural intention over and above that of resistance to change ($\beta=0.25$, $p<0.01$). Further, the relationship between resistance to change and behavioural intention becomes non-significant. This suggests that perceived trust in the internet is accounting for the variance explained by resistance to change and thus increasing trust in the internet over secured connections that respects the privacy of citizens would help reduce resistance to adopting eGov services.

On the other end, trust in government is non-significant with behavioural intention ($\beta = -0.08$, $p>0.05$) despite being argued to an important component in the adoption literature as demonstrated by numerous articles (Carter & Belanger, 2005; Abu-Shanab, Al-Rub, & Md Nor, 2010; Beldad, van der Geest, de Jong, & Steehouder, 2012; Belanger & Carter, 2008). We interpret those findings to mean that public perceptions of government institutions' integrity and capability to provide services eGov services do not contribute to the citizens' adoption of eGov services. These results are very interesting as there may be other societal issues at play that would require further exploring.

8. Implication for Practice

There are several implications that can be derived from our results which may be useful to the Mauritian government and small island developing states in particular. For instance, if governments would like to increase the uptake of its service, proper marketing and communication mechanisms should be put in place. Simply relying on having the necessary infrastructure in place would not contribute to the adoption of eGov services. If the citizens are not aware of eGov services available, they will not be able to determine the value that such a service would bring them, thus mostly likely to reject eGov services. Lack of awareness is argued to be among one of the factors that inhibit the adoption of eGov services

(Zhao et al., 2012). Our findings show that both perceived awareness (β=0.13, p>0.05) and perceived value (β=0.18, p>0.05) are not related to behavioural intention. There is a lack of information about the online services offered by the government and their concrete benefits to the citizens. Hence, citizens are unaware of the different online services available and thus do not perceived the trade-offs between benefits and monetary value of using eGov services. A concerted marketing campaign should be done to promote its use especially in the pre-adoption phase where eGov services are still being developed. Governments should focus on obtaining at least a critical mass of users in the first instance that would entice fellow citizens to adopt the service (Van Slyke et al., 2007; Lou et al., 2001). As per the network externalities literature, the more the citizens are adopting the service, the greater the value the citizen will gain from using eGov service (Katz & Shapiro, 1985). Moreover, having a pool of early adopters using the service could enable the eGov authorities to obtain important feedback on its services and make intervention as is necessary. Website design and information quality also affect the adoption of eGov services (Abu-Shanab, 2014). Our findings suggest that although citizens are able to use eGov services, they would rather choose not to do so as demonstrated by the negative relationship between computer self-efficacy and behaviour intention. Mauritius eGov websites are still at the static phase and government authorities should rethink their eGov websites design as visual appeal has been found to be a significantly related to intention to use e-government services (Gilbert et al., 2004). Websites should be simplified and made as easy as to use as possible, bugs removed and proper feedback mechanism should be implemented to inform citizens of the status of their applications.

Moreover, trust in the internet is strongly related to citizens forming their intention to adopt eGov services. Governments should reinforce such feelings by ensuring that the security and privacy concerns of citizens are met. Two step authentication techniques could be implemented before transactions are confirmed. For instance, upon completed a transaction, a code could be sent to the citizen's mobile phone and upon entering that code, the transactions completed using eGov service are then registered. The same could be implemented in case of password lost. This in turn would increase the perceived trust of using eGov services and further reduce resistance to change. Our results show that trust in government is not related to behavioural intention. Government should improve its image and show its seriousness about implementing and promoting the use of eGov services. Institutional credibility has been argued to be an important step in building trust (Carter & Belanger, 2005).

9. Limitations

As with any research, the findings of this study should be read in the light of the following limitations. Firstly, this research was conducted in a small island developing state where eGov services are still at the static phase with limited interactivity. Hence, the findings of the research may not apply to developing states/western contexts or countries where eGov services are fully interactive. Inferring generalization of those findings should be done cautiously as this research makes use of a convenience sample applied in a cross sectional study. Moreover, our data were collected at a single point in time.

10. Conclusions and Future Research

This study contributes to the extant literature on e-Government adoption. An extended UTAUT2/GAM model was used to investigate antecedents of behavioural intention in a small island developing state context. The results show that performance expectancy and facilitating conditions are positively related to behavioural intention. We further investigate resistance to change in a pre-adoption stage and show that resistance to change and computer self-efficacy have a negative significant relationship with intention to use eGov services. Future research could further explore the antecedents of resistance to change in pre-adoption phase. Resistance to change has mainly been employed in the continuance literature in order understand the factors that would lead users to continue using a system. Resistance to change in the pre-adoption phase deals with factors that would inhibit users from switching to a computerised system or adopt an innovation. Future research could also extend the model further. Constructs such as information quality, websites quality which was not tested in this research could be included as well as moderating effects. Further, the model in this research could be validated in other small island developing state context or developing countries. Moreover, citizens' perceptions of government's credibility and integrity on eGov services adoption decision could be explored further. The model used in this research could be further extended to explore factors that would lead to eGov adoption in a dynamic context where eGov services are fully interactive.

Questionnaire items

Performance Expectancy
Using e-government services will help me to accomplish things more quickly.
Using e-government services will improve my performance in my daily life.
I would find e-government services useful in daily life.
Using e-government services will make my life easier.

Effort Expectancy
My interaction with e-government services would be clear and understandable.
I would find e-government services easy to use.
It would be easy for me to become skillfull at using e-government services
Learning to operate e-government services would be easy for me

Social Influence
People who are important to me think I should use e-government services.
People whose opinions I value would prefer me to use e-government services.
People who influence me think that I should use e-government services.

Facilitating Conditions
I have the necessary resources to use e-government services.
I have the necessary knowledge to use e-government services.
I can get help from others when I have difficulties using e-government services (*Dropped*).
I can consult Government Help Centre if I have difficulty using e-government services (*Dropped*).

Trust of Internet
The internet has enough safe guards to make me feel comfortable using it to interact with e-government services.
I feel assured that legal and technological structures adequately protect me from problems on the internet.
In general, the internet is now a robust and safe environment to transact using e-government services.

Trust of the government
I think I can trust government agencies.
Government agencies can be trusted to carry out online transactions faithfully.
I trust that government agencies keep my best interests in mind.
In my opinion, government agencies are trustworthy.

Perceived Awareness
I am aware of e-Government services in Mauritius (*Dropped*).
I know the benefits of using e-Government services (*Dropped*).
I have gone through educational/training programs about the overall features of e-Government services.
I have come across government campaigns/advertisements for using e-Government services in Mauritius.

Computer Self Efficacy
I have the necessary knowledge to use and operate e-government websites (*Dropped).*
I have the necessary knowledge to use the internet.
I have the necessary skills to use e-government websites.
I am confident that I can use e-government websites (*Dropped*)

Resistance to Change

I would not change my preference of using traditional government offices to e-government services.
I would not willingly change my preference of using traditional government offices to e-government services.
I would not substitute using traditional government offices with e-government services.

Price Value
Compared with costs of using traditional government offices:
I believe that using e-government services is a good value for money.
I believe that using e-government services will cost me much less.
I believe that using e-government services provides a good value.

Behavioural Intention
I intend to use e-government services in the future.
I predict I would use e-government services in the future.
I plan to use e-government services in the future.

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