

## **Proposed Model for Investigating the level of the Users' Acceptance of E-Government Services**

Rashid Saad Alnaemi, Maisarah Mohamed Saat & Azman  
Hashim

International Business School, Universiti Teknologi Malaysia

**To Link this Article:** <http://dx.doi.org/10.6007/IJARBSS/v11-i8/10731> DOI:10.6007/IJARBSS/v11-i8/10731

**Published Date:** 06 August 2021

### **Abstract**

The current paper aims to propose a framework for investigating the level of acceptance of the users for e-government services. The proposed model consists of two main independent variables. The first factor is the perceived usefulness with two-constructs, namely: perceived usefulness and perceived ease of use. The second independent variable is trust, which has three sub-constructs: perceived risk, perceived privacy and perceived security. The proposed model hypothesizes that these variables have a positive effect on the users' acceptance for e-government services. The proposed model also hypothesizes that knowledge technology has a positive effect on the relationship between the independent and dependent variables. This model could help to understand the level of acceptance of the users for e-government services, especially that it has focused on both positive and negative factors that might influence the users' acceptance of e-government services.

**Keywords:** E-Government Acceptance, Perceived Usefulness, Perceived Ease of Use, Perceived Privacy, Perceived Risk, Perceived Security.

### **Introduction**

The technological revolution in the last few decades in the field of technology has directed the life of people to new dimensions in all aspects of their life. Technological developments have changed the way people interact with each other using different applications and social platforms, which were after that used in business activities under the umbrella of electronic commerce (Singh & Singh, 2018). Governments have utilized such opportunities to digitize their services to their citizens, which became known as e-government. E-government focuses on facilitating the dissemination of information on websites through the Internet so that citizens can do their transactions through such websites easily at any time and from any place (Eyob, 2004; Twizeyimana & Andersson, 2019).

The idea of e-government was to overcome problems faced by people related to the services provided by the governments. The main aim of e-government is to provide valuable

services to the people to facilitate their life and improve their value of everyday activities (Twizeyimana & Andersson, 2019). This step of moving towards e-government is helpful for governments to reduce their expenses for the services provided to the people, and it helps governments to provide more efficient public services (Alhamidah, 2007). Hence, the definition of e-government is the providence of government services to citizens through technology so that the people do not need to go to the government offices, resulting in speeding up in the services provided by the governments (Yildiz, 2007; Rahman, 2019).

Moreover, e-government has encapsulated new dimensions beyond delivering the services of governments as this type of internet tools provide transparency and efficiency of administration (Güler, Mukul & Büyüközkan, 2019). So, the concept of e-government is not related to providing services to people only as it has different types of services, including improving businesses and employees.

### **Acceptance Factors**

This section will discuss the proposed factors for investigating the acceptance of the users for e-government services. These factors are behavioral acceptance (perceived usefulness, and ease of use), trust (perceived risk, perceived privacy, and perceived security).

### **Behavioral Acceptance**

#### *Perceived Usefulness*

Perceived usefulness (PU) refers to the idea that the use of a specific technology helps to enhance work performance (Venkatesh et al., 2003; Jahangir & Begum, 2008; Dwivedi et al., 2017) This concept can be explained in two ways: relying on the context, the individuals' belief that adopting e-government services will benefit them more than commonly used traditional public service systems which means that the use of new technologies is more beneficial than the traditional systems. Gefen and Straub (2000) and Jahangir and Begum (2008) have added that the need for perceived usefulness becomes clear when there is a change in the current system to new and unique delivery systems. Chen and Aklikokou (2020) showed that people's perceptions of the value of e-government services are connected to the number of services they intend to use. In Qatar, end-user contentment with mobile services has been shown to be highly dependent on perceived usefulness (El-Kassem et al., 2020). Attitude and intention are two components that can be influenced by perceived usefulness, and this has previously been investigated and proven as a crucial factor in the adoption of technology services (Santhanamery & Ramayah, 2018).

#### **Perceived Ease of Use**

Perceived ease of use, also known as effort expectancy in the UTAUT theory, is a key element of TAM which is associated with the extent that a potential user of a specific system thinks it is easy and free of effort (Venkatesh et al., 2003; Zafiroopoulos et al., 2012; Dwivedi et al., 2017). Perceived ease of use refers to people's idea that they would encounter no challenges or difficulties when utilizing new technology or systems (Hubert et al., 2019). In other words, new technologies and systems must be simple so that the user can easily understand and use it (Hubert et al., 2019).

**Trust***Perceived Risk*

Perceived risk is described in the context of e-government as “the citizen’s subjective expectation of suffering a loss in pursuit of a desirable outcome” (Räckers et al., 2013). Risk, according to Featherman and Pavlou (2003), is a mixture of uncertainty and the result of a specific circumstance. According to Dwivedi et al (2017), the dangers associated with utilizing a specific system, just like e-government services, are linked to the user’s feelings about it whether it is good or might carry some danger when using it. The study of Dwivedi et al (2017) employed technological risk as a construct to describe perceived risk. They argued that citizens determine whether to utilise e-government services by assessing the benefits and hazards, and citizens who believe the internet is dangerous are less likely to utilize it. The impact of perceived risk on performance expectations and intention to use has also been investigated (Martins et al., 2014). According to Zafiroopoulos et al (2012), risk may have an indirect effect on people's intention to use e-government services in the future.

**Perceived Privacy**

The topic of privacy concerns is defined in many ways and assigned varied meanings in the literature. One popular definition is “beliefs about who has access to information disclosed when using the internet and how it is used” (Dinev & Hart, 2006). Several studies have been conducted to examine the effect of privacy issues on trust and adoption of e-government services. Cullen and Reilly (Cullen & Reilly, 2008), for example, explored New Zealanders’ worries about privacy issues and the influence of these issues on their trust in e-government services. They showed that most participants had poor levels of trust mostly in privacy of online communication but nevertheless utilized it for its practicality. The study showed that people trusted the government more than business enterprises. In another context, Cullen studied Japanese information privacy issues and showed significant differences from the findings of the preceding New Zealand study. The Japanese were much more concerned about privacy issues and had far less trust in government than New Zealanders (Cullen, 2008). Choudrie, Raza, and Olla (2009) explored the links between privacy, trust, and e-government adoption in the UK and showed that participants who were worried about their information privacy indicated substantially less intention to utilize e-government service than those who were not.

**Perceived Security**

Perceived security can be defined as the users' perceptions of the function and management of their personal data information when using an online system in general. Users' perceptions of a system’s security can impact their decision to utilize it. Most of the users are more likely to avoid using a service or a system if they believe it poses a high risk, particularly in terms of security (Capistrano, 2020).

Security can be defined as the degree to which a government website protects itself against unauthorized access and attack (Thompson et al., 2020). As anticipated, security is of the utmost significance to people when it comes to online government services, particularly when dealing with public services including personal data and financial transactions (Blut, 2016). Security flaws on government websites, whether they be information leaks, money losses, or malicious assaults, not only prevent citizens from accessing online government services, but it also increases citizens’ discontent with the service reliability of e systems (Li & Shang, 2020). Previous research has found that individuals' perceptions of the security of

government sites are a significant antecedent variable for e-government adoption, but also a significant indicator of e-government quality of service (Hu et al., 2014).

### Proposed Conceptual Model

Based on the discussion above, perceived usefulness and perceived ease of use are key factors that increase the behavioral intention of the users to accept e-government services. Besides, perceived risk, perceived privacy and perceived security might increase or lower the level of acceptance for e-government services, which shows that trust is a key factor in increasing the acceptance of e-government services. also, it is expected that knowledge technology, which refers to the users' knowledge of utilizing technology, might have a positive moderating effect on the relationship between the two independent factors (behavioral acceptance and trust) and the dependent variable intention to accept e-government services. Accordingly, the proposed model includes two main constructs that influence the acceptance of the users for e-government services. The first construct is behavioral acceptance, which includes two sub-constructs: perceived usefulness, and perceived ease of use. The second construct is trust, which has three sub-constructs: perceived risk, perceived privacy, and perceived security. Also, the moderator in the proposed model is technology knowledge. Figure 1 shows the proposed model for investigating the acceptance of e-government services among the users.

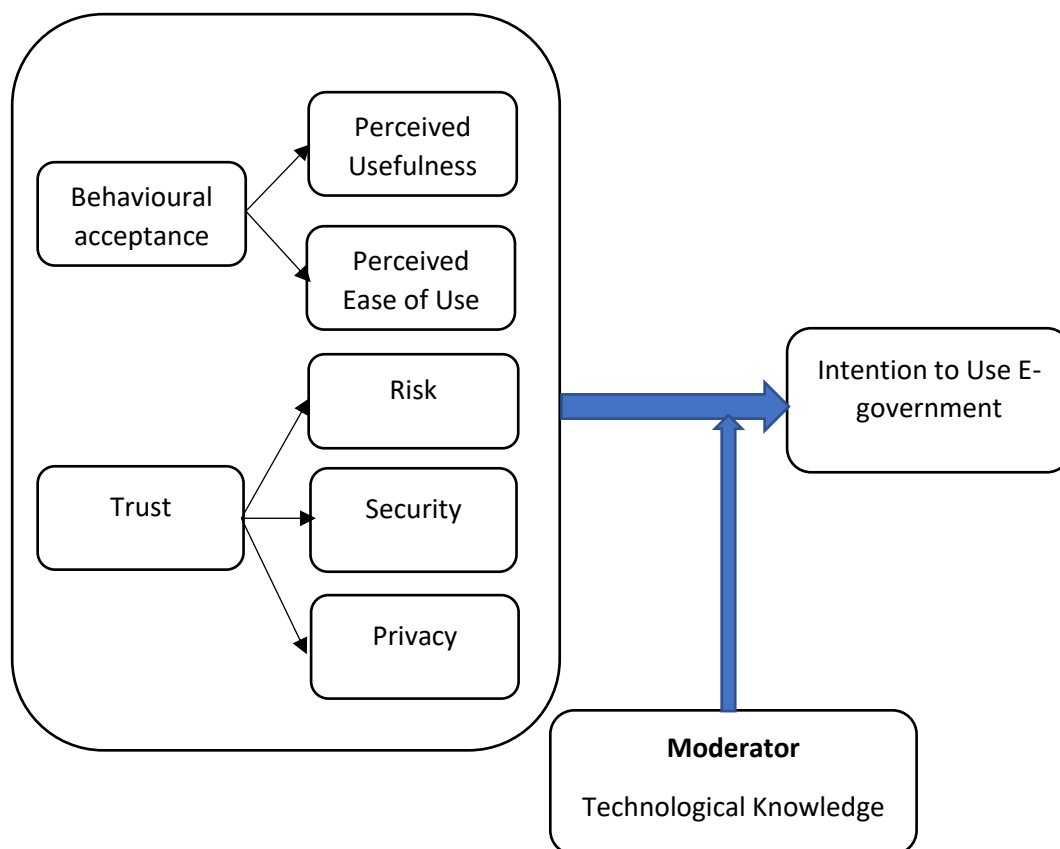


Figure 1. E-Government Acceptance Model

### Conclusion

The current paper aimed to propose a model for investigate the acceptance of e-government services. The proposed model has two main constructs, which are behavioral acceptance with two sub-constructs: perceived usefulness, and perceived ease of use, and

the second construct is trust with three sub-constructs: perceived risk, perceived security, and perceived privacy. The proposed model might provide a better understanding for the level of acceptance of e-government services since it focused on both the positive factors and the negative factors related to the acceptance of e-government services. Further, knowledge technology as a moderator might have a positive effect on the relationship between the independent and dependent variables. That is, the more knowledge technology the users have, the higher their intention will be for accepting e-government services.

### **Corresponding Author**

Corresponding Author: Rashid Saad Alnaemi, International Business School, Universiti Teknologi Malaysia, e-mail: rs-92@hotmail.com

### **References**

- Abdullah, F., & Ward, R. (2016). Developing a General Extended Technology Acceptance Model for E-Learning (GETAMEL) by analysing commonly used external factors. *Computers in human behavior*, 56, 238-256.
- Alalwan, A. A., Dwivedi, Y. K., Rana, N. P., & Algharabat, R. (2018). Examining factors influencing Jordanian customers' intentions and adoption of internet banking: Extending UTAUT2 with risk. *Journal of Retailing and Consumer Services*, 40, 125-138.
- Alhamidah, K. (2007). The adoption of e-Government and its outcomes. *International Journal of Liability and Scientific Enquiry*, 1(1-2), 188-199.
- Blut, M. (2016). E-service quality: development of a hierarchical model. *Journal of Retailing*, 92(4), 500-517.
- Capistrano, E. P. (2020). Determining e-Government Trust: An Information Systems Success Model Approach to the Philippines' Government Service Insurance System (GSIS), the Social Security System (SSS), and the Bureau of Internal Revenue (BIR). *Philippine Management Review*, 27, 57-78.
- Chen, L., & Aklikokou, A. K. (2020). Determinants of e-government adoption: testing the mediating effects of perceived usefulness and perceived ease of use. *International Journal of Public Administration*, 43(10), 850-865.
- Choudrie, J., Raza, S., & Olla, P. (2009). Exploring the Issues of Security, Privacy and Trust in eGovernment: UK Citizens' Perspective. *AMCIS 2009 Proceedings*, 347.
- Cullen, R. (2008). Citizens' concerns about the privacy of personal information held by government: A comparative study, Japan and New Zealand. In *Proceedings of the 41st Annual Hawaii International Conference on System Sciences (HICSS 2008)* (pp. 224-224). IEEE.
- Cullen, R., & Reilly, P. (2008). Information Privacy and Trust in Government: a citizen-based perspective from New Zealand. *Journal of Information Technology & Politics*, 4(3), 61-80.
- Dwivedi, Y. K., Rana, N. P., Janssen, M., Lal, B., Williams, M. D., & Clement, M. (2017). An empirical validation of a unified model of electronic government adoption (UMEGA). *Government Information Quarterly*, 34(2), 211-230.
- Dinev, T., & Hart, P. (2006). An extended privacy calculus model for e-commerce transactions. *Information systems research*, 17(1), 61-80.
- El-Kassem, R. C., Al-Kubaisi, A. S., Al Naimi, M. M., Al-Hamadi, A. M., & Al-Rakeb, N. A. (2020). Path Analytic Investigation of the Intention to Adopt E-government Services through

- Mobile Applications in Qatar (Tam Revisited). *International Journal of Advanced Research in Engineering and Technology*, 11(6).
- Eyob, E. (2004). E-government: breaking the frontiers of inefficiencies in the public sector. *Electronic Government, an International Journal*, 1(1), 107-114.
- Featherman, M. S., & Pavlou, P. A. (2003). Predicting e-services adoption: a perceived risk facets perspective. *International journal of human-computer studies*, 59(4), 451-474.
- Gefen, D., & Straub, D. (2000). The relative importance of perceived ease of use in IS adoption: A study of e-commerce adoption. *Journal of the association for Information Systems*, 1(8), 1-30.
- Güler, M., Mukul, E., & Büyüközkan, G. (2019, July). Analysis of e-government strategies with hesitant fuzzy linguistic multi-criteria decision-making techniques. In *International Conference on Intelligent and Fuzzy Systems* (pp. 1068-1075). Springer, Cham.
- Hubert, M., Blut, M., Brock, C., Zhang, R. W., Koch, V., & Riedl, R. (2019). The Influence of Acceptance and Adoption Drivers on Smart Home Usage. *European Journal of Marketing*, 53(6), 1073-1098.
- Jahangir, N., & Begum, N. (2008). The role of perceived usefulness, perceived ease of use, security and privacy, and customer attitude to engender customer adaptation in the context of electronic banking. *African Journal of Business Management*, 2(1), 032–040.
- Li, Y., & Shang, H. (2020). Service quality, perceived value, and citizens' continuous-use intention regarding e-government: Empirical evidence from China. *Information & Management*, 57(3), 103197.
- Martins, C., Oliveira, T., & Popovič, A. (2014). Understanding the Internet banking adoption: A unified theory of acceptance and use of technology and perceived risk application. *International journal of information management*, 34(1), 1-13.
- Räckers, M., Hofmann, S., & Becker, J. (2013). The influence of social context and targeted communication on e-government service adoption. In *International Conference on Electronic Government* (pp. 298-309). Springer, Berlin, Heidelberg.
- Rahman, A. (2019). E-governance in Bangladesh. In *Global Encyclopedia of Public Administration, Public Policy, and Governance* (pp. 1-8). Springer, Cham.
- Santhanamery, T., & Ramayah, T. (2018). Trust in the system: The mediating effect of perceived usefulness of the e-filing system. In *User Centric E-Government* (pp. 89-103). Springer, Cham.
- Singh, M., & Singh, G. (2018). Impact of social media on e-commerce. *International Journal of Engineering & Technology*, 7(2.30), 21-26.
- Susanto, T. D., & Aljoza, M. (2015). Individual acceptance of e-Government services in a developing country: Dimensions of perceived usefulness and perceived ease of use and the importance of trust and social influence. *Procedia Computer Science*, 72, 622-629.
- Thompson, N., Mullins, A., & Chongsutakawewong, T. (2020). Does high e-government adoption assure stronger security? Results from a cross-country analysis of Australia and Thailand. *Government Information Quarterly*, 37(1), 101408.
- Twizeyimana, J. D., & Andersson, A. (2019). The public value of E-Government—A literature review. *Government Information Quarterly*.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425–478.



- Yildiz, M. (2007). E-government research: Reviewing the literature, limitations, and ways forward. *Government information quarterly*, 24(3), 646-665.
- Zafiropoulos, K., Karavasilis, I., & Vrana, V. (2012). Assessing the adoption of e-government services by teachers in Greece. *Future Internet*, 4, 528–544.