

The Application of Unified Theory of Acceptance and Use of Technology (UTAUT) for Predicting the Usage of E-Zakat Online System

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Abstract: *The utilisation of technology has been widely practiced for the system of payment. It is now being utilised for the payment of zakat. Therefore, this research aims to gauge the awareness of an e-zakat online system in the Selangor and also to examine the extent of utilisation of an online e-zakat among individual zakat payers using the Unified Theory of Acceptance and Use of Technology (UTAUT) model. Although the model was reviewed by the prominent researchers, but, it still has a limited resource to explore the usefulness of using e-zakat online system. The primary data collection was carried out through a questionnaire survey. The questionnaire was distributed to the academicians in the Klang Valley. The results provide an intellectual challenge and contribute to knowledge in this area of user perceptions of IT utilisation and provide indispensable evidence of the necessity of improving the awareness and utilization of e-zakat online.*

Keywords: Technology; UTAUT; online system; zakat, Malaysia

1. Introduction

Today, the tremendous growth and development of an Internet as a new marketplace has caused a rise of an Internet payment which is also known as e-payment. Back in the year 2000, about 3,700,000 of Internet users were recorded in Malaysia and this amount constantly increased to 16,902,600 in June, 2010. It refers to the increase of 356.8% increment during a decade [1]. Furthermore, in Malaysia, the migration to e-payments is a part of Bank Negara Malaysia's agenda, as reflected in the Financial Sector Blueprint 2011-2020 [2].

This positive progress and innovation in technology will eventually effect and change the society's lifestyle. One of the major impact of technology adoption in the society's lifestyle can be seen through the use of the zakat online system which is widely known as e-zakat. E-zakat is a portal, where payers can update an information related to the zakat, calculate their zakat amount, pay zakat and keep track of their zakat payment directly from the portal. In Malaysia, Lembaga Zakat Selangor (LZS) is the first zakat organization which has used an internet payment system since 30 May, 2006. Through this portal, zakat payers are no longer restricted to the normal office hours to pay their zakat, and there is no need to go the zakat counter which is very convenient.

The evaluation of the models that are utilised to determine the factors affecting the acceptance of computer technology had been carried by most of the previously carried out researches. These models include Technology Acceptance Model (TAM) [3], Theory of Reasoned Action (TRA) [4,5] and Theory of Planned Behaviour (TPB) [6] and The Unified Theory of Acceptance and Use of Technology (UTAUT) [7]. For this study, UTAUT was found to be the most applicable model for the determination of the users' acceptance of technology and its usage. The four main constructs which behave as the determinants of behavioural

intentions and usage behaviour which are effort expectancy, social influence, performance expectancy, and facilitating conditions were postulated by the UTAUT Model [7].

As for this research, much focus is given to the several independent variables (IV) named; effort expectancy, social influence and performance expectancy, whereas, the facilitating conditions have been ignored. Due to this fact, Venkatesh et al., (2003) [7] considered that the facilitating conditions become non-significant in predicting an intention if both performance expectancy constructs and effort expectancy constructs were present. The behavioural usage was also removed from this research due to certain unavoidable circumstances, where there is the time constraints to obtain the results. The continuation of the behavioural usage might take longer duration, thus, it hinders the successful completion of research within a given time period.

Given the ability and benefits of the system, this study aimed to gauge the awareness of e-zakat online system in Selangor, to examine the extent of utilisation of e-zakat online among an individual zakat payer in Selangor and to determine the significance of demographic factors for the explanation of the variation in the awareness and utilisation. This study aims to look at the academicians' acceptance of e-zakat in Selangor. It is envisaged that this research would provide an intellectual challenge and contribute to the knowledge in this area of users' perceptions of IT utilisation, particularly for Lembaga Zakat Selangor (LZS). Furthermore, the result from this study can provide indispensable evidence of the necessity of improving the awareness and utilisation of e-zakat online.

This paper has 5 sections. In section 2, the researchers review the literature on the user acceptance. In section 3, they describe the methodology that will be used during the research. The Section 4 concludes the study at the end of the

paper.

2. Literature Reviews

The emergence of an internet has produced huge opportunities for the development of business. The development of an internet as the new marketplace has led to an emergence of an e-electronic payment. The growth, economic progress, and the pace of innovation are accelerated with the utilization of an advanced technology. This will eventually affect and change the society's lifestyle. The general understanding of the benefits of technology is to ease and improve processes. Agarwal and Prasad (1999) [8] argued that systems that are not utilised properly, do not yield expected efficiency and effectiveness gains. The people might not accept technology due to the feeling of fear, resist to change and do not view it as beneficial as it is. It is difficult to overestimate an impact of technology on the societies and on the individuals.

2.1 UTAUT Model

The number of studies examining the factors affecting the acceptance of computer technology has been increasing. The Theory of Reasoned Action (TRA) as proposed by Fishben and Ajzen (1975) forms the basis of the Technology acceptance theory [4]. It postulates that beliefs have effects on an attitude, which in turn create a behavioural intention to engage in a specific behaviour [9]. The TRA is further extended to form the basis of the Theory of Planned Behaviour (TPB) [6] which integrates perceived behavioural control to account for conditions where an individual lacks the resources or control necessary for carrying out their targeted behaviour, irrespective of a positive attitude towards it [10]. A common thread is formed by a combination of the Technology Acceptance Model (TAM) with TRA that create a relationship between the behavioural intentions and an individual attitude [3]. Moreover, the determinants of end user computing technology acceptance were addressed by the incorporation of TAM [11].

For the measurement of the user agreement of information systems, different tools create many user acceptance models. This is significant to determine whether the system itself is successful or disastrous [12, 13]. System scholars widely tested on theory or model to forecast the approval of the users (Davis and Venkatesh, 2000) [14] though, there exists no complete measurement on the variety of user insights of information technology, until Venkatesh et al. (2003) [7] compared and reviewed the prevailing model for the expansion of a unified model, and the resulting model was empirically validated. This model is known as the Unified Theory of Acceptance and Use of Technology (UTAUT).

As mentioned above, the used models include Technology Acceptance Model (TAM) [3], Theory of Reasoned Action (TRA) [4, 5], The Unified Theory of Acceptance, Use of Technology (UTAUT) [7], and the Theory of Planned Behaviour (TPB) [6]. With regard to the user acceptance of technology and its usage, the UTAUT was found to be the most applicable model [15]. The constructs of the UTAUT model are formed from the eight widely employed models: the social cognitive theory (SCT), the technology acceptance

model (TAM), the theory of reasoned action (TRA), the motivational model (MM), the theory of planned behaviour (TPB), a model combining the technology acceptance model, the theory of planned behaviour (combined TAM and TPB) and the innovation diffusion theory (IDT the model of PC utilization (MPCU).

It is evident from Figure 1 that the four constructs of UTAUT postulate act as the determinants of usage behaviour and behavioural intentions. The performance expectancy (PE) has been defined by Venkatesh et al., (2003) [7], as the extent of belief of an individual on the utilisation of a system to gain a required result from a job. Whereas, the degree of ease related to the use of the system is referred as the effort expectations (EE). In addition, the level of importance given by an individual use the new system is known as a social influence (SI). This need was applied by Loch et al., (2003) [16] to observe the culture-specific impediments and enablers to the acceptance and usage of an Internet in the Arab world. The impact of an individual and organizational acceptance and use of the Internet was shown to be highly influenced by both social norms and the degree of technological culture. Lastly, the extent to which an individual believes that an organizational and technical infrastructure exists to support the use of a system was derived as a result of the facilitating conditions (FC).

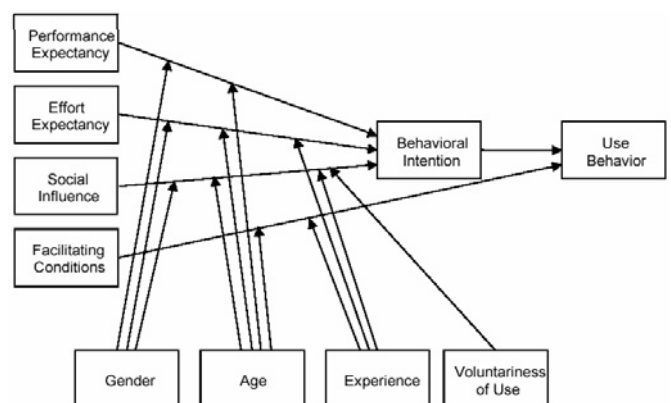


Figure 1: The UTAUT model

Oshlyansky, Cairns and Thimbleby (2007) [17] observed the validation of UTAUT tool found a significant result of the UTAUT construct in the nine countries, thus suggested that the model is well validated to withstand the translation and to be used cross-culturally. Furthermore, UTAUT tool will also uncover the cultural differences, hence, providing a valuable insight to the human computer interaction scholars for using the UTAUT tool without being concerned about its validity. Similarly, Sundaravej (2009) [12] investigated the validity and consistency of the UTAUT model regarding that the user acceptance of information technology dictates the result of coefficient analysis and proved the acceptable construct validity of the UTAUT. Furthermore, the result demonstrates that PE, EE, AX, and SE are significantly affecting the behavioural intention to use the system. From the auditing perspective, the UTAUT significantly assist the auditor in the adoption of an audit technology (i.e. Computer-aided Audit Techniques) [9] and further explained that the UTAUT determinants significantly influence the auditor's intention to adopt an audit technology. However,

the individual characteristics are very less influenced over the intention to adopt an audit technology (Loraas and Wolfe, 2006; Curtis and Payne, 2008) [18, 19] thus indicates that neither age nor gender could influence the decision of adoption.

The tools of the Unified Theory of Acceptance and Use of Technology (UTAUT) have been used in user acceptance models for IT Usage. Moreover, the intention of the users to use and continuing the use of e-learning systems were identified by the TAM and UTAUT [19, 20]. The notion that attitudes influences behavioural intention has been well established in literature pertaining to the adoption of technology [21, 22, 23, and 24]. Previous studies (Gagne and Roca, 2008; Liaw, 2008; Sanchez et al., 2009) [25, 26, 27] observed that the perceived usefulness is clearly influenced by the intention to use e-learning as compared to the traditional offline education, the growth opportunities of e-learning abound. With the advancement of web technologies, the e-learning services can be further enhanced by the e-learning providers without applying any extra charges instead of decreasing the cost of technologies, hence, attracting more learners to adopt the use of technology. Based on the perspective of IT application of e-learning in the workplace, Salas et al. (2002) [28] and Alavi (1984) [29] reveal that the motivation of learners to use online learning in the workplace is highly influenced by his development of learner communication and peer relationship in a distance learning environment [30].

Based on the real UTAUT model, the researchers had only focussed on several independent variables (IV) named; effort expectancy (EE), performance expectancy (PE), social influence (SI), attitudes towards using technology (ATUT), facilitating conditions (FC), behavioural intention (BI) and self-efficacy (SE). Hence, the present study attempts to test the model towards the user of *e-zakat* online system of Lembaga Zakat Selangor (LZS).

The E - zakat portal was developed since 2002 and currently the system had reached its third version. E-*zakat* online system serves as a one-stop centre for *zakat* payers to update information on *zakat*, calculate their *zakat* amount, and also keeps the track of their *zakat* payment. Keep on utilizing and embracing the ability of technology, LZS embarked to advance their services by applying *Zakat@FPX*, an internet payment gateway managed by MEPS. The system enables *zakat* payers to pay their *zakat* directly from the portal.

The advantages of a system include an easy system of payment through a network without going to the *zakat* counter for updating the *zakat* payment, save time and energy as well as its availability for 24 hours a day. FPX was first used by Lembaga Zakat Selangor and is the first *zakat* organisation in Malaysia who used such system since 30 May 2006. Given the ability and benefits of the system, this study attempts to gauge the awareness of *e-zakat* online system in Selangor, also to examine the extent of utilisation of *e-zakat* online among individual *zakat* payers and the significance of demographic factors to explain variation in the awareness and utilisation.

3. Methodology

The Figure 2 depicts the stages of methodology that will be applied for this research study. The questionnaire will be used in this research by adopting the UTAUT model. However, some modifications have been made to ensure the suitability of a questionnaire with the e - zakat system. The questionnaire will be distributed to the academicians in Klang Valley.

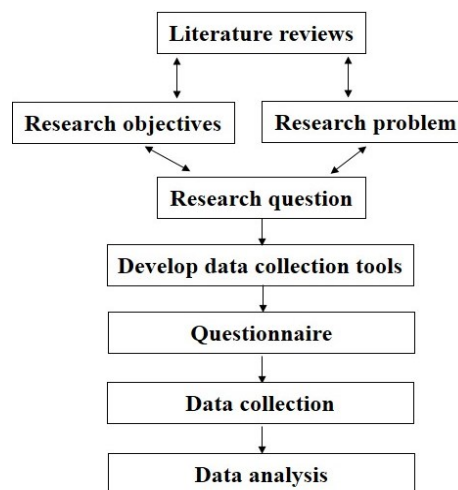


Figure 2: Methodology

The proposed framework for this research is as follows:

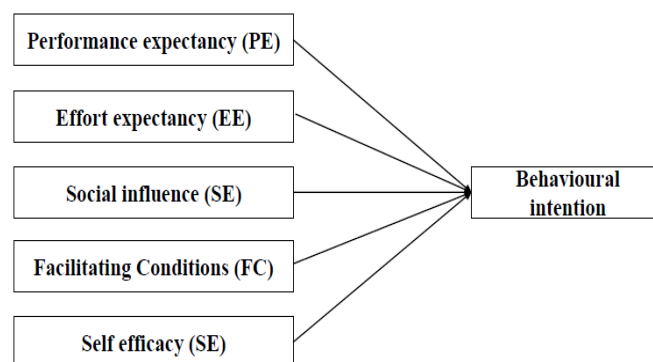


Figure 3: Modified UTAUT research model

4. Conclusion

This research would provide an intellectual challenge and contributes to the knowledge in the area of users' perceptions of IT utilisation. Particularly, for LZS, this will provide some evidence about the status of users' utilisation of e-zakat online payment. Apart of that, the result will highlight on the necessity of improving an awareness and utilisation of the system. In addition, this research would establish the applicability of the UTAUT model for the prediction of e-zakat online system usage, attain the level of awareness and usage of e-zakat online system among the zakat payers and determine the variation of awareness and utilisation of e-zakat online system.

As the size of the sample considered for this research study is quite limited, the broad size of respondents which include all users of the e - zakat system is required for the future research which can test the perceptions and satisfaction of

the users on the current system which uses the UTAUT model.

References

- [1] 2010 Internet Statistics Update, (March 30, 2011). Retrieved February 1, 2014 from <http://www.internetworldstats.com/pr/edi061>.
- [2] "Is Malaysia ready for greater adoption of e-payment" (July 29, 2012). retrieved February 1, 2014 from <http://www.theedgemalaysia.com/highlights/217690-is-malaysia-ready-for-greater-adoption-of-e-payments.html>
- [3] Davis, F. D. (1989). Perceived Usefulness, Perceived Ease Of Use, and User Acceptance of Information Technology. *MIS Quarterly*, Vol. 13(3), pp. 319-340.
- [4] Fishben, M. and Ajzen, I. (1975). Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research. *Reading, MA: Addison wesley*.
- [5] Ajzen, I. and Fishbein, M. (1980) *Understanding Attitudes and Predicting Social Behaviour*. Englewood Cliffs, NJ: Prentice-Hall, Inc
- [6] Ajzen, I. (1985). From intentions to actions: A theory of planned behaviour. In Kuhl, J. & Beckman, J. Eds. 1985. *Action control: From cognition to behaviour.*, Heidelberg: Springer, pp. 11-39.
- [7] Venkatesh, V., Ramesh, V. and Massey, A.P (2003), Understanding usability in mobile commerce, *Communication of the ACM*, 46, pp. 53-66.
- [8] Agarwal, R. and Prasad, J. (1999). Are individual differences germane to the acceptance of new technologies? *Decision Science*, Vol 30(2), pp. 361-391.
- [9] Payne, E. A., and Curtis, M. B. (2008). Can the unified Theory of Acceptance and Use of Technology Help Us Understand the Adoption of Computer-Aided Audit Techniques by Auditors? *Working Paper*.
- [10] Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, Vol 50(2), pp. 179-211.
- [11] Chau, P. Y. K. and Hu, P. J. (2002). Examining a model of information technology acceptance by individual professionals: An exploratory study. *Journal of Management Information Systems*, Vol. 18(4), pp. 191-229.
- [12] Sundaravej, T. (2009). Empirical Validation of Unified Theory of Acceptance and Use of Technology Model . *College of Business Administration, University of Missouri at Saint Louis*.
- [13] Melone, N. P. (1990). A Theoretical Assessment of the User-Satisfaction Construct in Information Systems Research. *Management Science*, Vol. 36, pp. 76-91.
- [14] Venkatesh, V. and Davis, F.D. (2000), A theoretical extension of the technology acceptance model: four longitudinal field studies, *Management Science*, Vol 46(2), pp. 186-204.
- [15] Marchewka, Liu & Kostiwa (2007). An application of the UTAUT model for understanding student perception using course management software, *Communications of the IIMA*, Vol 7(2), pp. 93-104.
- [16] Loch, K., Straub D., and Kamel, S. (2003). Diffusing the Internet in the Arab World: The Role of Social Norms and Technological Culturation. *Transactions of Engineering Management*, Vol. 50(1), pp. 45-63.
- [17] Oshlyansky, L., Cairns, P., and Thimbleby, H. (2007). Validating the Unified Theory of Acceptance and Use of Technology (UTAUT) tool cross-culturally. *BCS-HCI '07 Proceedings of the 21st British HCI Group Annual Conference on People and Computers: HCI...but not as we know it*, Vol. 2, pp. 83-86.
- [18] Loraas, T., and Wolfe, C. J. (2008). Why wait? Modeling the factors that influence the decision of when to learn a new use of technology. *Journal of Information System*, Vol. 20(2), pp. 1-21.
- [19] Chiu C. M. and Wang E. T. G. (2008). Understanding Web-based learning continuance intention: The role of subjective task value. *Information and Management*, Vol.45 (3), pp. 194-201.
- [20] Wang, Y., Wu, M., & Wang, H. (2009). Investigating the determinants and age and gender differences in the acceptance of mobile learning. *British Journal of Educational Technology*, Vol 40(1), 92-118.
- [21] Dabholkar, P. and Bagozzi, R. (2002), An attitudinal model of technology-based self-service: Moderating effects of consumer traits and situational factors, *Journal of Academy of Marketing Science*, Vol 30 (3), pp. 184-201.
- [22] Kleijnen, M., Ruyter, K. and Wetzels, M. (2004), Consumer adoption of wireless services: discovering the rules, while playing the game, *Journal of Interactive Marketing*, Vol. 18(2), pp.51-61.
- [23] Luarn, P., and Lin, H. H., 2005. Toward an understanding of the behavioural intention to use mobile banking. *Computers in Human Behaviour*, Vol 21(6), 873 - 891.
- [24] Pavlou, (2003) P. A. Consumer acceptance of electronic commerce. Integrating trust and risk with the technology acceptance model. *International Journal of Electronic Commerce*, Vol 7(3), pp. 101-134.
- [25] Liaw, S. S. (2008). Investigating students' perceived satisfaction, behavioral intention, and effectiveness of e-learning: A case study of the Blackboard system. *Computers and Education*, Vol. 51(2), pp. 864-873.
- [26] Roca, J. C., and Gagne, M. (2008). Understanding e-learning continuance intention in the workplace : A self-determination theory perspective. *Computers in Human Behavior*, Vol 24(4), pp. 1585-1604.
- [27] Sanchez-Franco M.J., Martinez-Lopez F.J. and Martin-Velicia F.A. (2009). Exploring the impact of individualism and uncertainty avoidance in Web-based electronic learning An empirical analysis in European higher education. *Computers and Education*, Vol 52(3), pp. 588-598.
- [28] Salas, E., Kosarzycki, M. P., Burke, C. S., Fiore, S. M., & Stone, D. L. (2002). Emerging themes in distance learning research and practice: some food for thought. *International Journal of Management Reviews*, Vol 4(2), pp. 135-153.
- [29] Alavi, M. (1984), An assessment of the prototyping approach to information systems development, *Communications of the ACM*, Vol 27(6), pp. 556-63.
- [30] Bo, C., Minhong, W., Stephen J. H., Yang K. and Jun, P. (2011). Acceptance of competency-based workplace e-learning systems: effects of an individual and peer learning support, *Computers & Education*, Vol. 57, pp. 1317-1333.

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