

Using UTAUT Model to Understand the Accounting Student's Intention to use e-Journal

¹Ahmad Nurkhin, ²Abdul Rohman and ¹Hasan Mukhibad

¹Faculty of Economics, Universitas Negeri Semarang, Kampus Sekaran Gunungpati, Semarang, Indonesia

²Faculty of Economics and Business, Universitas Diponegoro, Kampus Tembalang, Semarang, Indonesia

Abstract: This research aims to understand the accounting student's intention to use e-Journal for learning purposes by using the Unified Theory of Acceptance and Use Technology (UTAUT) Model. This research observed all Accountancy student's at the Universitas Negeri Semarang, taking Accounting and Accounting Education Programmes. The data were collected by using questionnaire. The UTAUT Model was analysed by using Multiple Regression Analysis (MRA). The result showed that performance expectancy and effort expectancy significantly affected the intention to use e-Journal. Social influence has no significant influence to behavioural intention. Behavioural intention and facilitating condition have significant impact on the use of e-Journal using UTAUT Model. In addition, gender variable significantly moderated the influences of performance expectancy and effort expectancy to e-Journal actual use. This research is valuable for examining determinants of the use of e-Journal for the students by using UTAUT Model. Further research may be considered by extending new variable as in fields of experience or knowledge regarding information and technology.

Key words: UTAUT Model, behavioural intention, e-Journal use, performance expectancy, effort expectancy, information

INTRODUCTION

The availability of electronic journals (e-Journal) is very helpful for students and lecturers as learning or research resources. The easy access to download articles can offer researchers to find current references (Muhsin and Nurkhin, 2016). Currently, library at universities is required to provide e-Journals in supporting researchers (Naushad-Ali and Nisha, 2011; Manan-Khan and Ahmad, 2009; Nisha and Ali, 2012). Meanwhile, student's are interested in making use of first, e-Journals, followed by e-Books, e-Newspapers, e-Reports and e-Articles (Swain, 2010). e-Journal can be used for adding more literatures to review especially at the e-Library and for education (Rusydi, 2014).

The findings from literature review reveal that various technology acceptance models have been introduced in the past two decades. However, there are new research models which are lack of empirical study (Keong *et al.*, 2012). So that, the use of e-Journal is very interesting to examine. Many theories explaining the phenomena on the

use of e-Journals for lecturers and students. The theories are Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Motivation Model (MM) and Theory of Planned Behaviour (TPB) and Unified Theory of Acceptance and Use of Technology (UTAUT) (Rahman *et al.*, 2011). The other theories are CTAM-TPB, Model of PC Utilization (MPCU), Innovation Diffusion Theory (IDT) and Social Cognitive Theory (SCT) (Silinskyte, 2014). UTAUT is a new theory and is considered more appropriate to predict and explain one's intention on the use of a system (Venkatesh *et al.*, 2003).

Some researchers used TAM Model (original or modified version) to investigate factors influencing the use of technology information (Nusantari *et al.*, 2013; Park, 2009; Alharbi and Drew, 2014; Elkaseh *et al.*, 2016; Nurkhin and Arief, 2015; Nusantari *et al.*, 2013; Park, 2009; Wong, 2013). Other researchers are trying to predict wider and complex factors by using Model UTAUT (Akbar, 2013; Awwad and Al-Majali, 2015; Ayele and Sreenivasarao, 2013; Celik, 2016; Lewis *et al.*, 2013;

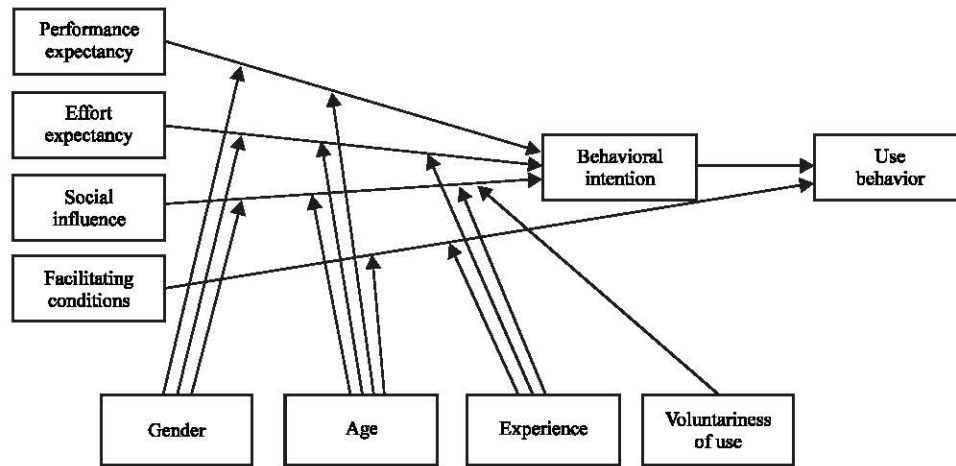


Fig. 1: Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh *et al.*, 2003)

Maldonado *et al.*, 2011; McKeown and Anderson, 2016; Muhsin and Nurkhin, 2016; Muraina *et al.*, 2016; Ali, 2015; Rahman *et al.*, 2011; Silinskyte, 2014; Taiwo and Downe, 2013; Tarhini *et al.*, 2016).

Several findings of the research mentioned that there is a positive impact on e-Learning motivation and Social Influence (SI) towards Behavioural Intention (BI). Facilitating Condition (FC) did not give evidence having impact on e-Learning portal use (Maldonado *et al.*, 2011). PE, EE, SI have positive impact on BI. FC and BI have impact on behaviour. Age was found to be moderating variable influencing PE and EE towards BI (Awwad and Al-Majali, 2015). Then, PE, EE, SI had impact on BI. While, FC and BI were proven to have impact on actual use (McKeown *et al.*, 2016). The findings showed that PE, EE, SI, FC, price-value, hedonic motivation and habit had significant influence on student's acceptance and use of rewind (Ali, 2015).

Meanwhile, extended model of UTAUT had developed a new theory by grounding anxiety in the UTAUT Model and applying it to the online shopping context. Therefore, it provides new interrelationships among anxiety, PE and EE constructs associated with the intentions to use online shopping channels (Celik, 2016). UTAUT was developed to be UTAUT 2 to analyze the intention to use technology such as instant messenger application adoption (Indrawati and Marhaeni, 2015). Lwoga and Komba (2015) modified UTAUT Model by adding self efficacy variabel considered as important factor influencing the use and the acceptance on e-Learning.

The results of the structural path revealed that PE, SI, PC and TTF to be significant predictors in influencing customer's Behavioural Intention (BI) to use IB and explained 61% of its variance with PE was found to be the

strongest antecedent of BI. Contrary to the UTAUT, the effect of EE on BI was insignificant. In addition, both BI and facilitating conditions were found to affect the actual usage behaviour and to explain 64% of its variance (Tarhini *et al.*, 2016).

This study aims to examine the intention on the use of e-Journal from the UTAUT perspective. The object of this research was accounting students at UNNES taking accounting and accounting education programs. Gender was examined as the moderating variables.

The concept of UTAUT Model: UTAUT Model was a model developed by Vekantesh after reviewing some models such as TRA, TAM, MM, SCT, etc. So that, he confirmed that UTAUT Model was the most appropriate model to understand the use of information technology. This model consists of four antecedent variables towards one's intention in making use of technology; performance expectancy, effort expectancy, social influence and facilitating conditions (Venkatesh *et al.*, 2003). The model is illustrated in Fig. 1.

Performance expectancy is defined as the degree to which an individual believes that using the system will help him or her to gain a job. The five constructs from the different models pertaining to performance expectancy are perceived usefulness (TAM/TAM2 and C-TAM-TPB), extrinsic motivation (MM), job-fit (MPCU), relative advantage (IDT) and outcome expectations (SCT). Effort expectancy is defined as the degree of ease associated with the use of the system. Three constructs from the existing models capture the concept of effort expectancy: perceived ease of use (TAM/TAM2), complexity (MPCU) and ease of use (IDT).

Then, social influence is defined as the degree to which an individual perceives that important others

believe he or she should use the new system. Social influence as a direct determinant of behavioral intention is represented as subjective norm in TRA, TAM2, TPB/DTPB and C-TAM-TPB, social factors in MPCU and image in IDT. Facilitating conditions are defined as the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system. This definition captures concepts embodied by three different constructs: perceived behavioral control (TPB/DTPB, C-TAM-TPB), Facilitating Conditions (MPCU) and compatibility (IDT) (Venkatesh *et al.*, 2003).

MATERIALS AND METHODS

This study used quantitative research design to investigate factors influencing accounting student’s intention to use e-Journal from UTAUT perspective. Population of this research is accountancy students of UNNES from accounting and accounting education study programs. There were 259 selected students who were taking research methodology subject because it was assumed that they mostly used e-Journals.

The research variables consisted of Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI) and Facilitating Condition (FC) as antecedent variables. Then, the moderating model was gender variable (GEN), while Behavioural Intention (BI) and Use Behaviour (UB) played role as dependent variables. Next, PE, EE, SI, FC, BI and EAU were measured using a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) with 2-4 items for each variables. And GEN was measured by gender of student.

The data were gathered by employing instruments developed from several previous researches. Descriptive and multiple regression analysis were used for examining and analysing factors influencing one’s intention in making use of e-Journal (e-Journal actual use).

RESULTS AND DISCUSSION

Descriptive statistics: The questionnaires were distributed to 259 respondents consisting of 122 accounting study program students and 137 accounting education ones. Based on gender, there were 81 (31%) male and 178 (69%) female. Table 1 shows descriptive statistics of all research variables.

Hypothesis testing: Table 2 showed that in the first model, PE and EE variables were proven to have positive and significant impact on BI. The value of Sig. of two

Table 1: Descriptive statistics

Variables	N	Min.	Max.	Mean	SD
PE	259	6	28	22.04	4.010
EE	259	6	28	19.29	4.345
SI	259	6	46	20.27	5.595
FC	259	6	43	19.15	4.450
BI	259	3	21	15.25	4.061
EAU	259	2	14	10.03	2.764
GEN	259	0	1	0.32	0.466
Valid N (list wise)	259				

Table 2: Result of hypothesis testing

Model	Adj. R ²	B	t-test	Sig.	Decision
BI = PE+EE+SI	0.318				
PE		0.402	6.063	0.000**	Accepted
EE		0.165	2.533	0.012**	Accepted
SI		0.058	1.216	0.225	Rejected
EAU = BI+FC	0.396				
BI		0.113	3.193	0.002**	Accepted
FC	0.365	0.353	9.123	0.000**	Accepted
Moderating variable	0.395				
GEN*PE		0.222	1.924	0.055*	Accepted
GEN*EE		-0.299	-1.985	0.048**	Accepted
GEN*SI		0.059	0.444	0.658	Rejected

**Significant on 5%, *significant on 10%

variables indicating the value under alpha (5%). While, value of Sig. variable SI was 0.225 meaning that it did not prove to have positive and significant impact on BI. The result of second model testing proved that BI and FC variables had positive and significant impacts on EA. The second Sig. value was smaller than alpha (5%).

Examining GEN as a moderating variable was illustrated in Table 2. It was found that GEN was able to be a moderating variable in seeing the relationship between PE and EE towards BI. While in SI and BI, GEN variable did not prove to be a moderating variable.

The influence of performance expectancy, effort expectancy and social influence:

Based on the finding, it shows that this research did not completely give evidence that UTAUT Model can be used in understanding accounting student’s intention to use e-Journals. PE and EE variables were proven to have impact on behaviour intention to use e-Journal. While, SI had no impact on one’s intention to use e-Journal. It means that the student’s were not influenced by others in using e-Journal. They consider e-Journal as important elements to support their study, so that in using e-Journal, they have internal motivation instead of other’s persuasion, pressure or other external factors.

This result was in line with previous studies proving that PE and EE had positive impact on BI (Akbar, 2013; Awwad and Al-Majali, 2015; Celik, 2016; McKeown and Anderson, 2016; Muhsin and Nurkhin, 2016; Muraina *et al.*, 2016; Silinskyte, 2014; Taiwo and Downe, 2013; Tarhini *et al.*, 2016).

The influence of behavioural intention and facilitating condition to e-Journal actual use: The result of this research had proven that UTAUT Model; BI and FC were proven to have impact on e-Journal Actual Use (EAU). If one's intention is high, he will make use of e-Journals well and routinely. The existing good facilities also determine students in using e-Journal such as good internet connection for browsing or downloading e-Journal. This research was inline with previous studies (Akbar, 2013; Awwad and Al-Majali, 2015; McKeown and Anderson, 2016; Silinskyte, 2014; Tarhini *et al.*, 2016). While some other researchers found it different as FC was not proven to give impact on the actual use (Maldonado *et al.*, 2011).

The influence of gender as moderating variables: The result in examining gender as moderating variables was found to be unique. Gender was proven as a moderating variable in influencing PE towards BI with positive coefficient. It means that gender can strengthen the impact on PE both males or females in making use of e-Journal. Meanwhile, gender was also significant as a moderating variable in influencing EE towards BI even though its coefficient was negative. It means male and female students were also influenced by their perception on the easy use of e-Journal. This finding supported previous research (Akbar, 2013; Awwad and Al-Majali, 2015).

Then, last but not least, gender was not able to be a moderating variable towards the impact of SI towards BI. This is inline with previous study saying that SI does not give impact on BI. This research was interesting as students were not influenced by the others-both male or female students in using e-Journal. It would be probably because of their technology literate capacity or their experiences in using e-Journal.

CONCLUSION

The research showed that UTATU Model cannot be completely proven. The variables of performance expectancy and effort expectancy were proven to have impact on behavioural intention to use e-Journal. While, social influence had no impact on it. Other result showed that facilitating condition and behavioural intention to use e-Journal were proven to have impact on e-Journal actual use.

The other result show that gender variable was proven to be a moderating variable in influencing performance expectancy towards behavioral intention and also as a moderating variable for effort expectancy towards behavioural intention even though its coefficient

was negative. On the other side, gender variable was not proven as a moderating variable. It means that students were not influenced by others in making use of e-Journal. Further research may develop UTAUT Model to have more comprehensive result.

REFERENCES

- Akbar, F., 2013. What affects student's acceptance and use of technology?. Master Thesis, Carnegie Mellon University, Pittsburgh, Pennsylvania.
- Alharbi, S. and S. Drew, 2014. Using the technology acceptance model in understanding academics' behavioural intention to use learning management systems. *Int. J. Adv. Comput. Sci. Appl.*, 5: 143-155.
- Ali, F., 2015. Factors affecting acceptance and use of ReWIND. *Interact. Technol. Smart Educ.*, 12: 183-201.
- Awwad, M.S. and S.M. Al-Majali, 2015. Electronic library services acceptance and use: An empirical validation of unified theory of acceptance and use of technology. *Electron. Lib.*, 33: 1100-1120.
- Ayele, A.A. and V. Sreenivasarao, 2013. A case study of acceptance and use of electronic library services in universities based on SO-UTAUT model. *Intl. J. Innovative Res. Comput. Commun. Eng.*, 1: 903-911.
- Celik, H., 2016. Customer online shopping anxiety within the Unified Theory of Acceptance and Use Technology (UTAUT) framework. *Asia Pac. J. Marketing Logist.*, 28: 278-307.
- Elkaseh, A.M., K.W. Wong and C.C. Fung, 2016. Perceived ease of use and perceived usefulness of social media for E-learning in Libyan higher education: A structural equation modeling analysis. *Intl. J. Inf. Educ. Technol.*, 6: 192-199.
- Indrawati and G.A.M.M. Marhaeni, 2015. Measurement for analyzing instant messenger application adoption using a unified theory of acceptance and use of technology 2. *Intl. Bus. Manage.*, 9: 391-396.
- Keong, M.L., T. Ramayah, S. Kurnia and L.M. Chiun, 2012. Explaining intention to use an Enterprise Resource Planning (ERP) system: An extension of the UTAUT model. *Bus. Strat. Ser.*, 13: 173-180.
- Lewis, C.C., C.E. Fretwell, J. Ryan and J.B. Parham, 2013. Faculty use of established and emerging technologies in higher education: A unified theory of acceptance and use of technology perspective. *Int. J. Higher Educ.*, 2: 22-34.
- Lwoga, E.T. and M. Komba, 2015. Antecedents of continued usage intentions of web-based learning management system in Tanzania. *Educ. Training*, 57: 738-756.

- Maldonado, U.P.T., G.F. Khan, J. Moon and J.J. Rho, 2011. E-learning motivation and educational portal acceptance in developing countries. *Online Informa. Rev.*, 35: 66-85.
- Mannan-Khan, A. and N. Ahmad, 2009. Use of E-journals by research scholars at Aligarh Muslim University and Banaras Hindu University. *Electron. Lib.*, 27: 708-717.
- McKeown, T., T. McKeown, M. Anderson and M. Anderson, 2016. UTAUT: Capturing differences in undergraduate versus postgraduate learning?. *Educ. Training*, 58: 945-965.
- Muhsin, T.P. and A. Nurkhin, 2016. Intention to use E-journal: A unified theory of acceptance and use of technology perspective. *J. Res. Method Educ.*, 6: 100-106.
- Muraina, I.D., W.R.S. Osman, A. Ahmad, H. Ibrahim and S.A. Yusof, 2016. Modeling the behavioural intention of broadband technology usage among teenagers: Application of UTAUT model. *Asian J. Inf. Technol.*, 15: 593-601.
- Naushad-Ali, P.M. and F. Nisha, 2011. Use of E-journals among research scholars at Central Science Library, University of Delhi. *Collect. Build.*, 30: 53-60.
- Nisha, F. and N. Ali, 2012. Awareness and use of E-journals by IIT Delhi and Delhi University library users. *Collect. Build.*, 32: 57-64.
- Nurkhin, A. and S. Arief, 2015. The determinant of student's intention to use mobile learning. *People Intl. J. Soc. Sci.*, 1: 102-117.
- Nusantari, D.D., A.R. Saleh and Yusalina, 2013. [Analysis of Utilization of Online Journal Sciencedirect at IPB Library (Case Study on IPB Graduate Student) (In Indonesian)]. *Vision Reader*, 15: 89-95.
- Park, S.Y., 2009. An analysis of the technology acceptance model in understanding university student's behavioral intention to use E-learning. *Educ. Technol. Soc.*, 12: 150-162.
- Rahman, A.L.A.R., A. Jamaludin and Z. Mahmud, 2011. Intention to use digital library based on modified UTAUT model: Perspectives of Malaysian postgraduate students. *Intl. Scholarly Sci. Res. Innovation*, 5: 270-276.
- Rusydi, I., 2014. [Utilization of E-journal as digital information media (In Indonesian)]. *J. Iqra*, 8: 200-210.
- Silinskyte, J., 2014. Understanding bitcoin adoption: Unified Theory of Acceptance and Use of Technology (UTAUT) application. Master Thesis, Leiden University, Leiden, Netherlands.
- Swain, D.K., 2010. Students keenness on use of E-resources. *Electron. Lib.*, 28: 580-591.
- Taiwo, A.A. and A.G. Downe, 2013. The theory of user acceptance and use of technology (UTAUT): A meta-analytic review of empirical findings. *J. Theor. Appl. Inf. Technol.*, 49: 48-58.
- Tarhini, A., A. Tarhini, M. El-Masri, M. El-Masri and M. Ali *et al.*, 2016. Extending the UTAUT model to understand the customers acceptance and use of internet banking in Lebanon: A structural equation modeling approach. *Inf. Technol. People*, 29: 830-849.
- Venkatesh, V., M.G. Morris, G.B. Davis and F.D. Davis, 2003. User acceptance of information technology: Toward a unified view. *MIS Quart.*, 27: 425-478.
- Wong, K.T., 2013. Understanding student teachers behavioural intention to use technology: Technology Acceptance Model (TAM) validation and testing. *Intl. J. Instruction*, 6: 89-104.