



End User Satisfaction of Accounting Information System (AIS) Mobile Based for Small Medium Enterprises (SMEs): Actual Usage and TAM Approach

Mardiana Andarwati⁽¹⁾, Diana Zuhroh⁽²⁾, Fikri Amrullah⁽³⁾

Universitas Merdeka Malang

E-mail: ⁽¹⁾mardiana.andarwati@unmer.ac.id, ⁽²⁾diana.zuhroh@unmer.ac.id,

⁽³⁾fikri@unmer.ac.id

Received: 3 July 2019; Revised: 20 September 2019; Accepted: 25 September 2019

Abstrack

Increasing end-user satisfaction (EUS) on mobile-based AIS is influenced by an actual usage (AU). AU increases if Small Medium Enterprise managers feel the perceived ease of use (PEOU) and perceived usefulness (PU) of using mobile-based AIS. This study aims to (1) analyze the effect of PEOU and PU on AU, (2) analyze the effect of PEOU and PU on EUS on mobile-based AIS, (3) analyze the effect of AU on EUS on mobile-based AIS, and (4) analyze the effect of PEOU and PU to EUS on mobile-based AIS through AU. The results of this study are (1) PU has a positive effect on AU and PEOU has a negative effect on AU because to improve AU requires a guidebook that is easy to learn and the lack of ability to use system applications make it not easy, (2) PEOU and PU affect EUS on Mobile-based AIS but the most positive and dominant influence on EUS on mobile-based AIS is PU, (3) AU has a positive effect on EUS on mobile-based AIS, and (4) PEOU negatively affects EUS on mobile-based AIS through AU due to the use of AIS based on mobile, which is done repeatedly and for a long time is still unable to mediate PEOU and SME managers feel difficult to use the purchasing and sales system application to produce on time reports.

Keywords: EUS of AIS, Actual Usage, TAM, Small Medium Enterprises (SMEs)

Introduction

A mobile-based accounting information system (AIS) for SMEs is a means to produce financial reports (Sinarwati et al. 2019) which are currently needed because it serves to facilitate the manager as well as the owner of SMEs and as an end users to obtain outputs from AIS that function to take decisions specifically related to financial statements and supporting reports. With the presence of mobile-based AIS it will make it easier, faster, and flexible for SMEs to obtain accounting information (Sinarwati et al. 2019). AIS plays an important role for the progress of SMEs but some of them still do not understand the importance of AIS in financial reports and supporting reports, which are actually very beneficial for the development of SMEs.

In Indonesia, the number of small and medium-sized businesses is actually higher than large businesses, but many SMEs have difficulty obtaining venture capital through loans because they are too focused on making products and prioritizing the use of AIS, which consequently has irrelevant financial information (Sinarwati and Kertiasih, 2017; Sinarwati et al. , 2019).

Small Medium Enterprises in East Java Province have increased every year. Based on the data from SMEs in East Java, Cooperative Office of East Java Province in 2019 showed that Jember City was the largest number of SMEs but not all SMEs in Jember used mobile-based AIS. Based on a preliminary survey, which uses mobile-based AIS, the majority are from medium scale business. This happens be-

cause there are SME owners who are not accustomed to using a smartphone to operate application programs and they are accustomed to using a PC or laptop. Whereas AIS mobile is designed by using a smartphone so that users are more flexible to control the businesses that are managed wherever and whenever they can.

Medium scale businesses respond positively to AIS based on mobile. But the dilemma they currently face is whether mobile-based AIS can provide success or effectiveness for SME managers. The success or effectiveness of an information system is measured by the EUS of AIS used, but the reliability of the system does not directly affect a person's satisfaction but the repeated use of a long time (actual usage) which will further affect one's attitude towards the information system used.

Based on the description above, this study uses a model that combines the technology acceptance model by users with EUS of AIS which refers to Linders, Sefan (2004) where the measurement of the effectiveness of the information system is based on the EUS of AIS. So this study analyzes the effectiveness of the use of mobile-based SIA by using the Technology Acceptance Model (TAM) approach, that are perceived ease of use (PEOU) and perceived usefulness (PU) on end-user computing satisfaction (EUCS) and the actual use of mobile-based SIA.

The problems in this study are (1) how is the influence of PEOU and PU on actual usage (AU)?, (2) how is the influence of PEOU and PU on EUS on mobile-based AIS for Small medium enterprises (SME)?, (3) how is the effect of AU on EUS on AIS-based mobile for SMEs, and (4) how is the influence of PEOU and PU on EUS on mobile-based AIS for SMEs through AU?

The purpose of this study is to (1) analyze the effect of PEOU and PU on AU, (2) analyze the effect of PEOU and PU on EUS on mobile-based AIS for SMEs, (3) analyze the effect of AU on EUS on mobile-based AIS for SMEs, and (4) analyze the effect of PEOU and PU on EUS on mobile-based AIS for SMEs through AU.

Material and Methods

Mobile Based Accounting Information System

AIS for mobile-based SMEs is used and adapted by anyone, anywhere, and anytime with the aim of making it easier and faster to produce

accounting information in the form of financial reports in accordance with the types of each SMEs. Mobile-based AIS is very important to obtain accurate and in time information, the application of mobile-based AIS provides efficiency and cost-effectiveness for gathering accounting information, helping the quality of decisions by top management (Sinarwati, 2017).

End User Satisfaction of Accounting Information System

The information system of user satisfaction model conducted by DeLone and McLean (1992) is a measure of the success or effectiveness of information systems. The model is widely used and developed by previous researchers to find out how successful the information system is and whether the information system used is successful or not (Seddon 1997, Hartwick and Barki 1994, DeLone and McLean 1992, Melone 1990, Davis et al. 1989, Goodhue 1988). A measure of end-user satisfaction is whether the end user experiences dependency on features and is satisfied with the information system and does it affect the net benefit for end users. There are six variables from DeLone McLean, they are information quality, system quality, service quality, intention to use, user satisfaction and net benefits. Brown et al (2005) state that the use of information systems when conducted obligatorily (mandatory) cannot be used as a measure of the success of information systems (14) but it is used for users who need the information system to do their job. Several previous studies relating to the mandatory are Nirwanto and Andarwati (2019); Andarwati et al. (2018); Y Kim and HS Lee (2014); Pinar et al., (2012); Rouibah (2009); Armstrong et al., (2005); Seddon et al. (1994).

Actual Usage (AU)

Actual usage (AU) is the actual user and as a measurement for the frequency of use of the technology itself. According to Davis F.D (1989) Actual usage (AU) is interpreted as an external psychomotor response as measured by actual use. Measurement in the form of frequency and duration of time using technology (Wibowo, Arif., 2006). Indicators of actual usage are repeated use and more frequently used (Rigopoulos and Askounis, 2007). But actual usage is difficult to measure through a list of questions (Venkatesh and Davis FD., 2000).

Technology Acceptance Model (TAM)

Purchase ease of use (PEOU) according to

Davis F.D (1989) is a variable of TAM which means knowing the level at which a person believes using technology requires the least effort. So the use of technology refers to the belief in the use of information technology. The indicators of PEOU according to Davis FD (1989) are easy to learn, easy to operate, easy to use, and user interaction is clear and easy to understand.

Therefore the ease of use of mobile-based AIS is much easier to use so that it can freely monitor the financial condition of SMEs compared to using a PC or laptop that cannot be flexible. It means that they cannot be done anywhere and anytime when operating the AIS application. There is a belief from end users that mobile-based AIS is more flexible in its use, the features are easy to understand, and easy to use even at the beginner level.

Purchases usefulness (PU) according to Davis F.D (1989) is a variable to determine a person's level of trust about the use of a system that will improve performance. This is originally defined as usefulness meaning someone's belief in the benefits of using information technology. Indicator of Purchases Usefulness according to Davis FD. (1989) is effective work, tasks are faster, and work becomes easier.

Research Design

The research design used was survey research by giving questionnaires to Micro Small and Medium Enterprise managers using mobile-based AIS. This study used a technology acceptance model (TAM) and the effectiveness of the actual use of mobile-based AIS for SMEs in East Java to produce accounting information output. This study conducted hypothesis testing that explains the phenomenon in the form of relationships between variables by testing the correlational relationships between variables. Data collection used was survey through questionnaires and operationalized on variables measured by scores on the Likert scale.

Research Conceptual Framework

This study referred to the Technology Acceptance Model or TAM (Venkatesh and Davis, 2000) and to predict the satisfaction of users of information systems tested using 116 SME managers from medium scale using mobile-based AIS. At TAM, the intention to use information technology variable is determined by PEOU and PU (Davis, 1989). This model differs from the way of constructing and the difference is to use the actual usage variable as a vari-

able that weakens or strengthens its effect on the satisfaction of mobile-based AIS end users. Some previous studies which examined the acceptance of technology using TAM are Gefen et al. (2003) technology acceptance in shipping, Amoaka-Gyampah and Salam (2004) acceptance of ERP system technology.

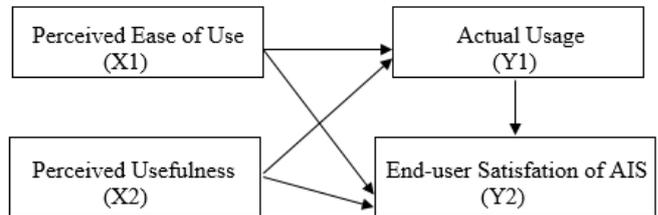


Figure 1. Research Conceptual Framework

- H1: PEOU and PU have significant effect on AU
- H2: PEOU and PU have a significant effect on EUS of AIS
- H3: AU has a significant effect on EUS of AIS
- H4: PEOU and PU have a significant effect on EUS of AIS through AU

Operational Definition

Perceived ease of use (PEOU) is a perception of technology that is easy for users to use. Perceived usefulness (PU) is the perception of technology that is useful for users to use. Actual usage (AU) is a technology that is used repeatedly over a long time. Mobile-based End-User Satisfaction of AIS (EUS of AIS) is the level of satisfaction of end-users of the results of a mobile-based accounting information system.

Population and Samples

The population in this study is medium-scale enterprises that use mobile-based SIA and located in Jember which is the largest number of SMEs in East Java Province. SMEs in Jember whose users are SME managers who use mobile-based AIS. The number of medium scale enterprises in Jember is 1,318 units (Dinkop, East Java Province in 2019).

The sampling technique used was purposive sampling method with the criteria of SME owners who uses a mobile-based SIA to produce financial reports and has been using it regularly for more than 1 year. Based on the preliminary survey, there are 116 medium-scale enterprises that meet the criteria to be analyzed.

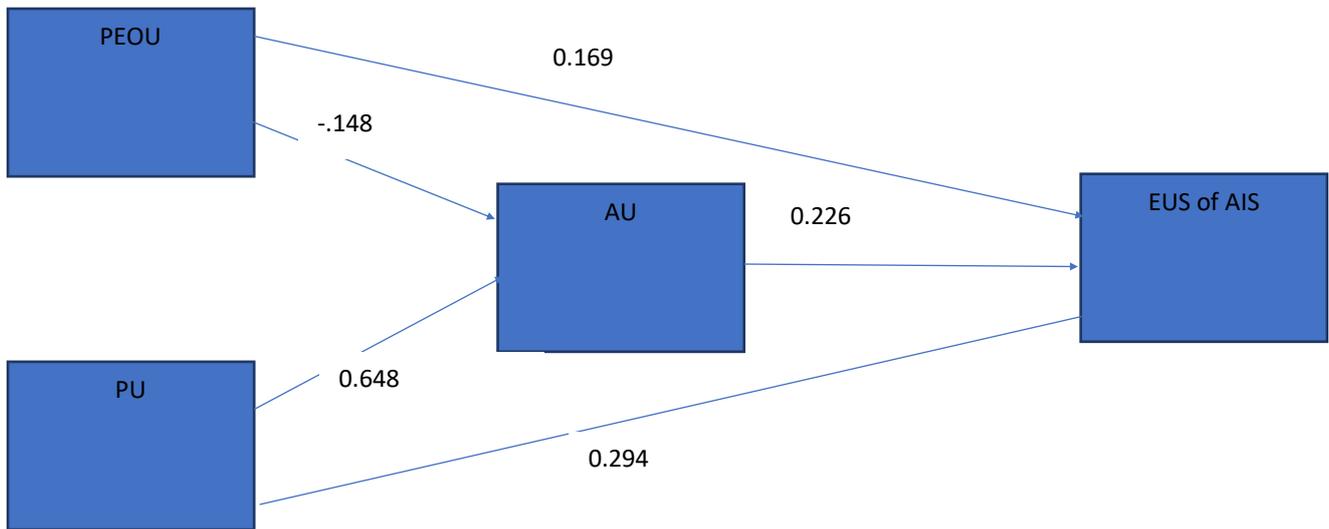


Figure 2. Test result of Path Diagram Model

Results and Discussion

H1: Effect of perceived ease of use (PEOU) and perceived usefulness (PU) on actual usage (AU). The results showed that PEOU negatively affected AU. PEOU reflected in the sales system application on the mobile-based AIS is easy to use contributing inversely to the AU which is reflected in the sales system application on the mobile-based AIS which is used repeatedly and continuously to input sales transactions. It means that to increase the AU, a guidebook that is easy to learn is needed. So that only the ease of use of the sales system application is less effective to contribute to PEOU.

The results also showed that PU has a positive effect on actual usage (AU). PU is reflected in the use of sales system applications on mobile-based AIS to make work more effective and able to increase the AU, which is reflected in sales application systems on mobile-based AIS that are used repeatedly and continuously to input sales transactions. It means that the appli-

cation of the sales system is more effective and more useful.

H2: Effect of perceived ease of use (PEOU) and perceived usefulness (PU) on End-user Satisfaction in AIS (EUS of AIS)

PEOU and PU influence EUCS. PEOU, which is reflected in the sales system application on AIS on a mobile basis, is easy to use and able to improve the EUS of AIS to produce information on purchasing system applications on AIS of a mobile basis and to produce information on purchasing reports that are always on time. It means that financial statement information can be completed punctually because it is supported by the presence of a sales system application on a mobile-based AIS.

The results also showed that PU had a positive and dominant effect on EUS of AIS. PU is reflected in the utilization of sales system applications on mobile-based AIS making work more effective and able to improve the EUS of AIS as reflected in the purchasing system applications on mobile-

Table 1. The hypothetical test Result of direct, indirect and total effect

Variable			Direct	Indirect	Total	Prob
PEOU	→	AU	-,148			0.042
PU	→	AU	0.648			0,000
PEOU	→	EUS of AIS	0.169			0.048
PU	→	EUS of AIS	0.294			0,008
AU	→	EUS of AIS	0.226			0,042
PEOU	→	EUS of AIS through AU	0.169	-33,448	-33.27	
PU	→	EUS of AIS through AU	0.226	0.146	0.372	

based AIS by producing information on purchasing reports that are always on time.

H3: Effect of actual usage (AU) on End-user Satisfaction on AIS (EUS of AIS) AU influences EUCS. Actual usage that is reflected in the sales system application on the mobile-based AIS is used repeatedly and continuously to input sales transactions to be able to increase the EUCS which is reflected in the purchasing system application on the mobile-based AIS by producing information that is always on time purchase reports. It means that the EUS of AIS will be achieved if the application of sales systems on a mobile-based AIS can be used on an ongoing basis.

H4: Effect of perceived ease of use (PEOU) and perceived usefulness (PU) on End-user Satisfaction in AIS (EUS of AIS) through actual usage (AU). PEOU has a negative effect on EUS of AIS through AU. This means that the AU, which is reflected in the sales system application on a mobile-based SIA that is used repeatedly and continuously to input sales transactions, is still unable to mediate PEOU, which is reflected in the sales system application on a mobile-based AIS. It is not easy to use a purchasing system application on a mobile-based AIS which is used to produce timely purchase report information.

The results of this study indicates that the AU reflected in the sales system application on a mobile-based AIS is used repeatedly and continuously to input sales transactions capable of mediating PU as reflected in the benefits of the sales system application on a mobile-based AIS and making work more effective and able to increase the EUS of AIS which is reflected in the purchasing system application on mobile-based AIS by producing timely purchase report information.

Conclusion

The results of the study show that PEOU reflected in the sales system application on the mobile-based AIS is easy to use and contributes inversely to the AU which is reflected in the sales system application on the mobile-based AIS which is used repeatedly and continuously to input sales transactions. The results of this study also showed that PU had a positive effect on AU. PU is reflected in the utilization of sales system applications on mobile-based AIS to

make work more effective and able to increase the AU, which is reflected in sales application systems on mobile-based AIS used repeatedly and continuously to input sales transactions.

PEOU which is reflected in the sales system application on the mobile-based AIS is easy to use and able to improve EUCS in the purchasing system application on a mobile-based SIA by generating information on purchasing reports always on time. The results also showed that PU had a positive and dominant effect on EUCS. PU that is reflected in the utilization of sales system applications on mobile-based AIS makes work more effective and able to improve EUS on AIS as reflected in the purchasing system application on mobile-based AIS to produce information on purchasing reports always on time.

AU reflected in the sales system application on AIS is used repeatedly and continuously to input sales transactions able to increase EUCS which is reflected in the purchasing system application on the mobile-based AIS to produce purchase report information always on time.

AU is less able to mediate PEOU to improve the EUS of AIS which is reflected in the purchasing system application at SIA by producing information on purchase reports always on time. AU is able to mediate PU and is able to improve that which is reflected in the purchasing system application on mobile-based AIS to produce information on always timely purchase reports.

Suggestion

PEOU can contribute further if the sales system application guidebook on a mobile-based SIA is easy to learn and distribute to SIA users so it can increase the AU.

Further researchers if they want to study research related to the use of mobile-based AIS, it is suggested to add the characteristics of respondents including age and duration of using a smart phone because the characteristics of respondents also influence the satisfaction of end users of the use of mobile-based AIS. review the similar research is suggested to add variable increase in profit, including quality of raw material inventory information system.

References

Andarwati M.; Nirwanto, N.; Darsono JY. (2018). Analysis of Factor Affecting The Success of Accounting Information System Based on Information Technology on SME Managements as Accounting Infor-

- mation End User. *EJEFAS Journal*, Vol. 98, pp.97-102
- Armstrong; Fogarty; Dingsdag. (2005). Validation of a Computer user Satisfaction Questionare to Measure IS Success in Small Business. *Journal of Research and Practice Information Technology*. Vol.37 (1), pp.27-42
- Barki, H., and Hartwick, J. 1994. Measuring User Participation, User Involvement, and User Attitude. *MIS Quarterly*, Vol.18 (1), pp. 59 – 82.
- Brown, T.J. (2002). Individual and Technological Factors Affecting Country. *The Electronic Journal on Information Sytems in Developing Countries*, <http://www.ejisdc.org>.
- Brown, Tom J., Thomas E Barry., Peter A Dacin., Richard F Gunst. (2005). Spreading The Words : Investigating Antecedents of Customer’s Positive Word of Mouth Intention And Behavior in Retailing Context. *Academy of Marketing Science Journals*, Vol.33, no 2, pp.123-138.
- Davis; Bagozzi, R. (1989). User Acceptance of Computer Technology: A Comparasion of Two Theoretical Models. *Management Science* Vol.35, n.8, pp.982-1003.
- Delone, WH.; Ephraim, R.; McLean. (1992) Information System Success : The Quest for Dependent Variabel. *Journal Information System Research*, No.3, pp.60-95
- Goodhue; Thompson. (1995). Understanding User Evaluations of Information Systems. *Management Science*, Vol. 41 (12). pp.1827-1844
- Linders, Sefan. (2004). Using the Technology Acceptance Model in Determining Strategies for Implementation of Mandatory IS..
- Melone N.P. (1990). A Theoretical Assessment of The User Satisfaction Construct in Information System Research. *Management Science*. Vol. 36 (1). pp. 76-91
- Nirwanti N. dan Andarwati, M. (2019). End-user Satisfaction as an Impact of the System Quality, Information Quality, and Top Management Support, upon the Perceived Usefulness of Technology Utilization. *Journal of Marketing Development and Competitiveness* . 2019, Vol. 13 Issue 1, pp.59-75. 17p.
- Pinar; Mehtap; Erzengin. (2012). The Effect of End User Perceptions of Information Technologies on The Information Shar- ing. *Journal of Global Strategic Management*, Vol.6 (1), pp.32-41.
- Rigopoulos, George.,Dimitrios Askounis. (2007). A TAM Framework to Evaluate User’s Perception Toward Online Electronic Payments. *Journal of Internet Banking and Commerce*, Desember, Vol. 12, No. 3, pp. 1-5.
- Rouibah, HI; Hamdy; MZ. Al-Enezi. (2009). Effect of Management Support, Training, and User Involvement on System Usage and Satisfaction in Kuwait. *Journal Industrial Management and Data System*. 109 (3).338–356.
- Seddon PB.; Kiew MY.; Patry, Mchel. (1994). A Partial Test and Development of DeLone and McLean’s Model of IS success. *Australian Journal of Information Systems*, Vol.4, n.1, pp.90-109
- Seddon, PB. (1997). A Respecification and Extension of the DeLone and McLean Model of IS Success. *Journal of Information Systems Research*, Vol.8, pp.240-253. <http://dx.doi.org/10.1287/isre.8.3.240-253>
- Sinarwati, Ni Kadek dan Kertiasih, Ni Ketut. (2017). Pengembangan Sistem Informasi Akuntansi Berbasis Mobile Bagi UMKM. Laporan Penelitian. LPPM Undiskha, Singaraja
- Sinarwati, NK.; Herawati, NT.; Sujana, E. (2019). Peran Sistem Informasi Akuntansi Berbasis Mobile Bagi Peningkatan Kinerja UMKM. Conference: WNCE (Warmadewa Natonal Economic Conference at Denpasar
- Venkatesh, V. dan Davis, F.D. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science*, Vol. 46 (2), pp. 186–204
- Arief Wibowo. (2006). Kajian tentang Perilaku Pengguna Sistem Informasi dengan Pendekatan Technology Acceptance Model (TAM), Universitas Budi Luhur, Jakarta.
- Y. Kim; HS Lee. (2014). Quality, Perceived Usefulness, User Satisfaction, and Intention to Use: An mpirical Study of Ubiquitous Personal Robot Service”. *Asian Social Science*, Vol. 10 (11), pp. 1-16