Analysis Of User Acceptance Of PAS Using UTAUT Model (Case Study : PT Toyota Motor Manufacturing Indonesia)

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Abstrak

Unified Theory of Acceptance and Use of Technology (UTAUT) ialah model yang dipakai guna menjabarakan perilaku pemakai pada penerimaan teknologi informasi. Model ini dipakai guna analisis penerimaan pemakai pada Aplikasi SAP yang dipakai di PT Toyota Motor Manufacturing Indonesia. Studi ini tujuannya ialah guna menjelaskan hubungan faktor-faktor yang mempengaruhi penerimaan dan pemakaian SAP memakai model UTAUT. Studi ini termasuk pada penelitian eksplanatif memakai teknik analisis data serta PLS (Partial Least Square). Data didapat dari responden yang menjadi karyawan Divisi Purchasing PT Toyota Motor Manufacturing Indonesia, Data didapat dari penempatan kuesioner tertutup. Ukuran sampel sebanyak 28 responden dan dianalisis memakai aplikasi SPSS dan SmartPLS. Hasil analisis yakni: (1) Variabel Performance Expectancy (PE) berdampak positif tetapi tidak signifikan pada Behavioral Intention (BI); (2). Variabel Effort Expectancy (EE) berdampak positif tetapi tidak signifikan pada Behavioral Intention (BI); (3) Variabel Social Influence (SI) berdampak positif dan signifikan pada Behavioral Intention (BI); (4) Variabel Kondisi Fasilitasi (FC) berdampak positif dan signifikan pada Perilaku Pemakaian.;(5) Variabel Behavioral intention (BI) berdampak positif namun tidak signifikan pada Behavioral Intention (BI).

Kata kunci-aplikasi sistem dan produk dalam pemrosesan data, perencanaan sumber daya perusahaan, teori terpadu penerimaan dan pemakaian teknologi. partial least square

Abstract

Unified Theory of Acceptance and Use of Technology (UTAUT) is a model used to explain user behavior towards information technology acceptance. The four components of UTAUT—performance expectation, effort expectancy, social influence, and Facilitating conditions—can all play a substantial direct role in predicting behavioural intention and use behaviour . This research aims to analyze user acceptance of the System Application and Product used at PT Toyota Motor Manufacturing Indonesia System Application and product in data processing (SAP) which is one of the Enterprise Resource Planning (ERP) Software. The purpose of this research is to explain the relationship of factors that affect the acceptance and use of SAP using the UTAUT model. This research is an explanatory research with data analysis techniques using PLS (Partial Least Square). The data obtained came from respondents who were employees of the purchasing division at PT TMMIN, data obtained by distributing closed questionnaires online. The sample size in this research was 28 respondents and analyzed using SPSS and Smart PLS applications. The results from this reseacrh: (1) Performance Expectancy (PE) variables have a positive influence but do not have a significant influence on Behavioral Intention (BI); (2) The Effort Expectancy (EE) variable has a positive but do not have a significant influence on on Behavioral Intention (BI); (3) Social Influence (SI) variables have a positive and significant influence on Behavioral Intention (BI); (4) Variable Facilitating Conditions (FC) has a positive and significant influence on Use Behavior; (5) Behavioral Intention (BI) variables has a positive and significant influence on Use Behavior.

Keywords-enterprise resource planning, partial least square, system application and product in data processing , unified theory of acceptance and use of technology

I. INTRODUCTION

PT. Toyota Motor Manufacturing Indonesia is one of the production and export bases of vehicles and other components in the Asia Pacific region. At the Head office of PT. TMMIN has a purchasing division that has the task of finding reference components / materials that will be used for the production process at low prices and high quality. Purchased Order Monitoring is one of the business processes at PT. Toyota Motor Manufacturing Indonesia that applies information technology. Information technology used today to monitor Purchased orders is the Procurement Application System or commonly referred to as PAS. PAS is a SAP (System Application and Product in Data Processing) subsystem, which is an Enterprise Resource Planning (ERP) Software.

O'Brien, J. A., & Headquarters, G. M. (2010: 58) said, One piece of software used to reengineer, distribute, automate, and integrate an organization's manufacturing, financial, and human resource business operations is called enterprise resource planning (ERP). ERP is the foundation of an integrated, cross-functional business and can streamline a wide range of internal business procedures and information systems in an organization's manufacturing, distribution, logistics, accounting, and finance departments as well as its human resources department (O'Brien, J.A., & Headquarters, G.M., 2010: 320).

Jogiyanto (2008) said, the influence of successful application of technology tends to be on aspects of user behavior. If it can be accepted by its users, then the new technology is considered successful. PT Toyota Motor Manufacturing Indonesia has employed the PAS system for around 6 years. It is unknown whether the PAS system has been embraced by its users since it can improve staff productivity.

The unified theory of acceptance and use of technology, also known as UTAUT, is one of the framework models that may be used to assess the degree of employee acceptability at PT Toyota Manufacturing Indonesia towards the usage of information technology Procurement Application System. Venkatesh et al. created the UTAUT model in 2003. Four aspects, including performance expectations, effort expectations, social influence, and enabling circumstances, have an impact on a person's adoption of information technology (user acceptance) (Venkatesh et al, 2003). The level of user acceptability and behaviour when utilising information technology is evaluated using UTAUT.

The development of information technology is very fast so that PT Toyota Motor Manufacturing Indonesia continues to develop the latest technology to improve system performance, because it is not yet known from this PAS system received by all employees.

From the difficulties outlined above, a research was undertaken to assess the level of employee acceptability at PT Toyota Motor Manufacturing Indonesia using the UTAUT model in the use and utilization of the Information Technology Procurement use System. The research results will be provided to the Company's associated parties in order for them to determine what aspects influence user approval so that these elements may be considered for future system development.

II. LITERATURE REVIEW AND RESEARCH FRAMEWORK

A. Literature Review

1. Enterprise Resource Planning (ERP)

Marketing, production, purchasing, and accounting are just a few examples of integrated business activities that may be managed with the aid of an enterprise resource planning (ERP) system. ERP can also help save all transactions in a company's database and offer management reporting capabilities (Brady, Monk, and Wagner, 2001)

ERP is a concept for organising and controlling company resources. It takes the form of a multi-module, integrated programme application package created to support various business functions. The goal is to increase productivity and improve consumer services, which will ultimately result in added value and maximum benefits for all parties with a stake in the company (Wijaya and Darudianto, 2009).

Experts define ERP as a system that facilitates businesses to connect various processes to meet company targets.

2. Unified Theory of Acceptance and use of technology (UTAUT)

The acceptance model (analytical framework) is designed to assist identify and understand what elements impact the acceptance or rejection of an innovation's application. UTAUT is a model that can describe user behavior towards the adoption of information technology (Venkatesh et al, 2003).

Technology Acceptance Model (TAM), Technology of Planned Behavior (TPB), Innovation Diffusion Theory (IDT), Theory of Reasoned Action (TRA), Motivational Model (MM), combined TAM and TPB, Model of PC Utilization (MPCU) and Social Cognitive Theory (SCT) are eight previous leading theories that have developed into UTAUT.
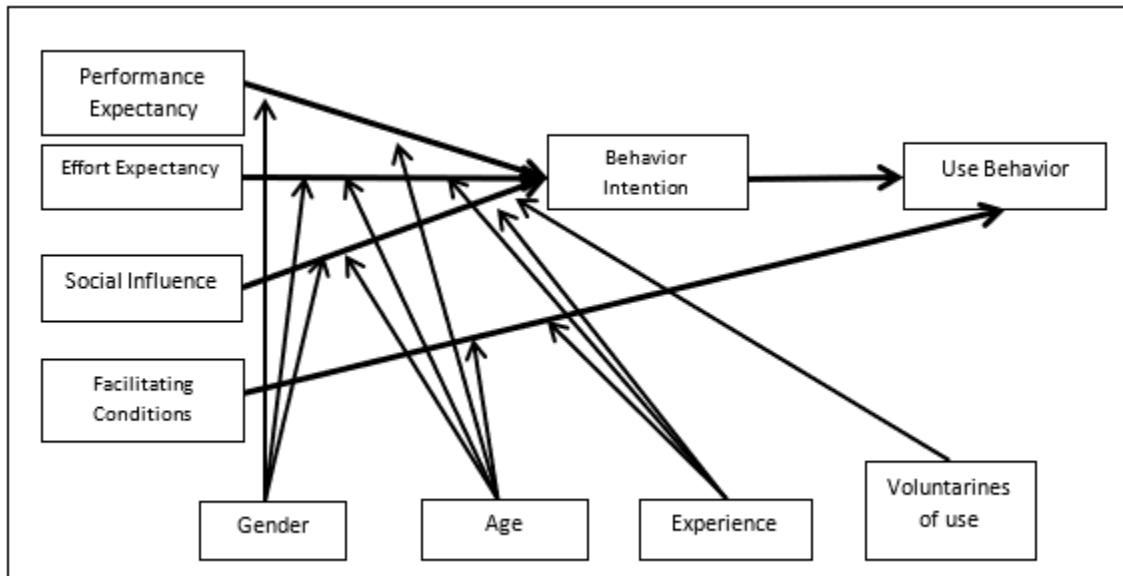

Figure 2.1 UTAUT Model (Venkatesh et al, 2003: 447)

There are 4 main constructs in UTAUT (Venkatesh, et al, 2003):

a. Performance expectancy

The degree of trust that a person has in utilizing the system will assist him in improving work performance. This notion incorporates variables derived from prior research models on technology acceptability and utilization.

b. Effort Expectancy

is a degree of system usability that can minimize labor and time required to complete work. This construct is based on three earlier theories: TAM's perceived ease of use construct, MPCU's complexity construct, and IDT's ease of use construct.

c. Social influence

This is the extent to which a person believes the important people in his or her life believe the new system is better. One of the defining elements for behavioral objectives in the use of information technology is social influence. The concept of social influence is derived from the constructs of social variables in MPCU, image in IDT, and subjective norms in TPB, TRA, TAM, and C-TAMTPB.

d. Facilitating condition

It is a measure of confidence a person has in the accessibility of engineering infrastructure and the organization's support for using a new system. The construct of perceived behavioural control from the SDGs, the idea of facilitating conditions from MPCUs, and the construct of compatibility from IDT all contribute to the construct of enabling conditions.

e. Behavioral intention

Behavioral Intention was introduced in TRA by Martin Fishbein and Ajzen (Jogiyanto, 2007). This principle is a combination of behaviors, interests, attitudes, and beliefs. Interest is the best predictor of behavior. The best way to

find out what an individual is doing is to know that person's interests. Interests are determined by subjective attitudes and norms.

f.   Use Behavior

It is the frequency of use of information technology by users. The behavior of using information technology largely depends on the evaluation of system users. Information technology is used when users are interested in using information technology. By using information technology, users can increase performance, make it easier to use, and increase their environmental influence. In addition, what affects this is the condition of ease of users in using information technology. This is important because without adequate facilities so that the use of technology will not be carried out (Jati, 2012)

B.   Research Framework

This research the model only use four constructs and delete the Mediators or constructs that strengthen the influence of the previous four constructs on the acceptance or use of information technology. And use four constructs that were significant direct determinants of behavioral intention and use behavior, making it simpler.

When compared to previous research that the author uses as a reference, there are developments or differences in the object or location of the research. The framework chart provides an overview of the influence of a number of factors derived from effort expectancy (EE), performance expectancy (PE), socials influence (SI), and facilitating conditions (FC) on behavioral intention and use behavior which will then be analyzed using SPSS and SmartPLS application. The research framework is shown below:
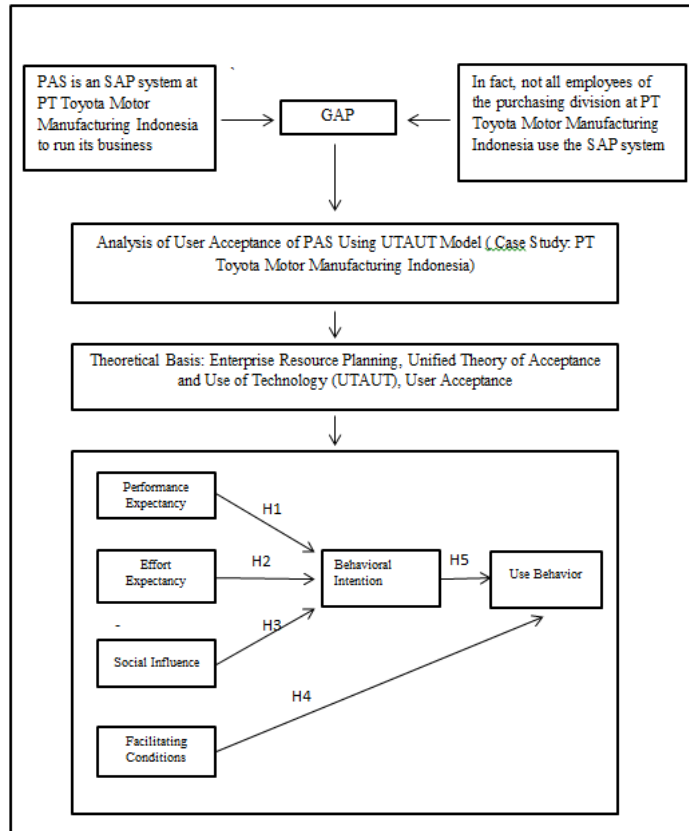

Figure 2. Research Framework
Source: data Processed by Author

C.   Research Hypothesis

1. H1: PE have a significant positive influence on BI.
2. H2: EE have a significant positive influence on BI.
3. H3: SI have a significant positive influence on BI.
4. H4: FC have a significant positive influence on UB.
5. H5: BI have a significant positive influence on UB.

III. RESEARCH METHODOLOGY

A. Population and Samples

From this research, the employee population of the Purchasing Division at Head Office of "PT Toyota Motor Manufacturing Indonesia''

B. Data Collection

This research used an online questionnaire from the Microsoft Teams Form platform that was distributed directly to the Office email of employees of Procurement Application System Purchasing Division in Head Office Of PT. Toyota Motor Manufacturing Indonesia.

IV. RESULT AND DISCUSSION

A. Result

The following are the validity questionnaire the data obtained is in table 1.

Table 1 The Results of The Validity Test On Questionnaire

No	Variable(s)	No. Item	R Value	R Value Table	Description
1	Performance Expectancy(X1)	PE1	0,667	0,361	VALID
2		PE2	0,853	0,361	VALID
3		PE3	0,691	0,361	VALID
4		PE4	0,722	0,361	VALID
5		PE5	0,772	0,361	VALID
6	Effort Expectancy (X2)	EE1	0,549	0,361	VALID
7		EE2	0,412	0,361	VALID
8		EE3	0,579	0,361	VALID
9		EE4	0,651	0,361	VALID
10	Social Influence (X3)	SI1	0,576	0,361	VALID
11		SI2	0,412	0,361	VALID
12		SI3	0,608	0,361	VALID
13		SI4	0,542	0,361	VALID
14	Facilitating Conditions (X4)	FC1	0,590	0,361	VALID
15		FC2	0,715	0,361	VALID
16		FC3	0,682	0,361	VALID
17		FC4	0,727	0,361	VALID
18	Behavioral Intention (Y1)	BI1	0,619	0,361	VALID
19	User Behavior (Y2)	UB1	0,720	0,361	VALID
20		UB2	0,646	0,361	VALID

Source: Data Processed by Author, 2023

From the results it concluded that all indicators or questionnaire item were stated valid because the r value greater than the r table.

Table 2. The Results of The Reliability Test On Questionnaire

Cronbanch's Alpha	N of Items	Description
0,898	20	Reliable

Source: Data Processed by Author, 2023

From the table, there are 20 indicator items to test for reliability. The Cronbach's Alpha value is 0.898> 0.60, so the instrument tested can be declared reliable.

In Tabel 3 the results of the research can be seen only the value of R-square and the value of path coefficients only. T value needed to test the hypothesis. The overall research results can be seen in Table 3.

Tabel 3. Result Research

Path	└	T Value	R^2	Hyphotesis/ Supported
PE └ BI	0.151	0.820		H1/NO
EE └ BI	0.351	1.978	0,589	H2/YES
└└└└ BI	0.353	1.793		H3/YES
FC└└└└ UB	0.556	2.846	0.713	H4/YES
BI └└└└ UB	0.589	4.722		H5/YES

Source: Data Processed by Author, 2023

1. Influence of PE on BI
    From the first hypothesis submission, the proposed H1 is rejected. According to the output path coefficients, the statistical t value for the PE construct on BI is -0.043 < the t-table value (1.701), indicating that the influence of PE on BI is minor. The value of the latent variable PE coefficient at the output path coefficients is 0.276, indicating a 27% positive influence on the BI construct.

2. Influence of EE on BI
    From the first hypothesis submission, the proposed is accepted. According to the output route coefficients, the statistical t value for the EE construct on BI is 0.871 < the t-table value (1.701), indicating that the influence of EE on BI is minor. The latent variable EE coefficient at the output route coefficients is 0.157, indicating a 16% positive influence on the BI construct.

3. Influence of SI on BI
    From the first hypothesis submission, the proposed H3 is accepted. The output path coefficients demonstrate that the statistical t value for the SI construct on BI is 4.661 > the t-table value (1.701), indicating that SI has a substantial influence on BI. The SI latent variable coefficient at the output route coefficients is 0.759, indicating a 75% positive influence on the BI construct.The higher the social influence in using the The more the acceptability and usage of a system, the greater its acceptance and use. Logically, the more the social impact for the usage of a system, the more likely it will be accepted and employed by users.

4. Influence of FC on UB
    From the first hypothesis submission, the proposed H4 is accepted. According to the output route coefficients, the statistical t value for the FC construct on UB is 1.797 > the t-table value (1.701), indicating that the influence of FC on UB is significant. The FC latent variable coefficient at the output path coefficients is 0.253, indicating a 25% positive influence on the BI construct.

The more the system's simplicity of use, the greater the value of user trust in the existing organizational and technological infrastructure. Logically, the more extensive the facilities that facilitate system use, the more accepted and used the system is by users.

5.   Influence of BI on UB

From the first hypothesis submission, the proposed H5 is accepted. According to the output route coefficients, the statistical t value for the BI construct on UB is 4.310 > the t-table value (1.701), indicating that the influence provided by FC on UB is substantial. The BI variable coefficient at the output route coefficients is 0.666, indicating a 67% positive influence on the UB construct. The more the user's intention to utilize the system, the greater the system's adoption and utilization.

V.   CONCLUSION AND SUGGESTION
A.   Conclusion

From the analysis of research results and discussions in the previous section, The variable that has the highest influence is social influence variable on behavioral intention. Followed by the Behavioral intention variable to the Use Behavior variable. Then the last is Facilitating conditions for variable use behavior.

According to social influence theory is to increase the extent to which a person's level of trust in important people in his life believes that it is best to use the new system. In this case it is an employee of the company. Then from the theory of behavioral intention is to seek interest from the perspective of company employees for the development of the system. As well as from the theory of facilitating conditions increase the confidence of company employees in the availability of engineering infrastructure and organizations in using the new system.

B.   Suggestions

Researchers who want to continue this research are advised to consider several things, including:
1.   From the results of the research, it is known that only Social Influence, Facilitating Conditions and Behavioral Intention (BI) have a positive, significant and strong influence, so the researcher provides suggestions for improvements for the variables Effort Expectancy (EE), Performance Expectancy (PE).
2.   It is expected to follow the development of the UTAUT model and the latest version of SmartPLS tools to conduct further research

REFERENCE:

Abdillah., W dan Jogiyanto. (2009). Partial Least Square (PLS) Alternatif SEM Dalam Penelitian Bisnis . Penerbit Andi: Yogyakarta. Hal 262

Al-Saedi, K., Al-Emran, M., Ramayah, T., & Abusham, E. (2020). Developing a general extended UTAUT model for M-payment adoption. *Technology in Society*, *62*(January), 101293. https://doi.org/10.1016/j.techsoc.2020.101293

Andwika, V. R., & Witjaksono, R. W. (2020). Analysis of User Acceptance of ERP System on After Sales Function Using Unified Theory of Acceptance and Use of Technology (UTAUT) Model. *International Journal of Advances in Data and Information Systems*, *1*(1), 26–33. https://doi.org/10.25008/ijadis.v1i1.178

Arikunto, & Suharsimi. (2002). Prosedur Penelitian Suatu Pendekatan Prraktek. Jakarta: PT Rineka Cipta

Bawack, R. E., & Kala Kamdjoug, J. R. (2018). Adequacy of UTAUT in clinician adoption of health information systems in developing countries: The case of Cameroon. *International Journal of Medical Informatics*, *109*, 15–22. https://doi.org/10.1016/j.ijmedinf.2017.10.016

Chang, M., Walimuni, A. C. S. M., Kim, M. cheol, & Lim, H. soon. (2022). Acceptance of tourism blockchain based on UTAUT and connectivism theory. *Technology in Society*, *71*(May), 102027. https://doi.org/10.1016/j.techsoc.2022.102027

Ghozali,I. (2006). Satistik nonparametric. Semarang:Badan Penerbit UNDIP

Ghozali, Imam. (2018). Aplikasi Analisis Multivariate dengan Program IBM SPSS. Badan Penerbit Universitas Diponegoro: Semarang. Sahid Raharjo.

Giri, R. R.W.& Wellang, K. M.(2016), Impact of website design, trust, and internet skill on the behaviour use of site internet banking in Bandung Raya: A modification of the utaut model, Pertanika J. Soc. Sci. & Hum. 24 (S): 35 – 50

Hermawan, Asep dan Husna Leila Yusran. (2017). Penelitian Bisnis Pendekatan Kuantitatif. Depok: Kencana

Indrawati. (2015). Metode Penelitian Manajemen dan Bisnis Konvergensi Teknologi komunikasi dan informasi. Bandung : PT Refika Aditatama

Indrawati, Has M.N. (2017). Examining factors influencing webinar adoption using UTAUT model (Case research at distance learning program, ABC University, Bandung-Indonesia 2016), APWiMob 2016 - IEEE Asia Pacific Conference on Wireless and Mobile 2016, Conference Proceedings, art. no. 7811434, pp. 52 - 58, DOI: 10.1109/APWiMob.2016.7811434

Indrawati, Putri D.A,. (2018). Analyzing factors influencing continuance intention of E-payment adoption using modified UTAUT 2 Model: (A case research of Go-Pay from Indonesia),2018 6th International Conference on Information and Communication Technology, ICoICT 2018, art. no. 8528748, pp. 167 - 173. DOI:10.1109/ICoICT.2018.8528748

Krejcie, Robert V. dan Daryle W. Morgan. (1970). ''Ditermining Sample Size for Research Activities", Educational and Psychological Measurment. Vol. 30: 607-610.

Martawidjaja, H., Budiarto, E., & Soetomo, M. A. A. (2021). Procurement Framework Analysis and Evaluation of E-Procurement Implementation Adoption Using UTAUT Model (Case Research in Indonesia Leading Heavy Equipment Company). http://repository.sgu.ac.id/2184/

Puspitasari, N., Firdaus, M. B., Haris, C. A., & Setyadi, H. J. (2019). An application of the UTAUT model for analysis of adoption of integrated license service information system. Procedia Computer Science, 161, 57–65. https://doi.org/10.1016/j.procs.2019.11.099

Santo F. Wijaya, 1969-; Suparto Darudiato. (2009.). ERP (enterprise Resource Planning) & solusi bisnis / Santo F. Wijaya, Suparto Darudiato. Yogyakarta : Graha Ilmu.

Sedana, I. G., & Wijaya, S. W. (2009). Penerapan Model UTAUT Guna Memahami Penerimaan dan Pemakaian Learning Management System Studi Kasus: Experential E-Learning of Santa Dharma University

Setiawan, N.(2007), Penentuan Ukuran Sampel Memakai Rumus Slovin dan Tabel Krejcie-Morgan: Telaah Konsep dan Aplikasinya

Sugiyono. (2001). Statistik Nonparametrik guna Penelitian. Bandung: Alfabeta

Sugiyono. (2016). Metode Penelitian Kuantitatif, Kualitatif dan R&D. Bandung: PT Alfabet

Sugiyono. (2017). METODE PENELITIAN KOMBINASI. Bandung: ALFABETA

Syaukani, M., Kusumadewi, S., & Kariyam. (2013). Analisis Faktor-Faktor Yang Mempengaruhi Minat Pemanfaatan Dan Perilaku Pemakai Sistem Ekokardiografi.

Tomić, N., Kalinić, Z., & Todorović, V. (2022). Using the UTAUT model to analyze user intention to accept electronic payment systems in Serbia. Portuguese Economic Journal, 0123456789. https://doi.org/10.1007/s10258-022-00210-5

Venkatesh, V., Michael, Gordon, & F, D. (2003). User Acceptance of Information Technology: Toward a Unified View. Management Information System Research Center, University of Minnesota

WIRATNA SUJARWENI, V. (2015). Metodologi Penelitian Bisnis & Ekonomi (Cet ke 1). Yogyakarta: Pustaka Baru Press.

Wiratna Sujarweni. 2017. Analisis Laporan Keuangan. Yogyakarta: Pustaka Baru

Ye, J., Zheng, J., & Yi, F. (2020). A research on users' willingness to accept mobility as a service based on UTAUT model. Technological Forecasting and Social Change, 157(April), 120066. https://doi.org/10.1016/j.techfore.2020.120066

Zulkifli Jufri, & Budiman. (2022). Analysis Of Acceptance and Use of E-Procurement Applications Using Unified Theory of Acceptance and Use of Technology (UTAUT) In the Procurement of Goods and Services at PT. JMS. International Journal of Scientific Research in Science and Technology, 308–315. https://doi.org/10.32628/ijsrst229169