



The Use of Technology Acceptance Model (TAM) to Analyze Consumer Acceptance Towards E-Commerce Websites. A Case of the Plantage.id Digital Transformation Solution

Willy Aria Harsanto^{1*}, Nazaruddin Matondang¹, Rulianda Purnomo Wibowo¹

¹Business Management, Graduate School, Universitas Sumatera Utara, Indonesia

Email: harsanto.17@gmail.com

Abstract

Industry 4.0 has shifted business processes from traditional to digital systems and forced companies to take strategic steps to become more sustainable, one of which is e-commerce technology. A key element in getting consumers to accept and be interested in using e-commerce is the availability of a user-friendly e-commerce platform. This study intended to examine how the Technology Acceptance Model (TAM) theory's application analyzes consumer acceptability and adoption of the e-commerce website. The number of users that have completed transactions on the e-commerce (Plantage.id) website between January 2021 and August 2022 serves as the population and sample in this causal quantitative study. SEM-PLS, using the software SmartPLS, is used for data analysis. The results showed a positive and significant relationship between a significant relationship website; meanwhile, the influence of perceived ease of use on attitude towards using, perceived usefulness on behavioral intention, and attitude towards using on behavioral intention showed insignificant effects. The results of this study align with the Technology Acceptance Model (TAM) theory, which states that the perceived ease of use and perceived usefulness are the main factors that are important for users in determining the acceptance and actual usage of a new information technology system such as e-commerce. The higher these two factors, the greater the chance consumers can accept and use the systems.

Keywords: website, e-commerce, technology acceptance model (TAM)

Received: 18-07-2023 | Revised: 03-09-2023 | Accepted: 29-09-2023

1. INTRODUCTION

In this fully digital industrial era 4.0, businesses can use information technology to outcompete their competitors by focusing on the needs and fulfillment of consumer satisfaction. Technology can assist us in carrying out the desired activities so that its use becomes very effective and efficient for customers. Internet media, which is now accessible to everyone

wherever they are, is a technological advancement that has significantly impacted the growth of the commercial sector. The advancement of technology has also brought new changes, with most people now relying on digital internet technology to live their daily lives. With the Internet, businesses may conduct operations more quickly, including activities involving company relationships with their clients (Riyadi et al., 2015) [1]. The Internet also makes communication and information sharing in business activities faster and easier. The Internet is the most cost-effective and

*Corresponding author at: Graduate School, Universitas Sumatera Utara, Jalan Prof. Mass, Medan 20155, Indonesia

practical media for usage as a foundation for information systems. Electronic commerce, often known as e-commerce, or using the Internet to conduct business, has become common. E-commerce is a system component that enables online purchasing and selling transactions from any location (Hidayat, 2008) [2].

The website is one of the mediums utilized to carry out the idea of e-commerce. Companies that create websites can communicate with their customers in two directions, allowing them to learn what the customers want and do not want. A website's quality can strongly impact the success of e-commerce. For the website to be efficient and user-friendly, it must present a wealth of information in an easy-to-understand manner with well-designed navigation. The marketing system of PT Riset Perkebunan Nusantara (RPN), which has been using conventional methods, has become an obstacle in business competition, especially in the current era of technological disruption 4.0; therefore, the use of digital technology such as websites can be used to increase sales and establish long-term relationships with consumers. PT Riset Perkebunan Nusantara (RPN) launched an official website that functions as a forum or virtual place for buying and selling transactions (e-commerce) and consumer services under the name "Plantage.id" in early 2021 to improve the function of the company services to consumers including online product sales transactions. However, regarding data recorded on the Plantage.id website, the increase (growth) of users and transactions from January 2021 to August 2022 showed a significant downward trend. It was recorded that until August 2022, the growth of Plantage.id users was an average of only 1,41% and experienced a decrease of around 86,48% compared to 2021 (YoY). This problem is related to consumer acceptance and adoption of the Plantage.id website as one of the e-commerce platforms. According to Afiana et al., (2019) [3], some theories can predict and explain behavior patterns in people that encourage the intention of using information technology and identify the acceptance and rejection of these technological systems. One of these theories is the Technology Acceptance Model (TAM) (Davis, 1986) [4]. TAM is used to forecast and explain how technology users acquire and use daily. According to the TAM, for a person to accept and utilize the system, there are five crucial factors to consider: perceived usefulness, perceived ease of use, attitude toward using, behavioral intention, and actual usage.

In some previous research results, there is a research gap related to the theory of the Technology Acceptance Model (TAM) to analyze consumer acceptance of digital technology, including the results of research by (Mayasari et al., 2011) [5] which states that the usefulness variable does not affect the aspect of intention to use the KlikBCA Internet Banking service.

Then, the research results by Dewi & Juhri (2017) [6] stated that the ease of use variable did not affect the intention to use the T-Cash Mobile Money service in Bandung. This result is in line with research conducted by Misfariyan & Saputra (2013) [7], which states that ease of use does not influence aspects of intention to use in the Management Information System service of Bangkinang Regional General Hospital. The results of Mahendra (2015) [8], stated that the variable aspect of intention to use did not affect the real use aspect of the Cooperative Information System at the Budi Setia Jakarta Employee Cooperative. The results of Ly (2022) [9] research also state that the variable aspect of convenience does not significantly affect the adoption of the Internet Banking system in Cambodia.

E-commerce is defined as a commercial transaction where the buyer and seller mutually agree to a price and shipping date for a specific good or service using electronic media downloaded from the Internet and then complete the transaction by giving the goods or services to the other party and paying for them following the terms of the agreement. According to Kumbhar and Vijay (2011) [10], e-commerce is doing business transactions online through websites. E-commerce transaction systems can make it easier for businesses to do business with each other and consumers (Hsu, 2010) [11]. E-commerce is the trading of a good or a service that, in theory, employs internet media and other technologies like mobile phones, supply chain management, online transaction processes, electronic data interchange (EDI), internet marketing, and automation of data collection systems (Bacon, 1997) [12].

Business-to-business e-commerce (transactions between corporations) and business-to-consumer e-commerce are two e-commerce categories. E-commerce refers to creating, promoting, selling, and distributing product or service transactions carried out online or via the Internet (Baynal and Boyaci, 2016) [13]. Venkatesh (2000) [14] asserts that perceived ease of use positively influences the intention to use and use of technology. The easier the technology, the more people will adopt and use

it. The TAM model shows that usability and ease of use influence an individual's intention to use information technology. Research into the usefulness of technology has been widely discussed as a direct and positive predictor of user satisfaction and as a variable that measures consumer choice. The dominant factor determining the desire to use technology is usability. Individuals who know the benefits of information technology will have a higher intention to use it.

The relationship between usability factors and intent to use assumes that a person uses information technology when believing it will make their work easier. In their results, Schultz & Slevin (1975) [15] stated that there is a consistent positive relationship between aspects of benefit and attitude to use. According to Davis (1989) [16], the beneficial aspect has always been assumed to influence the intention to use the variable. *Intention to use* is the tendency of users to continue using the technology. Ajzen (2001) [17], in his theory, says that a person's desire to behave is a factor that determines a person's behavior to perform activities (aspects of actual use).

This study aims to answer the problem of low user growth of the Plantage.id website from its launch and to analyze how consumers' acceptance of this website uses the theoretical concept approach of the Technology Acceptance Model (TAM). The formulation of the problem in this study is to analyze the influence of each construct variable of the Technology Acceptance Model (TAM) on the consumer acceptance of the Plantage.id website.

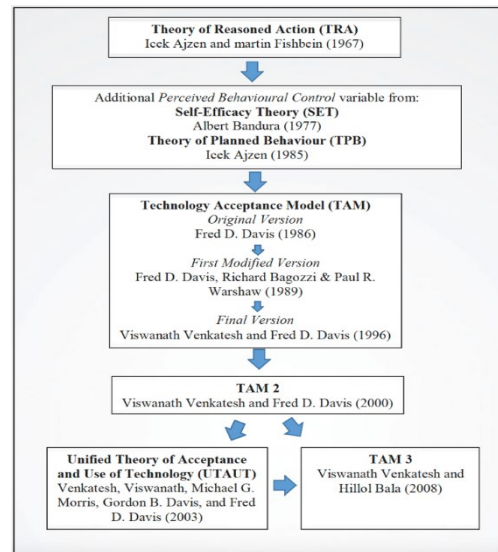
2. RESEARCH METHODS

Technology Acceptance Model (TAM)

TAM, or Technology Acceptance Model, adapts the Theory of Reasoned Action (TRA). The purpose of TAM is more devoted to explaining the behavior of computer users (computer usage behavior). The TAM concept uses TRA as a theoretical basis to specify a causal relationship between two keys of belief, namely the Perceived Usefulness and the Perceived Ease of Use. TAM theory is a notion that is frequently used to gauge consumer repurchase intent. The Technology Acceptance Model (TAM) aims to quantify and explain how well users will adopt a given information technology. TAM offers a theoretical framework for identifying the elements that affect a company's willingness to adopt new

technology (Marsyadini dan Aprilia, 2018) [18].

Figure 1. Evolution of the Technology Acceptance Model (TAM) Theory (Aziz et al., 2020) [19].



According to Jogyanto (2007) [20], TAM is a behavioral model with a strong theoretical foundation that explains why many information technology systems fail to be implemented because the user does not intend to use them. It has undergone numerous studies, with most findings supporting the model's validity. The main benefit of TAM is that it is a straightforward yet reliable parsimony model. TAM illustrates in plain language the aim and real use of the information system user, as well as the causal relationship between behavior and beliefs (the advantages of an information system and convenience) (Noviarni, 2014) [21].

According to Davis (1989) [22], the theory of the Technology Acceptance Model (TAM) has 5 (five) main constructs:

1. Perceived Ease of Use (PEOU)
Perceived ease of use refers to how easily a person perceives a technology or system to be comprehended and used.
2. Perceived Usefulness (PU)
The term refers to the degree to which consumers think utilizing technology or systems will enhance their productivity at work. The user's view of the advantages of the technology being utilized is what is meant here by the perception of expediency.
3. Attitude Toward Using (ATU)
The attitude toward using is conceptualized as an attitude toward using a system that takes the shape of acceptance or rejection.

4. Behavioral Intention to Use (BI)

Behavioral Intention to Use is a behavioral tendency to stick with technology. The level of use of information technology in a person can be seen from his attentive attitude toward the technology.

5. Actual Usage (AU)

Actual usage is a concept that refers to the frequency and length of time that people use technology. If someone believes that the system is simple to use and will boost their productivity, which is reflected in the actual circumstances of usage, they will be content with utilizing it.

This is quantitative research with a causal research approach to see and investigate causal relationships by observing what occurs and possible factors that cause these consequences. Based on the background and formulation of the problem taken, the conceptual framework in this study is formulated as follows:

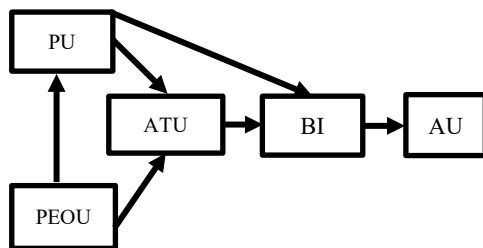


Figure 2. Methodological Framework.

The TAM concept used in this study has limitations only using 5 primary constructs: perceived usefulness, perceived ease of use, attitude towards using, behavioral intention (behavior web adoption), and actual usage. From such a conceptual framework, formulated hypotheses as follows:

H1: There is a positive and significant effect between perceived ease of use and perceived usefulness of the Plantage.id website (PEOU → PU)

H2: There is a positive and significant effect between perceived ease of use on attitude toward using the Plantage.id website (PEOU → ATU)

H3: There is a positive and significant effect between perceived usefulness on attitude toward using the Plantage.id website (PU → ATU)

H4: There is a positive and significant effect between perceived usefulness on the behavioral intention of the Plantage.id website (PU → BI)

H5: There is a positive and significant effect between attitude toward using on the behavioral intention of the Plantage.id website (ATU → BI)

H6: Behavioral intention has a positive and significant effect on actual usage of the Plantage. id website (BI → AU)

The population and sample of this study are all active consumer accounts registered on the Plantage.id website from January 2021 to August 2022, totaling 96 respondents. The sampling method used is nonprobability sampling (census or saturated sampling method), where the entire population in this study is used as a sample. The research tool used is SEM-PLS (Structural Equation Modelling-Partial Least Square) using SmartPLS software. The measurement is divided into 3 stages: outer model measurement, inner model measurement, and hypothesis and significance value testing.

3. RESULT & DISCUSSION

The respondents who were sampled in this study dominated with an average age of under 40 years (< 40 years), or in other words; the majority came from Gen Y and Gen Z. Results of mapping the distribution of respondents by age can be seen in Table 1 below:

Table 1. Characteristics of respondents by age

Age	Sum	(%)
< 30 Years	28	29,17
30-40 Years	41	42,71
> 40 Years	27	28,13
	96	100

Based on data from table 1 above, it shows that as many as 28 people (29,17%) respondents are under 30 years old, respondents aged between 30 – 40 years are the highest number of respondents with 41 people (42,71%), and respondents over 40 years old are 27 people (28,13%). This shows that the average respondent in this study is the younger generation (Gen Y and Gen Z), who are used to information and communication technology.

SEM-PLS Measurement Results

The first stage in testing research results using the SEM-PLS method is the outer model measurement, where the test is carried out to know how precisely the indicators used can explain each of the existing latent variables. The way to measure it is to test the validity and

reliability of the data obtained. An indicator is declared valid if it has an outer loading value > 0,7 against a latent variable. The results of SmartPLS software output related to outer loading can be seen in Table 2 below:

Table 2. Outer loading validity test

	ATU	AU	BI	PEOU	PU
ATU3	0,751				
ATU4	0,863				
ATU5	0,873				
AU1		0,823			
AU2		0,777			
AU3		0,714			
AU6		0,744			
BI1			0,773		
BI3			0,813		
BI4			0,881		
BI5			0,734		
PEOU2				0,858	
PEOU3				0,802	
PEOU4				0,761	
PEOU6				0,751	
PEOU8				0,762	
PU1					0,838
PU4					0,822
PU6					0,735

Table 3. Average variance extracted (AVE) validity test

Average variance extracted (AVE)	
ATU	0,690
AU	0,586
BI	0,644
PEOU	0,620
PU	0,640

The AVE values of each variable in Table 3 indicate values above 0,5. This means that the indicators and latent variables used in this study have met the second test requirement of convergent validity. The next validity test in the SEM-PLS method is a discriminant validity test by looking at the Fornell-Larcker Criterion values of each variable, which is shown by the following Table 4:

Table 4. Fornell-Larcker criterion validity test

	ATU	AU	BI	PEOU	PU
ATU	0,831				
AU	0,101	0,765			
BI	0,236	0,638	0,802		
PEOU	0,266	0,206	0,218	0,788	
PU	0,378	0,162	0,143	0,558	0,800

In the discriminant validity test using the Fornell-Larcker Criterion value, the way to evaluate it is to look at the correlation value of one variable with its variable, which must be higher than the correlation value between one variable and another. Table 4 shows that the correlation value of each variable with its variable is above the correlation value between

variables, so it has met the criteria of the first discriminant validity test. Next is to look at the value of cross-loadings. This test aims to evaluate the correlation between the indicator and its variables. The cross-loading data is shown in Table 5 as follows:

Table 5. Cross-loading validity test

	ATU	AU	BI	PEOU	PU
ATU3	0,751	-0,057	0,055	0,301	0,353
ATU4	0,863	0,224	0,266	0,211	0,299
ATU5	0,873	0,066	0,251	0,160	0,295
AU1	0,164	0,823	0,721	0,177	0,054
AU2	-0,041	0,777	0,322	0,194	0,144
AU3	-0,072	0,714	0,326	0,252	0,190
AU6	0,154	0,744	0,353	0,012	0,198
BI1	0,301	0,519	0,773	0,078	0,088
BI3	0,132	0,554	0,813	0,214	0,147
BI4	0,169	0,580	0,881	0,189	0,101
BI5	0,141	0,350	0,734	0,247	0,134
PEOU2	0,250	0,131	0,199	0,858	0,439
PEOU3	0,250	0,144	0,126	0,802	0,356
PEOU4	0,198	0,118	0,197	0,761	0,336
PEOU6	0,166	0,100	0,145	0,751	0,336
PEOU8	0,184	0,264	0,181	0,762	0,621
PU1	0,312	0,245	0,197	0,512	0,838
PU4	0,266	0,086	0,109	0,458	0,822
PU6	0,334	0,028	0,013	0,353	0,735

Evaluation of cross-loading data is carried out by looking at the correlation value of each indicator to its variables; the value must be greater than the correlation of the indicator with other variables. Table 5 shows that the correlation value of each indicator to its variables in this study is already more significant than the correlation value between the indicators and other variables. Therefore, it has met all the criteria of the discriminant validity test.

After conducting the validity test, the next step in measuring the outer model is to test reliability by looking at the composite reliability values

and Cronbach's alpha values. The reliability test data are shown in Table 6:

Table 6. Reliability tes

	Cronbach's alpha	Composite reliability (rho c)
ATU	0,773	0,869
AU	0,788	0,849
BI	0,816	0,878
PEOU	0,850	0,891
PU	0,719	0,841

Table 6 shows this study's values of Cronbach's alpha and composite reliability. The way to evaluate the reliability test is the limit of the composite reliability value number, and Cronbach's alpha must be above $> 0,7$. From the table above, all values of the research variables are above 0,7, with the smallest values of Cronbach's alpha and composite reliability found in the PU (perceived usefulness) variables, 0,719 and 0,841. From these results, it can be concluded that the indicators and variables in this study have met the requirements for validity and reliability tests (outer model) based on the SEM-PLS method. The second stage of SEM-PLS testing is to test the inner model (structural model). This test aims to see and analyze the influence between the variables used and test hypotheses based on their significance values. The first test of the inner model is to look at the R Square values indicated by Table 7 below:

Table 7. Inner model r square test

	R. Square
ATU	0,147
AU	0,407
BI	0,059
PU	0,312

The R Square value based on Table 7 shows that the PU (perceived usefulness) variable is influenced by PEOU (perceived ease of use) of 31,2%, then the ATU (attitude toward using) variable is influenced by PEOU and PU by 14,7%, while for the BI (behavioral intention) variable is influenced by the PEOU, PU, and ATU variables are only 5,9%. The AU (actual usage) variable is influenced by the PEOU variable, PU, ATU, and BI, which amounted to 40,7%. These results show that the actual usage variable of the Plantage.id website only 40,7% were influenced by the independent variables used in this study, while 59,3% of the influence could be caused by external factors that were not covered in this study. The following evaluation and analysis of the inner model testing are to look at the value of path coefficients and T-statistics value to analyze the relationship and influence of independent variables on dependent variables in this study

and test whether the hypothesis formulated is accepted. The analysis data based on SmartPLS results are shown in Table 8 as follows:

Table 8. Inner model, path coefficients, and t-statistics test.

Path Coefficients	Sample mean (M)	Standard deviation (STDEV)	T statistics ((O/STD EV))	P values
ATU → BI	0,212	0,217	0,127	1,671
BI → AU	0,638	0,653	0,050	12,856
PEOU → ATU	0,080	0,081	0,118	0,680
PEOU → PU	0,558	0,572	0,064	8,762
PU → ATU	0,333	0,347	0,107	3,124
PU → BI	0,063	0,060	0,107	0,592

Table 8 shows the path coefficients and T-statistics values of this study. Based on the path coefficients value, each variable measured has a positive relationship because the path coefficients value is positive between 0 – 1. However, based on the T-statistics value, 3 relationships between variables in this study show the T-statistics value below 1,96 (the significance measurement standard is above $> 1,96$). Therefore, the analysis and evaluation of the hypotheses in this study are as follows:

- The H1 hypothesis is accepted because, based on Table 8 shows that there is a positive relationship between PEOU (perceived ease of use) on PU (perceived usefulness) with a path coefficients value of 0,558 and a T-statistics value of 8,762. This means that a more significant factor in the convenience provided by the website will significantly increase the benefits for users.
- The H2 hypothesis is rejected because Table 8 showed an insignificant relationship between PEOU on ATU (attitude towards using) with path coefficient values of 0,080 and T-statistics of 0,680. It can be concluded that the greater the convenience provided by the Plantage.id website does not significantly affect the user's attitude.
- The H3 hypothesis is accepted because it is shown in Table 8 that there is a positive and significant relationship between PU on ATU with path coefficients of 0,333 and T-statistics of 3,124. This means the higher the benefits users get from the website will positively and significantly improve their attitude toward using it.
- The H4 hypothesis is rejected because, in Table 8, there is an insignificant relationship between PU and BI (behavioral intention) with path coefficient values of 0,063 and T-statistics

of 0,592. This result means that the greater the benefit of the website will not significantly affect the consumer's intention to use it.

- The H5 hypothesis is rejected because Table 8 shows an insignificant relationship between ATU on BI with path coefficient values of 0,212 and T-statistics of 1,671. It can be concluded that the greater the user attitude variable of the website will not significantly affect the user's intentions in using the website.
- The H6 hypothesis is accepted because Table 8 shows a significant favorable influence between BI and AU (actual usage) with path coefficients of 0,638 and T-statistics of 12,856. From these results, it can be concluded that consumers' greater intention to use the Plantage.id website will be very positive and significantly affect their accurate and actual use.

of aspects of ease of use of technology directly and indirectly on aspects of usefulness (Venkatesh, 2000) [14].

Furthermore, the test results on hypothesis 3 align with previous research conducted by Prasetyo (2020) [24], where the results showed that the usability aspect variable has a positive and significant influence on the attitude of the information technology system. The test results on hypothesis 6 also align with Rosyida's (2017) [25] research, which states that the variable of use intention has a dominant influence on actual use in *e-commerce*. The same thing is also shown in Purwanto & Nurahman's (2020) [26] research, which states that intention to use significantly affects actual use. The results of this test also illustrate the influence of the construct variables of the theoretical concept of the Technology Acceptance Model (TAM) on the acceptance and adoption of consumers and users of the Plantage.id website.

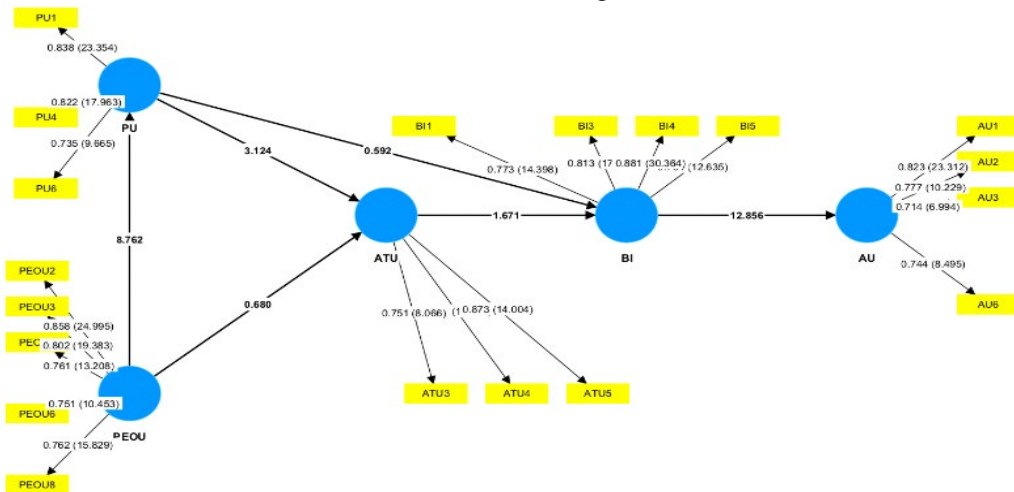


Figure 3. Outer and Inner Model Diagrams (Research Data Processed, 2022)

Figure 3 above shows a model diagram of SEM-PLS test results using SmartPLS 4.0 software based on the hypothesis proposed in this study. The diagram shows the relationship between latent variables and their indicators measured and assessed in 3 stages of testing (outer model, inner model, hypothesis, and significance value testing).

The results of data testing using the SEM-PLS method with SmartPLS 4.0 software in this study have been able to answer research questions that formulate research problems and hypotheses. Of the 6 hypotheses proposed, 3 were accepted, and 3 were rejected. Related to the test result on hypothesis 1, in line with the results of Research by Agarwal and Prasad (1999) [23], they stated a positive and significant relationship between the convenience and usefulness aspects. Other studies show significant results on the influence

Based on the value of T-statistics in hypothesis and significance testing, the actual usage variables of the website are significantly influenced by the intentions of these users, where the intention to use will appear when the Plantage.id website can provide fantastic convenience and benefit for users so that they will accept and feel comfortable and safe when using the website. The results of this study are also in line with the theory used that perceived ease of use and perceived usefulness are the main factors that are important for users in determining the acceptance of a new information technology system. The higher these two factors, the greater the chance consumers can accept and use new information technology systems.

CONCLUSION

This study aims to measure and analyze consumer acceptance of the Plantage.id website using the Technology Acceptance Model (TAM) theory. The results of the study showed that the effect of the perceived ease of use (PEOU) variable on perceived usefulness (PU), then perceived usefulness (PU) on attitude towards using (ATU), and behavioral intention (BI) on actual Usage (AU) showed a positive and significant relationship with a positive path coefficients value between 0 – 1 and T-statistics value > 1,96. Meanwhile, the influence of the perceived ease of use (PEOU) variable on attitude towards using (ATU), then perceived usefulness (PU) on behavioral intention (BI), and attitude towards using (ATU) on behavioral intention (BI) showed insignificant influence shown from the T-statistics number is below < 1,96.

The results of this study also answered the theory that the main variables in the Technology Acceptance Model (TAM), which are perceived ease of use and perceived usefulness, greatly influence the acceptance and adoption of the use of Plantage.id website. This research will also be used as input and recommendations for the Plantage.id website management team to be able to increase the ease of use and usefulness factors of the website so that it can develop and become one of the digital platforms (e-commerce) that can provide optimal service for consumers consistently.

References

- [1] Riyadi, Susilo H dan Maulana S M 2015 *Jurnal Administrasi Bisnis*.
- [2] Hidayat T 2008 *Panduan Membuat Toko Online Dengan OS Commerce* (Jakarta: Mediakita).
- [3] Afiana F N, Subarkah P, dan Hidayat A 2019 *Jurnal Matrix*.
- [4] Davis F D 1986 A Technology acceptance model for empirically testing new-end user information systems: Theory and Result *Ph.D. Dissertation* Sloan School of Management, MIT.
- [5] Mayasari F, Kurniawati E P, dan Nugroho P I 2011 *Semantik*.
- [6] Dewi C K dan Juhri K 2017 *Pro Bisnis*.
- [7] Misfariyan dan Saputra E 2013 *Sitekin*.
- [8] Mahendra I 2015 *Jurnal Pilar Nusa Mandiri*.
- [9] Ly B and Ly R 2022 *Computers in Human Science Reports*.
- [10] Kumbhar and Vijay M 2011 *International J. of Business Economics and Management Research*.
- [11] Hsu M K 2010 Structural Equation Modeling with IBM SPSS Amos: A methodology for predicting behavioral intentions in the services sector University of Wisconsin: Whitewater.
- [12] Bacon L D 1997 *Using Amos for structural equation modeling in market research* (English: Lynd Bacon & Associates, Ltd., and SPSS Inc).
- [13] Baynal K, and Boyaci A İ 2016 *International Refereed J. of Marketing and Market Researches*.
- [14] Venkatesh V 2000 *Information Systems Research* 342 – 365.
- [15] Schultz and Slevin 1975 *Implementation and Organizational Validity: An empirical Investigation. Implementating Operation Research Management Science*. New York.
- [16] Davis F D 1989 *MIS Quarterly* 13 319-339.
- [17] Ajzen I 2001 *Journal of Applied Social Psychology* 32 665 – 683.
- [18] Marsyadini F dan Aprilia N 2018 *Jurnal Akuntansi* 8 55 – 66.
- [19] Aziz M N A, Harun S N, Baharom M K, and Kamaruddin N 2020 *The Interdisciplinary of Management, Economic and Social Research* 242-247.
- [20] Jogiyanto 2007 *Model Kesuksesan Sistem Teknologi Informasi* (Yogyakarta: Penerbit Andi).
- [21] Noviarni 2014 *Perencanaan Pembelajaran Matematika dan Aplikasinya* (Pekanbaru: Benteng Media).
- [22] Davis F D 1989 *MIS Quarterly* 13 319-339.
- [23] Agarwal R and Prasad J 1999 *Decision Sciences* 30 361 – 391.
- [24] Prasetyo D Y 2020 *Jurnal Ilmiah Bappeda Kab. Indragiri Hilir* 6 178-187.
- [25] Rosyida S 2017 *Jurnal Sistem Informasi STMIK Antar Bangsa*.
- [26] Purwanto A dan Nurahman 2020 *Jurnal Ilmiah Ilmu Komputer*.