The Effect of Perceived Usefulness and Perceived Ease of Use on Behavioral Intention Mediated by User Satisfaction in E-Commerce Users

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Article Info	ABSTRACT
Keywords: Perceived Usefulness, Perceived Ease Of Use, Behavioral Intention, User Satisfaction.	The purpose of the study is to determine perceived usefulness and perceived ease of use on behavioral intention mediated by user satisfaction in e-commerce users. The research method used is a quantitative method with a survey approach. Data collection technique by distributing questionnaires to respondents. The population in the study was 2568 students of the Faculty of Business and Economics with a sample of 97 respondents. The results of the study were (1) Perceived Usefulness has a significant effect on Behavioral Intention to Use, (2) Perceived Ease of Use has a significant effect on Behavioral Intention to Use, (3) Perceived Usefulness has a significant effect on Satisfaction, (4) Perceived Ease of Use has a significant effect on Satisfaction, (5) Satisfaction has a significant effect on Behavioral Intention to Use, (6) Perceived Usefulness has a significant effect on Behavioral Intention to Use mediated by satisfaction, (7) Perceived Ease of Use has a significant effect on Behavioral Intention to Use mediated by satisfaction,
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INTRODUCTION

The rapid development of technology at this time, greatly affects the marketing sector. One of the business strategies that is widely used by entrepreneurs today in marketing their products is selling through e-commerce. According to (Riswandi, 2019) *e-commerce* is a transaction of exchanging goods between each other to meet daily needs digitally. *E-commerce* provides huge benefits for entrepreneurs such as making it easier to sell and promote products and having a wide market through the internet (Lilyana et al., 2022). Other positive impacts in the use of e-commerce are increased efficiency, cost savings, better control of goods, improved supply chain, improved customer relationships and improved relationships with suppliers (Widani, et al, 2019).

Selling through e-commerce not only has a positive impact, but also has risks such as fraud, information theft, data security, and stiff competition (Khan, 2016). In response to these problems, an entrepreneur must be able to create *behavioral intent* to consumers. According to (Kotler and Keller, 2017) *behavioural intention* is a condition in which consumers have an intention or attitude of loyalty to a good or service, and voluntarily tell

the superiority of the product or service to other people or parties. The results of the study (Astria et al., 2022) explain that the *behavioural intent* possessed by consumers is able to increase loyalty attitudes so as to reduce bad intentions from consumers. According to (Shih and Huang, 2009) the indicators of *behavioural intention* are: the desire to increase the use of services in the future, the desire to keep choosing one service over another, the desire not to stop using the service, and the desire to recommend the service to others.

According to (Davis, 1989) there are 2 factors that influence *behavioural intention*, namely *perceived usefulness* and *perceived ease of use*. *Perceived usefulness* is a level where a person believes that using a system can improve performance which will have an impact on increasing a person's productivity and effectiveness. Improving *the e-commerce* service and marketing system will be able to increase *behavioural intention*. The results of the study (Astria et al., 2022) explain that *perceived usefulness* has a significant impact on *behavioural intention* in the use of the BCA Syariah Mobile application. Indicators of *perceived usefulness* are improvement in the performance of a job, increase in productivity of a job, increase in the effectiveness of a job, benefits in daily life, flexibility of use 24 hours per day and savings in time and cost (Bankole et al., 2011).

Perceived ease of use is the level of individual belief that by using a new system or technology, it can make it easier for a person to do a job (Davis, 1989). The ease of using e-commerce in the marketing process, buying and selling transactions and others will be able to increase *behavioural intention*. According to the research (Nur Faizah, 2021) explained *that Perceived ease of use* can significantly and positively increase *behavioural intention* in the use of smart shop applications. According to (Davis, 1989) the indicators of *Perceived ease of use* are theability to access services at any time, ease and clarity of instructions for use, structured, attractive, and easy-to-use visual appearance (user friendly interface), ease of operating services, and ease of doing whatever you want.

Another factor that affects *behavioural intention* is *user satisfaction*. According to (Kotler and Keller, 2017), *user satisfaction* is a feeling of happiness or disappointment that arises after comparing the performance (results) of the product that is thought of against the expected performance. The convenience and benefits obtained by consumers in using e-commerce will be able to increase consumer satisfaction in using e-commerce, so that it will have a positive impact on *behavioural intention*. The results of the study (Kusuma, 2019) explained that Customer Satisfaction has a positive effect on the relationship between Customer Perceived Value and Behavioral Intention in fast food restaurant consumers in Tunjungan Plaza. According to (Shim & Kim, 2008) indicators to measure *User Satisfaction* are maximum comfort in using services, increased personal benefits, needs met quickly and appropriately, pleasant experiences in using services, and expectations for services met.

METHODS

The research method used is a quantitative method with a survey approach. Data collection technique by distributing questionnaires to respondents. The population in the study is 2568 students of the Faculty of Business and Economics. The sample was determined using the slovin formula with a tolerance limit of 10%, so that a sample of 97 respondents was

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obtained. The data analysis method used is Sructural Equation Modeling or SEM. The analysis technique uses SEM-PLS which aims to test whether the construct has an influence and relationship between independent, dependent and intervening variables

RESULTS AND DISCUSSION

The results of the study came from questionnaire data that had been distributed to the research sample. The study aims to determine the influence of perceived usefulness and perceived ease of use on behavioral intention mediated by user satisfaction in e-commerce users. The results of the study were obtained from model analysis using SmartPLS 3.0 software

Tabel 1. Convergent Validity Test

Indicator	Behavioral Intention to Use (Y)	Perceived Ease of Use (X2)	Perceived Usefulness (X1)	Satisfaction (Z)
X1.1			0.769	
X1.2			0.812	
X1.3			0.860	
X1.4			0.831	
X1.5			0.854	
X1.6			0.842	
X2.1		0.818		
X2.2		0.881		
X2.3		0.877		
X2.4		0.921		
X2.5		0.875		
Y1	0.861			
Y2	0.950			
Y3	0.866			
Y4	0.832			
Z1				0.874
Z2				0.875
Z3				0.899
Z4				0.892
Z5				0.858

Based on the results of *the convergent Validity* analysis in the table above, a *loading factor* value of > 0.70 was obtained. So it can be concluded that all indicators are valid and can be used for subsequent analysis. The validity test of discrimination uses the cross loading value. An indicator is declared to meet the validity of discrimination if the cross-loading value of the indicator on that variable is greater than the correlation of other variables. The following are the cross loading values for each indicator:

Tabel 2. Factor Loading

Indicator	Behavioral Intention to Use (Y)	Perceived Ease of Use (X2)	Perceived Usefulness (X1)	Satisfaction (Z)
X1.1	0.538	0.550	0.769	0.592
X1.2	0.629	0.707	0.812	0.656
X1.3	0.501	0.615	0.860	0.586
X1.4	0.557	0.697	0.831	0.567
X1.5	0.660	0.781	0.854	0.732
X1.6	0.465	0.606	0.842	0.582
X2.1	0.589	0.818	0.729	0.730
X2.2	0.687	0.881	0.723	0.723
X2.3	0.608	0.877	0.710	0.676
X2.4	0.725	0.921	0.721	0.789
X2.5	0.595	0.875	0.635	0.711
Y1	0.861	0.693	0.704	0.804
Y2	0.950	0.619	0.562	0.775
Y3	0.866	0.528	0.475	0.700
Y4	0.832	0.730	0.638	0.745
Z1	0.687	0.697	0.620	0.874
Z2	0.746	0.714	0.694	0.875
Z3	0.783	0.809	0.694	0.899
Z4	0.813	0.767	0.614	0.892
Z5	0.763	0.660	0.696	0.858

Based on the table above, the cross loading value of each indicator in this research variable has the largest cross loading value for the variable it forms compared to the cross loading value of the variable. So the indicators used in this study have good discriminatory validity in compiling their respective variables.

Another way to see the validity of discrimination can be found by using other methods such as looking at the Average Variance Extracted (AVE) value. For a good model, the value of each indicator should be > 0.50 (Hair et al., 2017).

Tabel 3. Discriminan Validity

Variabel	Average Variance Extracted (AVE)
Behavioral Intention to Use (Y)	0.771
Perceived Ease of Use (X2)	0.766
Perceived Usefulness (X1)	0.686
Satisfaction (Z)	0.774

Based on the table above, the AVE value of each variable > 0.50. Thus, it can be stated that each variable has a good discriminatory validity.

Composite Reliability will test the reliability value of the indicator on each variable. Cronbach's Alpha is another measure to test whether a variable is said to

be reliable, but its value is lower than Composite reliability. A variable can be declared reliable or meets composite reliability and meets Cronbach's Alpha, if the reliability value of the composite and Cronbach's Alpha > 0.70.

Tabel 4. Composite Reliability

Variabel	Cronbach's Alpha	Composite Reliability
Behavioral Intention to Use (Y)	0.900	0.931
Perceived Ease of Use (X2)	0.923	0.942
Perceived Usefulness (X1)	0.909	0.929
Satisfaction (Z)	0.927	0.945

Based on the table above, the Composite Reliability and Cronbach's Alpha values of all research variables >0.70. This means that all variables have a high level of reliability.

Hypothesis testing in this study was carried out by looking at the values of Path Coefficient, T-Statistics and P-Values. The research hypothesis can be declared acceptable if the Path Coefficient value is >0, the T-Statistics value > 1.96 with (significance level of 5%) and the P-Values value <0.5.

Tabel 5. Pengujian Hipotesis

Hipotesis	Path Coefficient	T Statistics	P Value	Hypothesis Analysis	Result
Perceived Usefulness (X1) -> Behavioral Intention to Use (Y)	0.063	0.585	0.559	Tidak Signifikan & Positif	Rejected
Perceived Ease of Use (X2) -> Behavioral Intention to Use (Y)	0.021	0.151	0.880	Tidak Signifikan & Positif	Rejected
Perceived Usefulness (X1) -> Satisfaction (Z)	0.244	2.263	0.024	Signifikan & Positif	Accepted
Perceived Ease of Use (X2) -> Satisfaction (Z)	0.635	6.764	0.000	Signifikan & Positif	Accepted
Satisfaction (Z) -> Behavioral Intention to Use (Y)	0.799	7.510	0.000	Signifikan & Positif	Accepted
Perceived Usefulness (X1) -> Satisfaction (Z) -> Behavioral Intention to Use (Y)	0.195	2.201	0.028	Signifikan & Positif	Accepted
Perceived Ease of Use (X2) -> Satisfaction (Z) -> Behavioral Intention to Use (Y)	0.507	5.158	0.000	Signifikan & Positif	Accepted

Based on the results of the analysis of the first hypothesis rejected, Perceived Usefulness (X1) has an insignificant and positive influence on Behavioral Intention to Use (Y). This phenomenon is caused by the lack of usefulness of the use of e-commerce to improve work performance and productivity. The results of the study are not in line with (Astria et al., 2022) explaining that perceived usefulness has a significant impact on behavioural intention

to use. The results of the second analysis were rejected, Perceived Ease of Use (X2) had an insignificant and positive influence on Behavioral Intention to Use (Y). This phenomenon is caused by respondents who feel that there are obstacles in operating e-commerce. The results of this study are not in line with (Nur Faizah, 2021) explaining that Perceived ease of use can significantly and positively increase behavioural intention in the use of smart shop applications.

The results of the third hypothesis analysis were accepted, Perceived Usefulness (X1) had a significant and positive influence on Satisfaction (Z). This phenomenon explains that the magnitude of the benefits provided by e-commerce is able to increase consumer satisfaction. Users will feel satisfied if e-commerce users feel the benefits of the system used. The higher the benefits felt by users over the e-commerce used, it will increase their satisfaction or the higher perceived usefulness will increase user satisfaction and vice versa, the lower perceived usefulness will decrease user satisfaction (Lidiya et al., 2020).

The results of the fourth hypothesis analysis were accepted, Perceived Ease of Use (X2) had a significant and positive influence on Satisfaction (Z). This phenomenon explains that perceived ease of use reduces a person's effort (both time and energy) in assisting activities, and with information technology, it is considered that its use is more flexible, easy to understand, and easy to operate (compatible). The extent to which a person believes that using a technology will improve their job performance is referred to as a perception of usability. The results of the study are in line with (Jalil Shah Scholar & Attiq, 2016) which explains that users of information systems will feel satisfied if they see the benefits of the system they use. The greater the benefits received by the user for a system used, the greater the satisfaction, or the greater the perceived usefulness, the greater the user satisfaction, and the smaller the perceived usefulness, the smaller the user satisfaction.

The results of the fifth hypothesis analysis were accepted, Satisfaction (Z) had a significant and positive influence on Behavioral Intention to Use (Y). This phenomenon explains that e-commerce users are satisfied with the convenience and benefits obtained, so that they are able to increase the intention to reuse e-commerce. The results of the study are in line with (Berjoyo, et al, 2016) which explains that satisfaction has a significant and positive influence on Behavioral Intention to Use.

The results of the analysis of the sixth hypothesis were accepted, Perceived Usefulness (X1) had a significant and positive influence on Behavioral Intention to Use (Y) mediated by Satisfaction (Z). This phenomenon explains that the convenience received by consumers in terms of the benefits of using e-commerce is able to save time, costs, increase work productivity, and e-commerce can be used 24 hours a day to increase consumer satisfaction, so that consumers are interested in using e-commerce again.

The results of the seventh hypothesis analysis were accepted, Perceived Ease of Use (X2) has a significant and positive influence on Behavioral Intention to Use (Y) mediated by Satisfaction (Z). This phenomenon explains that the convenience received by consumers in terms of ease of use of e-commerce is able to facilitate and clarify instructions for use, ease of operating services, and ease of doing whatever is desired can increase consumer satisfaction, so that consumers are interested in using e-commerce again.

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CONCLUSION

The conclusions in the study are that (1) Perceived Usefulness (X1) has an insignificant and positive influence on Behavioral Intention to Use (Y), (2) Perceived Ease of Use (X2) has an insignificant and positive influence on Behavioral Intention to Use (Y), (3) Perceived Usefulness (X1) has a significant and positive influence on Behavioral Intention to Use (Y). Satisfaction (Z), (4) Perceived Ease of Use (X2) has a significant and positive influence on Satisfaction (Z), (5) Satisfaction (Z) has a significant and positive influence on Behavioral Intention to Use (Y), (6) Usefulness (X1) has a significant and positive influence on Behavioral Intention to Use (Y) mediated by Satisfaction (Z), and (7) Perceived Ease of Use (X2) has a significant and positive influence on Behavioral Intention to Use (Y) mediated by Satisfaction (Z).

REFERENCE

Abdul Gaffar Khan (2016). Electronic Commerce: A Study on Benefits and Challenges in an Emerging Economy. Jurnal disajikan pada Global Journal of Management and Business Research: B Economics and Commerce. Volume 16. Issue 1.

Astria, V., & Basyir, M. (2022). Pengaruh Perceived Usefulness Dan Perceived Ease of Use Terhadap Behavioral Intention Yang Dimediasi Oleh User Satisfaction Pada Nasabah Pengguna Aplikasi Bca Syariah Mobile Di Kota Banda Aceh. *Jurnal Ilmiah Mahasiswa Ekonomi Manajemen SINTA*, 4(2), 379–390. Retrieved from http:jim.unsyiah.ac.id/ekm

Bankole, F. O., Bankole, O. O., & Brown, I. (2011). Mobile Banking Adoption in Nigeria. *Electronic Journal of Information Systems in Developing Countries*, 47(1), 1–23. doi: 10.1002/j.1681-4835.2011.tb00330.x

Berjoyo, A., Ruiz-Moreno, C., & Castro, I. (2016). A mediating and multigroup analysis of customer loyalty. European Management Journal 12, 1-13.

Davis. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science*, 35(8), 982–1003.

Hair, J. F., Hult, G. T. M., Ringle, C. M., dan Sarstedt, M. (2017). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM) (Ed. 2). United States of America: SAGE Publications, Inc.

Jalil Shah Scholar, H., & Attiq, S. (2016). Impact of Technology Quality, Perceived Ease of Use and Perceived Usefulness in the Formation of Consumer's Satisfaction in the Context of E-learning. Abasyn Journal of Social Sciences, 9(1), 9.

Kotler and keller. (2017). *Manajemen Pemasaran* (Pertama). Jakarta: Erlangga.

Kusuma, J. (2019). Pengaruh Customer Perceived Value Terhadap Behavioral Intention Dengan Customer Satisfaction Sebagai Variabel Intervening: Studi Kasus Restoran Cepat Saji Di Tunjungan Plaza. *Agora*, 7(1), 1–6. Retrieved from https://publication.petra.ac.id/index.php/manajemen-bisnis/article/view/8146/7330

Lidiya, T., Arta, F., & Azizah, S. N. (2020). Pengaruh Perceived Usefulness, Perceived Ease Of Use dan E-Service Quality Terhadap Keputusan Menggunakan Fitur Go-Food dalam Aplikasi Gojek. Jurnal Ilmiah Mahasiswa Manajemen, 2(2), 291–303. http://journal.stieputrabangsa.ac.id/index.php/jimmba/index

Lilyana, F., Tahmat, T., & Rijayana, I. (2022). Development E-Commerce Web Site. *Adpebi International Journal of Multidisciplinary Sciences*, *1*(1), 196–205. Retrieved from https://journal.adpebi.com/index.php/AIJMS/article/view/277

Nur Faizah. (2021). Pengaruh Perceived Ease of Use dan Perceived Usefulness terhadap Keputusan Penggunaan Aplikasi Tokopedia melalui Trust sebagai Variabel Intervening. *Jurnal Ilmu Manajemen*, *9*(2), 708. doi: 10.26740/jim.v9n2.p708-722

Riswandi. (2019). Transaksi On-Line (E-Commerce) : Peluang dan Tantangan Dalam Perspektif Ekonomi Islam. *Angewandte Chemie International Edition, 6(11), 951–952.*, *13*(April), 15–38.

Shih dan Huang. (2009). No TitleThe Actual Usage of ERP Systems: An Extended Technology Acceptance Perspective. *Journal of Research and Practice in Information Technology*, *41*(3), 263–276.

Shim & Kim. (2008). Forecasting Customer Switching Intention in Mobile Service: An Exploratory Study of Predictive Factors in Mobile Number Portability. *Technological Forecasting and Social Change*, *75*(6), 854–874.

Widani, N.M., Abiyasa, A.P., Darma, G.S. (2019). Menguji Ketajaman Implementasi E Commerce Dalam Penjualan Kamar Hotel di Bali, Jurnal Manajemen & Bisnis, 16 (2): 79-98.