Analysis Behavior Intention in Using Business-to-Business E-Commerce Case Study in MSMEs

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Abstract

An integral part of the Indonesian economy is e-commerce. However, there are still many MSMEs who prefer offline trading. This study analyzes business-to-business e-commerce through the lens of the Technology Acceptance Model. This research aim to examine the influence of perceived usefulness and perceived ease of use on behavior intention and actual usage of business-to-business e-commerce, as well as the influence of behavior intention and actual usage. The respondents of this research were business-to-business platform users, totaling 57 MSMEs in Jakarta and surrounding areas. The data was processed with partial least squares (PLS) and using Bootstrap 500. The research results showed the influence of perceived usefulness, and behavior intention had no effect on actual usage; perceived ease of use affected perceived usefulness has a stronger role than perceived ease of use in actual usage, but perceived ease of use has a bigger role than perceived usefulness in influencing behavioral intention. Platform management must improve the platform's user benefits in order to boost e-commerce usage.

Keywords: behavior intention; e-commerce; business to business; technology acceptance model; MSME

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Introduction (TNR, 12pt, bold)

Currently, e-commerce is driving the Indonesian economy. Formal e-commerce transactions are expected to be valued at \$5 billion USD, while informal e-commerce transactions are expected to be valued at \$3 billion USD.. According to Bank Indonesia, e-commerce transactions are growing rapidly. In 2021, ecommerce transactions were worth IDR 401 trillion, and in 2022, they are predicted to reach IDR 526 trillion (Elena, 2022).

Trading goods and services over the Internet is known as e-commerce. Based on the interactions between stakeholders involved in this trade, ecommerce is divided into B2B, B2C, and C2C (Chaffey & Chadwick, 2019; D. Chaffey, 2019). B2B e-commerce is a trade between organizations using the internet and web technology (Ocloo et al., 2020; Sila, 2015). According to Sila (2015), B2B e-commerce offers a way to bring people and technology together by exchanging data to make supplier-customer interactions easier. Business-tobusiness e-commerce is crucial. because it is considered more profitable and the transaction volume is greater (Hussein et al., 2019). This research discusses B2B behavior in e-commerce.

Based on empirical studies, e-commerce is very beneficial for large companies and SMEs. Ecommerce helps to reach consumers, increase global competitiveness, and promote company scaling, bridging distances to consumers, saving time and costs and increasing competitive advantage (Costa & Castro, 2021). B2B e-commerce influences organizational growth, innovation, differentiation cost reduction (Xuhua et al., 2019), and the success of businessesand the success of businesses (Anser et al., 2020).

Even though the opportunities are great, many people are still not interested in e-commerce (EC). Based on a survey by the Indonesian Statistics Agency, 73.07% said they were more comfortable selling offline, and 33.47% were not interested in selling online. Thus, the transaction value is still relatively low (BPS Indonesia, 2021). This condition is a challenge for the Indonesian government, which is targeting 30 million MSMEs to enter the digital ecosystem. In 2021, digital MSMEs will only reach 13.5 million, or 21 (Kemenkopukm Press Release, 2021).

Costa and Castro (2021) conclude that EC adoption is determined by external and internal factors. External factors that influence EC adoption are external pressure, social and industrial pressure, business environment, the existence of infrastructure, government support, public policy, security, and trust. Internal factors that influence EC are organizational readiness, technological readiness, technological awareness, digital literacy, benefits. resource availability. perceived investment and maintenance costs, expertise, and resistance and resistance to digital change.

Therefore, it is necessary to know the behavior of MSMEs in adopting B2B e-commerce. Research tests the relationship among perceived ease of use, perceived usefulness, and actual usage toward behavior intention.

Literature Review

Business-to-business (B2B) e-commerce refers to transactions conducted between companies using websites and the internet (Ocloo et al., 2020). Through information sharing, B2B ecommerce connects people and technology to enable interactions between customers and suppliers. Based on the opinion of Sila (2015) and (2013), business-to-business e-commerce (B2B EC) is an electronic information system designed to effectively handle transactions between trading Through information sharing, B2B e-commerce connects people and technology to enable interactions between customers and suppliers (Ocloo et al., 2020). In order to improve communication between suppliers and customers, business-to-business e-commerce offers a way to link technology and people through information sharing. Based on the opinions of Sila (2015) and (2013), business-to-business e-commerce (B2B EC) is an electronic information system designed to effectively handle transactions between trading partners (Alsaad et al., 2021). The term B2B ecommerce is often also called electronic business, electronic commerce, and web technology (Xuhua et al., 2019). The theoretical foundation is a reference or framework for solving problems. Researchers must present an in-depth study of theories related to research. The theories described in this section are well-established theories such as agency theory, organization theory, production theory, consumption theory, behavioral theory, and so on.

Business-to-business (B2B) e-commerce transactions refers to conducted between companies using websites and the Internet (Ocloo et al., 2020). B2B e-commerce provides a means of connecting technology and people through information sharing to facilitate interactions between suppliers and customers. Based on the opinion of Sila (2013) and (2015), business-tobusiness e-commerce (B2B EC) is an electronic information system designed to effectively handle transactions between trading partners (Alsaad et al., 2021). The term B2B e-commerce is often also called electronic business, electronic commerce, and web technology (Xuhua et al., 2019).

It is crucial to apply the TOE B2B ecommerce method as, according to empirical evidence, using B2B e-commerce influences growth, differentiation, cost savings, and quality, as well as indirectly affecting competitiveness (Hamad et al., 2015, 2018). The use of B2B ecommerce influences the operational, managerial, and strategic activities of SMEs in Indonesia (Hadi Putra & Santoso, 2020).

There are several elements that affect how widely accepted e-commerce is. Information technology acceptance is explained by a number of theoretical frameworks used by researchers, such as the Technology Organization Environment, the Unified Theory of Adoption and Use of Technology (UTAUT), and the Theory Acceptance Model (TAM) (TOE) (Houache et al., 2019). TAM is a strong theory for explaining the adoption of information technology in the IT sector and is not only suitable for explaining IT adoption but also explaining user interactions with IT (Bryan & Zuva, 2021). This research uses TAM because the sample for this research is people who already use IT.

The Theory Acceptance Model (TAM) initiated by Davis (1993) explains that external stimuli in the form of information technology are responded to in the form of cognitive, affective, and behavioral responses. Cognitive responses in the form of perceived usefulness and perceived ease of use. While the behavioral reaction takes the form of actual technology use, the affective response manifests as views regarding technology use. While the behavioral reaction takes the form of actual technology use, the affective response manifests as views regarding technology use. Acceptance of information technology is influenced by perceived ease of use and perceived usefulness. Perceived usefulness describes the extent to which someone believes that using a particular system will improve their work performance (Davis, 1989a). Perceived ease of use describes the extent to which a person believes that using a particular system will be free of effort.

Fishbein and Ajzen's Theory of Reasoned Action (TRA), which describes user behavior in the context of information technology, is the source of TAM. Money & Turner (2004) modified TAM based on Money and Turner (2004) found that perceived usefulness and perceived ease of use had a direct effect on behavior intention, and perceived ease of use affected behavior intention through perceived usefulness. Perceived usefulness and perceived ease of use have a direct effect on system usage. Behavior and intention influence system usage.

The influence of perceived ease of use on behavior intention is supported by Andarwati et al. (2020) and Hussein et al. (2019). Based on these conclusions, a hypothesis is formulated:

H1: perceived ease of use influences behavior intention.

The influence of perceived usefulness on behavior intention is supported by Andarwati et al. (2020) and Wijayanto & Seno (2020). Hussein et al. (2019), and Azhar & Shah (2021). Based on these conclusions, a hypothesis is formulated:

H2: perceived usefulness influences behavioral intention.

Behavior intention toward actual usage is supported by Andarwati et al. (2020) and Pusfitaningrum et al. (2021). Based on these conclusions, a hypothesis is formulated.

H3: behavior intention influences actual usage.

Perceived usefulness influences actual usage (Andarwati et al., 2020; Wijayanto & D. Seno, 2020). Based on these conclusions, a hypothesis is formulated:

H4: perceived usefulness influences actual usage.

Perceived ease of use influences actual usage (Andarwati et al., 2020; Wijayanto & D. Seno,

2020). Based on these conclusions, a hypothesis is formulated:

H5: perceived ease of use influences actual usage.

The influence of perceived ease of use on perceived usefulness (Andarwati et al., 2020; Azhar & Shah, 2021; Pusfitaningrum et al., 2021) Based on these conclusions, a hypothesis is formulated:

H6: perceived ease of use influences perceived usefulness.

In this research, we adopted research from Money & Turner (2004).

Methods

The population of this research is MSMEs that have become members of Indonetwork. Respondents were selected using a purposive sampling method; that is, respondents had been members for three years. The number of respondents collected was 57. According to Roscoe (1975) in Hill (1998), the minimum sample size is 30 people, and the maximum is 500 people. Variable measurements were carried out on a Likert scale of 1 to 5. Variable measurements are described in Table 1.

Data is processed using Partial Least Squares (PLS). The reason for using PLS is that the sample size is relatively small (Hair, Jr. et al., 2017). The data processing steps are the assessment of the measurement model (outer model), the assessment of the structural model (inner model), and hypothesis testing.

Evaluation of the measurement model (outer model) is carried out by testing the validity and reliability of variable measurements using internal consistency (composite reliability), convergent validity (average variance extracted), and discriminant validity tests (Hair, Jr. et al., 2017). Internal consistency is measured using Cronbach's alpha and composite reliability. Based on Nunaally & Bernstein (1994) in Hair Jr. et al. (2017), an internal consistency value of 0.7 to 0.9 is considered satisfactory. Internal consistency describes variable indicators measuring the same construct. Outer loading also shows the reliability of the indicator, and the outer loading value should be 0.708 or more. The AVE value should exceed 0.50 or more. An AVE value of 0.50 explains that the variable can be explained by 0.5 of its indicators (Hair, Jr. et al., 2017). Discriminate validity is tested by comparing the loading factor values of all indicators of one variable with the loading factor values of all indicators of other variables. Discriminate validity is also measured by the Fornell-Larcker criterion. The AVE square root value of each variable must be higher than the construct's correlation value with other variables.

The assessment of the structural model (inner model) is carried out by examining the coefficients between variables and the values of the coefficient of determination (R2), predictive relevance (Q2), and goodness of fit (Hair, Jr. et al., 2017). The coefficient of determination (R2) value is between 0 and 1. R2 1 or close to 1 indicates a strong correlation, so it is better. An R2 value of 0.25 has a weak effect, 0.5 has a moderate effect, and 0.75 has a substantial effect (Chin, 2010). The Q2 value ranges from 0 to 1. A Q2 value of more than 0 indicates that the model built has a predictive relevance value (Chin, 1998). The hypothesis is tested with the t-test.

Table 1. Measurement Of Variables And References
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Variables and Indicators	Reference(s)	
Perceived usefulness (PU)		
1. This platform supports the continuity of my business	(Davis, 1989b)	

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(Davis, 1989b)
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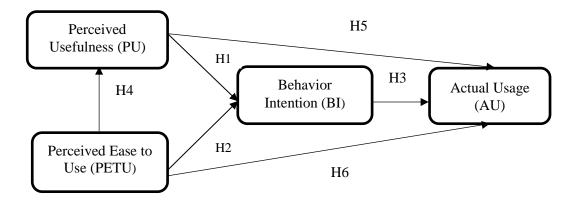


Figure 1. Theoretical model

Results and Discussion (TNR, 12pt, bold)

The respondents in this research are consumers who are members of the Indonetwork Marketplace. The number of samples in this study was 57 from human respondents. The respondent's business location is in the Jabodetabek area. The business category is industrial machinery, and the minimum joining period is 3 years as a member of Indonetwork. Respondent data obtained in the research included 48% of the operational areas of MSME actors, 52% of the business categories of MSME actors, and 50% of the length of business of MSME actors. Then, if we look at the feasibility of the appropriate data, there are 37% with operational areas around Jakarta Bogor, Depok, and Bekasi. 12% with a minimum joining period of 3 years, and the remaining 8% in the industrial machinery business category.

Table 2. Indicator Average and Standard Deviation	n
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Indicator	Average	Deviation Standar
PU1	4.04	0.65
PU2	4.05	0.63
PU3	3.93	0.62
PU4	4.04	0.62
PU5	4.05	0.61
PEOU1	4.04	0.65
PEOU2	3.97	0.75
PEOU3	3.95	0.67
PEOU4	3.90	0.69
PEOU5	3.75	0.73
PEOU6	3.95	0.69
BI1	3.84	0.62
BI2	4.00	0.65
BI3	3.91	0.73
BI4	3.90	0.67
AU1	3.75	0.68
AU2	3.84	0.83
AU3	3.68	0.86
ource: proces	ssed data (2024))

e quality of this research data

The quality of this research data. The standard deviation of each indicator is lower than the indicator average.

Measurement Model Testing (Outer Model)

Outer loading on Perceived Usefulness was the lowest at 0.798 and the highest at 0.895, the lowest perceived ease of use was 0.711 and the highest was 0.870, the lowest behavior intention was 0.811 and the highest was 0.882, the lowest actual use was 0.878 and the highest was 0 (see table 3). AVE (Average Variance Extract) perceived usefulness 0.712, perceived ease of use 0.683, behavior intention 0.784, and actual use 0.823, thus fulfilling convergent validity and reliability because the AVE of all variables is more than 0.50 (Hair, Jr et al., 2017). The Cronbach's Alpha and composite reliability values for all variables are >0.7, thus all constructs are reliable (Hair, Jr et al., 2017)).Thus, the indicators for all variables have adequate reliability (Hair, Jr et al., 2017) meet the requirements for convergent validity, and have a high level of validity.

Discriminant validity indicates that different constructs manifest variables that should not be highly correlated. Discriminant validity testing was carried out by looking at the cross-loading value and showing that each variable must be greater than 0.60. The discriminant validity of the latent contract is established by comparing the squared AVE and the correlation coefficient between variables (Hair, Jr. et al., 2017).

The cross-loading results in Table 3 show that the correlation value of a construct with its indicators produces a value that is greater than the correlation value with other constructs. Thus, all the constructs or latent variables of this research have good discriminant validity (Hair, Jr. et al., 2017).

Latent Variable	Indicator	Loading	Cronbach's Alpha	Composite Reliability	AVE
Perceived	PU1	0.798	0,899	0.933	0,712
usefulness	PU2	0.895			
	PU3	0.828			
	PU4	0.811			
	PU5	0.882			
Perceived	PEOU1	0.732	0,882	0.928	
ease of used	PEOU2	0.870			0,631
	PEOU3	0.711			
	PEOU4	0.761			
	PEOU5	0.853			

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_		PEOU6	0.825				
Behavior		BI1	0.811	0,892	0.011	0,764	
i	ntention	BI2	0.882		0.911		
		BI3	0.873				
A	Actual use	AU1	0.901	0,892		0,823	
		AU2	0.941		0.925		
		AU3	0.878				
So	ource: process	sing data (2024)				
			Table 4	. Cross Loading Res	ult		
No.	Variable	Perceived Usefulness (Perceived Ease of Used (X2)	Behavior Intention (X3)	Actual Use (Y)	
1	PU1	0.798		-0.794	-0.721	0.335	
2	PU2	0.895		-0.173	-0.281	0.335	
3	PU3	0.828		0.137	-0.004	0.335	
4	PU4	0.811		0.446	1.877	1.744	
5	PU5	0.882		1.630	1.877	1.191	
6	PEOU1	-0.452		0.732	-0.306	-0.072	
7	PEOU2	-0.037		0.855	-1.567	0.520	
8	PEOU3	1.063		0.837	-0.716	-0.072	
9	PEOU4	1.525		0.762	-0.088	1.744	
10	PEOU5	0.747		0.669	-0.716	0.784	
11	PEOU6	0.344		0.706	0.155	0.335	
12	BI1	-0.452		-0.794	0.811	0.376	
13	BI2	1.859		1.367	0.882	0.335	
14	BI3	-0.753		-1.401	0.873	-0.666	
15	BI4	0.029		-0.654	0.869	0.638	
16	AU1	1.859		0.826	0.155	0.901	
17	AU2	-0.753		0.137	0.155	0.941	
18	AU3	-0.019		1.405	0.110	0.878	

Source: processing data (2024)

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The R-square of the actual system used is 0.501, and the adjusted R-square is 0.473. The R-square cut-off is 0.5 (Hair, Jr. et al., 2017); therefore, this research model meets the criteria for convergent validity. Perceived usefulness, perceived ease of use, and behavioral intention can explain actual use by 50.1%, and the remaining 49.9% is explained by other constructs outside those examined in this research. Q2 of this study is 0.748999.

Thus the model built is good (Ghozali,

2014). Through bootstrapping, the Hypothesis test results are as follows.

Variabel	SS0	SSE	Q2 (=1-SSE/SS0)
Perceived usefulness	285000	126.105	0.558
Perceived ease of use	342000	178.433	0.478
Behavior intention	228000	92.653	0.594
Actual usage	171000	67402	0.606

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Table 6. Hypothesis Test Results							
Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Conclusion	
Perceived Usefulness (X1) - > Behavioral Intention Use (X3)	0.324	0.315	0.123	2.645	0.008	Significant	
Perceived Ease of Use (X2) -> Behavioral Intention Use (X3)	0.799	0.806	0.044	18.003	0.000	Significant	
Behavioral Intention Use (X3) -> Actual Usage (Y)	0.11	0.097	0.181	0.611	0.542	not significant	
Perceived Ease of Use (X2) -> Perceived Usefulness (X1)	0.759	0.763	0.058	13.126	0.000	Significant	
Perceived Usefulness (X1) - > Actual Usage (Y)	0.597	0.585	0.096	6.210	0.000	Significant	
Perceived Ease of Use (X2) -> Actual Usage (Y)	0.588	0.588	0.098	5.987	0.000	Significant	

Sources: data processed (2024)

The influence of perceived usefulness on intention behavior has a path coefficient of 0.324 and a p-value of 0.008, so the perceived usefulness of B2B e-commerce influences intention to use behavior. The conclusion supports Andarwati et al. (2020) and Hussein et al. (2019). The influence of perceived ease of use on behavior intention has a path coefficient of 0.799 and a p-value of 0.000. The result is in line with Andarwati et al. (2020), Wijayanto & Seno (2020), Hussein et al. (2019), and Azhar & Shah (2021). to increase the desire to use the B2B e-commerce platform in the future and recommend it to potential users.

Perceived usefulness has a stronger role than perceived ease of use in actual usage. Therefore, platform managers need to increase the benefits of using the platform. Based on the average value of perceived usefulness in Table 3, platform managers need to increase the usefulness of the platform by increasing sales and business continuity for users through platform promotion so that visitors and platform members increase. Platform managers should also increase technological capacity and simplify standard operating procedures so that ecommerce platform users can save time.

Based on the results of hypothesis testing, perceived usefulness can be increased by increasing perceived ease of use. Thus, so that platform users can experience the benefits of the ecommerce platform, managers need to increase the ease of use. From the average value in Table 3, it makes operation easier, more flexible for users, and easier to understand platform use and access. Platform managers need to provide contact persons to help users and conduct surveys to obtain information about operating difficulties to improve platform operations. Ease of use of the platform is very essential because it has an important role in increasing behavioral intention to use so that users will continue to use the platform in the future and recommend it to other parties.

Conclusions

Based on test results on 57 B2B e-commerce users, it was concluded that perceived usefulness had an effect on behavioral intention, perceived ease of use had an effect on behavior intention, behavioral intention had no effect on actual usage, perceived ease of use had an effect on perceived usefulness, perceived usefulness had an effect on actual usage, and perceived ease of use influenced actual usage.

This research is a case study, it is recommended to test similar models on other platforms and use larger samples. The behavior of existing users and new users may be different, making it interesting for future research

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