



# Combination of Technology Acceptance Model and Decision-making Process to Study Retentive Consumer Behavior on Online Shopping

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## ABSTRACTS

During the spread of the Covid-19 virus, generally the Indonesian people began to switch from conventional markets to buying and selling goods and services online with various features and conveniences offered to users. The purpose of this study is to find out the extent to which indicators of satisfaction and trust influence consumer attitudes and behavior when deciding to make transactions at online shops. The study method uses a combination of TAM (Theory Acceptance Model) and DMP (Decision Making Process) models using a sampling of 110 student respondents and the public who have made transactions in online shops. Data analysis using SEM (Structural Equation Modeling) theory. The results showed that satisfaction and trust will influence consumers in shaping.

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## 1. INTRODUCTION

Changing people's behavior within the framework of online stores is a big challenge for companies to be able to serve all people's needs and wants. Information released by the Ministry of Communication and Information explained that the value of online shopping transactions in 2021 will reach

IDR 337 trillion and the number of Internet users will reach 210 million (Rose et al., 2015). Therefore, it can be concluded that the possibility of development in online trading is very open. This encourages several large companies to invest in the advancement of online business in Indonesia. The growing potential of online commerce is

expected to produce more technology entrepreneurs and encourage the growth of MSMEs according to the characteristics of each company to utilize every potential they have (Haryanti & Subriadi, 2020). ICD Research Foundation estimates the growth potential of online shop business in Indonesia at 33.2% during 2020-2021 and is one of the countries with the fastest and largest online shopping-based business growth rate in the Asia-Pacific region (Setyowati et al, 2021). The increase in online commerce activity is not in accordance with the growth of online shop buyers. This is due to a number of barriers, including low credit and debit card accessibility as well as shoppers' reluctance to shop online (Nagy & Hajdú, 2021). Then based on Nielsen statistical surveys it is known that buyers will look for data on the Internet before choosing to buy a product they need. The trust to buy products in online shopping is a barrier difficult to control. because it is related to customer views and behavior (Dennis et al., 2010). Therefore, to study the attitude and behavior of buyers towards online shopping so that business organizations can take advantage of existing opportunities. It is possible to measure buyer behavior with a social behavior approach that acts as a variable that influences customer views and behavior in online shopping. To measure buyer behavior must be possible with a social behavior approach that acts as a variable that influences customer perspective and behavior in shopping at online shops (Petcharat & Leelasantitham, 2021). In estimating the use of data innovation, there are several models that can be used, such as the technology acceptance model (TAM) and the decision making process (DMP), which states that Individual

behavior is a measure of power and activity whereby individuals will leverage data frameworks and data innovations if it is beneficial (Wei et al., 2018). Customer behavior in online commerce is also influenced by the satisfaction of making transactions on the Internet and is a major factor that makes buyers prefer online stores. Furthermore, buyer satisfaction with online transactions is proven to affect customer confidence, which in turn will affect buyers' views on repurchases. Given the problems, obstacles and difficulties, as well as the potential created by online merchants, the online shopping sector is expected to encourage the improvement of the Indonesian economy (Kim, 2020).

## 2. METHOD

The study method uses a combination of TAM (Theory Acceptance Model) and DMP (Decision Making Process) models. Due to the large population and limited time and cost to 110 respondents from the population studied. In addition, research methods can be used to evaluate and compare results and draw conclusions. Specimen collection techniques through targeted sampling of students and communities. In determining research specimens based on several criteria, namely students who are active, willing to answer surveys distributed by researchers, a minimum sample size of 15% of the total population, and have already done a set online shopping transaction (see Tables 1 and 2). The method of collecting data is carried out by distributing questionnaires through google forms to respondents with specified randomization criteria and observing directly the object to be studied. In this study the variables used are independent variables, moderator

variables and dependent variables. The independent variables used are Perceived Usefulness (X1), Perceived Ease of Use (X2), Evaluation Alternative (X3), Information Search (X4), moderator variables namely trust (Y1), satisfaction (Y2) and the dependent variable used is purchase (Z).

**Table 1. Respond**

Demographics		Total (N-384)	
		Frequency	percentage (%)
Gender	Male	24	26.8
	Female	86	73.20
Nationality	Indonesia	110	100
Age	18-35	81	29.17
	36-53	15	18.08
	54-65	14	17.05

**Table 2. Variable and Indicators**

Variable	Indicators
Perceived usefulness (X1)	Online shopping platforms help you search and buy products faster than offline shopping
	Online shopping platforms help you buy products cheaper than offline shopping
Perceived easy use (X2)	You can use online shopping platforms with your own gadgets
	Online shopping platforms have clear functions and are easy to understand
Evaluation alternative (X3)	The search function in online shopping platforms is necessary and benefits shoppers
	Intend to buy products before going to the shopping cart
	Functions in online shopping platforms help you to compare a product
Information Search (X3)	The search function on online shopping platforms is quite helpful
	Comparing the quality and price of similar products will make it easier for you to make a decision to buy
Perceived Trust (Y1)	Online shopping platforms have accurate and clear results such as product details and prices
	You are sure to get the purchased products from the online shopping platform
Satisfaction (Y2)	Online shopping platforms have accurate and clear results such as product details and prices
	You are sure to get the purchased products from the online shopping platform
	An online shopping platform is required for you
Repurchase (Z)	You can buy back from online shopping platforms
	You have repurchased the same product from an online shopping platform

### 3. RESULTS AND DISCUSSION

This analysis was used to describe the results of a survey consisting of the number of students and the general public who answered a questionnaire that measured their trust and satisfaction in using online shopping (Bhatti et al., 2020). The data was processed using Smart Partial Least Squares (PLS) software version 3.2.9 and Microsoft Excel Windows 2016 version.

The variables analyzed in this study include satisfaction before and after transactions (X1, X2, X3 and X4), trust (Y1), and satisfaction of online shopping repurchases (Y2) and purchases (Z) (Riantini, n.d.). The research instrumentation uses Likert scale methodology.

The Likert scale consists of two types of statements, positive and negative, with positive statements scoring 4 points for strongly agreeable responses and strongly disagree responses as 1 point using Structural Equation Modeling (SEM) and PLS data analysis techniques to develop predictive theories related to satisfaction and trust in the use of online shopping in students and the community (Fedorko et al., 2018). PLS model analysis

is based on predictive measures with non-parametric properties due to convergence validity. Here the measurement of individual reflections correlates with discriminant validity values comparing loading values of  $> 0.5$  and squared values. Root of extracted mean variance (AVE) for each component with correlation between components in the model (Sheth, 2020).

Discriminant validity is good if the AVE value is greater than the correlation value between the component and the model. Structural models are tested using R squared for dependent structures, Stone Geysor Q-squared test to test predictive associations, t tests and significance for structural path parameters. Data analysis was carried out by entering all respondents' data and testing convergence validity, discriminant validity and significance (Cai et al., 2023).

The results of the calculation explain that all indicators meet a construct loading value of  $>0.5$  so that all indicators can be used in tests using the PLS model. Referring to the results of the calculation of convergence validity determined loading values per indicator is shown in Table 3.

**Table 3. Convergent Validity Value**

Evaluation Alternative		Uses	Facilities	Belief	Satisfaction	Information Search	Purchase
EA1	0,879						
EA2	0,830						
IS2						0,737	
IS3						0,941	
PEU1			1,000				
PS1					0,899		
PS2					0,897		
PT1				0,920			
PT2				0,880			
PU2		1,000					
RP2							1,000

**Table 4. Discriminant Validity**

	Evaluation Alternative	Uses	Facilities	Belief	Satisfaction	Information search	Purchase
Evaluation Alternative	0,855						
Uses	0,283	1,000					
Facilities	0,314	0,496	1,000				
belief	0,344	0,377	0,152	0,900			
Satisfaction	0,497	0,455	0,510	0,353	0,898		
Information Search	-0,099	0,167	0,272	-0,191	0,145	0,845	
Purchase	0,041	0,065	0,192	-0,069	-0,109	0,177	1,000

**Table 5. Average Variance Extracted (AVE) and Composite Reability**

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Evaluation of Alternative	0,633	0,644	0,844	0,731
Uses	1,000	1,000	1,000	1,000
Facilities	1,000	1,000	1,000	1,000
Belief	0,769	0,789	0,896	0,811
Satisfaction	0,760	0,760	0,893	0,806
Information Search	0,634	0,845	0,831	0,714
Purchase	1,000	1,000	1,000	1,000

**Table 6. Path Coefficient and Decision**

Original Sample (O)		Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Value
Evaluation Alternative -> Belief	0,232	0,257	0,099	2,331	0,020
Evaluation Alternative -> Satisfaction	0,320	0,314	0,113	2,836	0,005
Evaluation of Alternative -> Purchase	0,111	0,131	0,144	0,775	0,439
Uses -> Belief	0,371	0,352	0,104	3,554	0,000
Uses -> Satisfaction	0,143	0,146	0,094	1,511	0,132
Uses -> Purchase	0,051	0,055	0,158	0,325	0,745
Facilities -> Belief	-0,046	-0,054	0,125	0,367	0,714
Facilities -> Satisfaction	0,284	0,288	0,120	2,373	0,018
Facilities -> Purchase	0,305	0,315	0,135	2,258	0,025

The value discriminant validity, AVE and composite reliability, and path coefficient on fornell-larcker are shown in Tables 4 – 6.

Table 6 shows path coefficients is also known as significance and a measure of strength. This figure is used to interpret

the importance and strength of relationships between concepts.

This table has a range of path factor values from - 0.05 to + 0.05 for path coefficients. Value greater than 0.05 is considered a negative relationship, while a positive relationship is a value less than

0.05, which increases the strength of the relationship.

Table 6 Gives a detailed description of the table of path coefficients:

- H1A. Evaluation of alternatives has an effect on trust.
- H1B. Evaluation of alternatives has a significant effect on satisfaction.
- H1C. Evaluation of alternatives has no effect on purchasing.
- H2A. Usability has a significant effect on satisfaction.
- H2B. Usability has no effect on satisfaction.
- H2C. Usability has no effect on purchases.
- H3A. Convenience has a significant and positive effect on purchases.
- H1B. Evaluation of alternatives has a significant effect on satisfaction
- H2C. Usability has no effect on purchases
- H3A. Convenience has a significant and positive effect on purchasing
- H4A. Trust has no effect on satisfaction
- H4B. Trust has no effect on purchases
- H4C. Satisfaction affects purchases
- H5A. Seeking information has no effect on trust
- H5B. Seeking information has no effect on satisfaction.

### 3.1. Theory Acceptance Model (TAM)

This model was originally created by Davis and has become one of the most widely used models to explain how users receive new technologies.

This model was developed from the Theory of Reasoned Action and provides a basis for identifying how external variables such as beliefs, attitudes, and intentions influence the acceptance of new technologies (see Fig. 1) (Dennis et al., 2010). Perceived Usefulness Shows how far individuals will believe that utilizing technology improves the quality of their work (Moe & Fader, 2004).

### 3.2. Perceived Easy Easy of Use

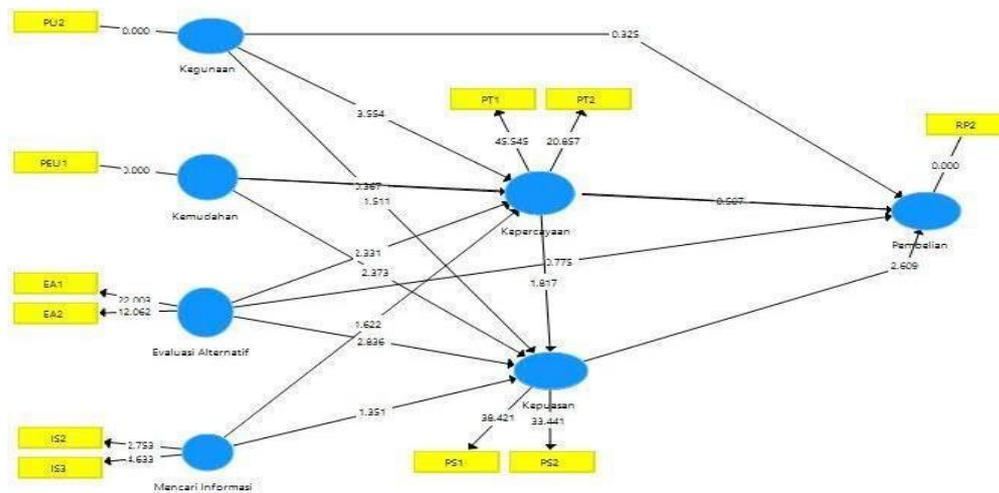
Means that individuals believe that using information technology systems will not cause problems or require too much effort when used (Hernández et al., 2011).

### 3.3. DMP (Decision Making Process)

The purchase decision process used in this study is related to the theory that the process is an orderly action and Information Search.

**Table 7. R Square Adjust Value**

	<i>R Square</i>	<i>R Square Adjusted</i>
Belief	0.254	0.226
Satisfaction	0.443	0.417
Purchase	0.105	0.062



**Fig. 1. Smart PIs Use TAM & DMA Model**

This process includes searching for and gathering information about relevant products or services. It gives you a wide range of service products worth buying (Cai et al., 2023).

### 3.4. Evaluation of Alternative

Involves evaluating and comparing different products or services worth buying (Deananda et al., 2020).

## 4. CONCLUSION

Customer satisfaction is influenced by the trust process. This research shows that

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customer attitudes and behaviors when shopping online are influenced by the process of customer trust in online stores. From this it follows that trust in online

stores have a significant impact on customer attitudes and behavior. In order for the online shop business to succeed optimally, the goal is to maintain customer trust well and protect MSME business actors who use information technology to further optimize sales.

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