

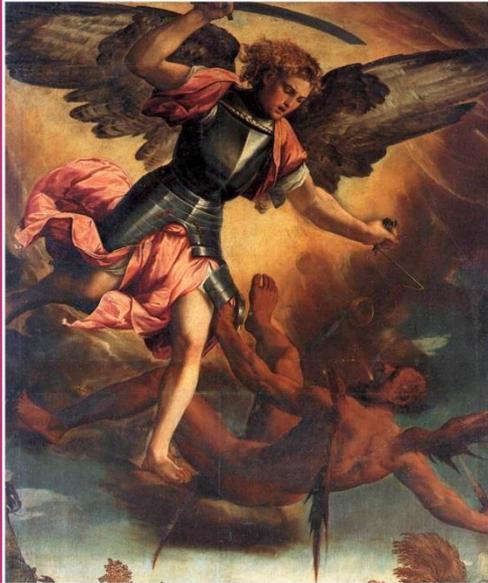
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# Understanding Factors Influence E-Commerce Use Behavior in Indonesia

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## Abstract

This study proposes a model as a tool to predict consumer behavior of e-commerce in Indonesia with the personal user as a unit analysis. Results show that Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Habit (H), Perceive Risk (PR), Perceive Convenience (PC), Trust (T) positive influence to Behavior Intention (BI). Only Facilitating Conditions (FC) not gives positive influence to BI. The Unified Model of Use Behavior become a fit model to predict e-commerce adoption with  $R^2$  result 0.85. In conclusion, the operator should improve the marketing strategy with refer to this research.

**Keywords:** E-commerce, adoption, behavior, factors, influence.

## *Los factores de comprensión influyen en el uso del comercio electrónico en Indonesia*

### **Resumen**

Este estudio propone un modelo como método para predecir el comportamiento del consumidor del comercio electrónico en Indonesia con el usuario personal como un análisis de unidad. Los resultados muestran que las Condiciones de facilitación (FC), Habit (H), Trust (T) y Behavior Intention (BI) proporcionan una contribución significativa al uso de Behavior (UB). El modelo de comportamiento de uso unificado se convertirá en un modelo adecuado para la adopción del comercio electrónico en Indonesia como un factor clave de éxito con el resultado R2 de 0.85. En conclusión, el operador puede mejorar la estrategia de marketing y, finalmente, es capaz de mejorar el rendimiento del negocio.

**Palabras clave:** comercio electrónico, adopción, comportamiento, factores, influencia.

### **1. INTRODUCTION**

The number of Internet users all over the world, including in Indonesia, is increasing significantly. Indonesia is the faster-growing internet user in Asia. Indonesia takes rank 3 for total user internet in Asia and no 6 for all over the world 123 million. Internet penetration gives impact to the growth of e-commerce usage which is a positive trend for potential revenue until US\$ 1506 Billion. But in Indonesian,

user e-commerce still lowers than other country, only 12% of the total internet user. This condition makes potentially lost revenue in Indonesia until US\$ 30 Billion.

Rahayu & Day (2015) this study aims to provide an overview of e-commerce adoption by SMEs in developing countries. Their use of e-commerce is dominated by marketing and purchasing and procurement activities. In the fact penetration in Indonesia still low as indicated that acceptance and use e-commerce still low. Use e-commerce as new technology is related to technology adoption problem which is user become important part related to acceptance and use. Indrawati (2016) find that technology adoption is a very important part of new product deployment and commercialization. Base on this data, this very important to study regarding acceptance and use of e-commerce with personality user as unit analysis.

## **2. RELATED WORKS**

Technology adoption is largely based on theory behavior which is rooted in the field of social psychology. There are several theories that focus on technology adoption. Starting from (1) the Theory of Reasoned Action (TRA), (2) the Theory of Planned Behaviour (TPB), (3) the Technology Acceptance Model (TAM), (4) the Motivational Model (MM), (5) the Combined TAM-TPB (C-TAM-TPB), (6) the Model of Personal Computer Utilization (MPCU), (7) Innovation

Diffusion Theory (IDT), (8) Social Cognitive Theory (SCT), and (9) the Unified Theory of Acceptance and Use of Technology (UTAUT). UTAUT is the latest technology adoption was to find and develop by UTAUT is a robust model that has the highest  $R^2 = 0.69$ .

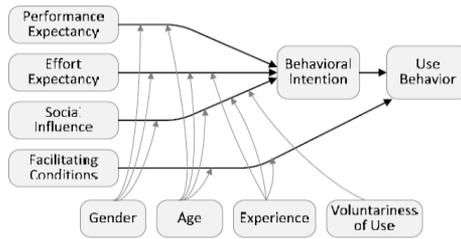


Figure 1: UTAUT Model Diagram

This research also extended of UTAUT model which is implementing on system e-commerce that contains online transaction.

	Indrawati (2016)	Indrawati (2014)	Im, Hong, Kang (2010)	Peters & Heuvelman (2007)	Sundaravej (2006)
Performance Expectancy (PE)	✓	✓	✓	✓	✓
Effort Expectancy (EE)	✓	✓	✓	✓	✓
Social Influence (SI)	✓	✓	✓	✓	✓
Facilitating Conditions (FC)	✓	✓	✓	✓	✓
Price Value (PV)	✓	✓			

Habit (H)				✓	
Attitude (A)				✓	✓
Self-Efficacy (SE)					✓
Anxiety (A)					✓
Content (C)	✓	✓			
Behaviour Intention (BI)	✓	✓	✓	✓	✓

Table 1: Several Studies base on UTAUT Model

The first model UTAUT model consists of four independent variables, these are Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Condition (FC).

### 3. MODEL AND HYPOTHESIS DEVELOPMENT

Perceived Risk (PR) refers to the customer’s perception of financial risk and quality risk (Aldhmour & sarayrah, 2016). This variable also has a definition as consumer personal prospect of misery, a loss in chase of a preferred result, also as internet banking which is subjectively strong-minded hope of loss by an online bank user in considering a precise deal (Fadare, 2016; Fateminasab, 2014). Perceived Convenience (PC) refers to consumers’ perceived of flexible time and effort to affect transaction, easy to find information and easy to transaction. Other researches give a definition of this variable regarding to the time, place, and acquisition and simple to use in online shopping. Trust (T) refers to believe regarding competence,

integrity and benevolence. The other researches also give a definition as belief of related reliability, efficiency, security, comfort, dependence and confidence (Jham, 2016; Dalir et al, 2014). Behavior Intention (BI) refers to intentional to use (Farzin & Dahlan, 2016). This variable also has a definition as intentional individuals behave to accept and use of a system (Indrawati, 2014). Use Behavior (UB) refer to individual believe usage system. This variable also refers to activity frequency to use system (Indrawati, 2016; Ameen et al, 2018). Base on a literature review on this research there are several hypotheses below:

H1: PE has positive significant influence on BI to use e-commerce.

H2: EE has positive significant influence on BI to use e-commerce.

H3: SI has positive significant influence on BI to use e-commerce.

H4: FC has positive significant influence on BI to use e-commerce.

H5: H has positive significant influence on BI to use e-commerce

H6: PR has positive significant influence on BI to use e-commerce

H7: PC has positive significant influence on BI to use e-commerce.

H8: T has positive significantly influence BI on use e-commerce.

H9: BI has positive significant influence on UB e-commerce.

H10: FC has positive significant influence on UB e-commerce.

H11: H has positive significantly influence on UB e-commerce.

H12: T has positive significantly influence on UB e-commerce.

The model used in this research is as figure 2.

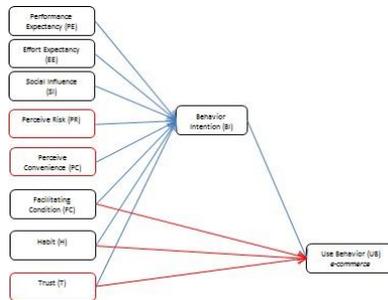


Figure 2: The proposed model of e-commerce behavior adoption in Indonesia

Source: Research e-commerce behavior adoption in Indonesia

#### 4. METHODOLOGY

The study is focus to find the fit model of e-commerce use behavior. The model was developed by literature review and in-depth interview with the expert. To validate the model, the study also conducts cross check by analyzing data from the survey. Item survey builds by developing a construct that refers to previous research which is found from reputation journal. The survey respondent comes from several backgrounds, the variety of age, education and gender. A primary survey was conducted in 2017 with 214 respondents (Ph.D. 3, Master 5, Graduate 24, senior high school 182) to find the real fact regarding several factors become a reason to use e-commerce.

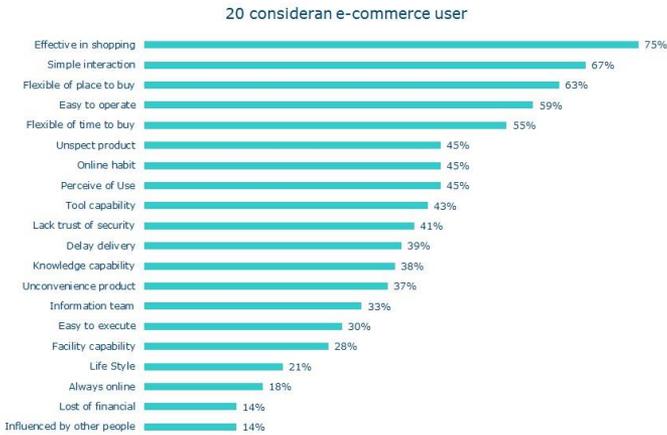


Figure 3: Results of pre survey e-commerce perception in Indonesia

Source: Primary survey 2017

In this study, an online questionnaire survey method was applied. The online questionnaire was chosen because this method is considered to have several advantages, which are that it is cheaper, better (in term of response rate), faster and easier than conventional methods. Data gathering get primary data with total respondent 547 people with detail data as below:

Gender: M = 392, F = 155

Age: Age <20 yo = 25, 20<Age<30 yo = 190, 30<Age<40 yo = 208, 40<Age<50 yo = 98, Age>50 yo = 26.

Process analyzes using war PLS 5.0 for counting on statistic parameter. Starting with importing data survey, and continue by built latent variable and make line direct connection between variables in the model.

Link	Path Coefficient	P value	Hypothesis
PE → BI	0.105	0.007	H1 Received
EE → BI	0.101	0.008	H2 Received
SI → BI	0.119	0.002	H3 Received
PR → BI	0.117	0.003	H4 Received
PC → BI	0.190	<0.001	H5 Received
FC → BI	0.014	0.368	H6 Rejected
H → BI	0.443	<0.001	H7 Received
T → BI	0.083	0.025	H8 Received
BI → UB	0.640	<0.001	H9 Received
FC → UB	0.116	0.003	H10 Received
H → UB	0.276	<0.001	H11 Received
T → UB	0.114	0.003	H12 Received

Table 2: Result of Running data survey using War PLS 5.0

Based on Table 2 there are 4 correlations that are not significant. The final model is shown in figure 4.

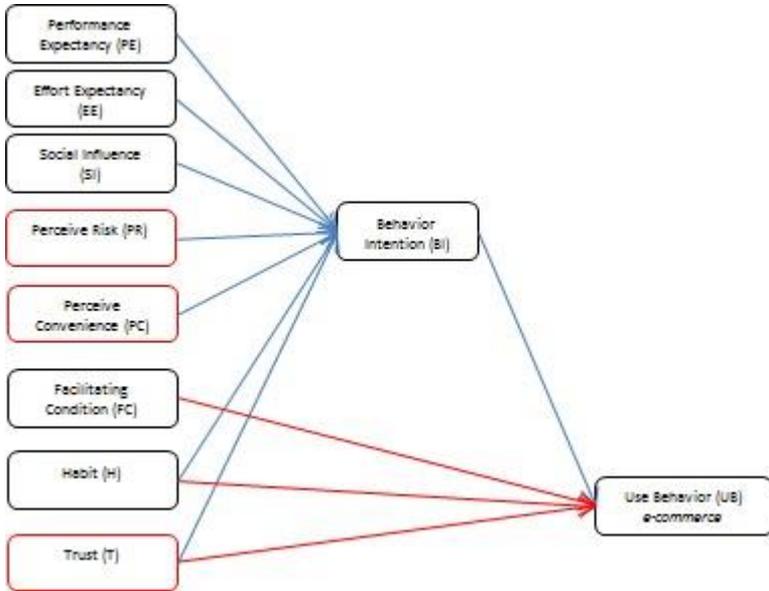


Figure 4: Unified Model of e-commerce Use Behavior

## 5. RESEARCH FINDING AND DISCUSSIONS

This research focus on personal user behavior adoption e-commerce, the model contains several new variables. This paper proposed a unified model of e-commerce use behavior. The model contains independent variables (PE, EE, SI, FC, H, PR, PC, and T), intervening variable (BI) and determinant variable (UB). We found several new important factors are PR, PC and T and  $R^2$  models.

## 6. CONCLUSION AND RECOMMENDATION

Indonesia has many internet users and has great opportunities for an e-commerce provider to grab revenue. Based on research all variables are significantly influence to e-commerce user to adopt e-commerce in Indonesia. These all variables are Performance Expectancy (PE), Effort Expectancy (EE), Facilitating Conditions (FC), Habit (H), Perceived Risk (PR), Perceive Convenience (PC), Trust (T), Behavior Intention (BI) and Use Behavior (UB). UMUB will help the operator to identify the significant influence variables to e-commerce adoption.

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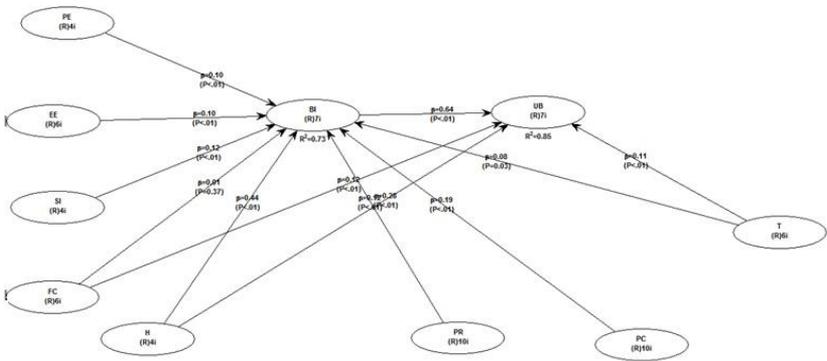
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### Appendix A.

Line diagram research unified model of e-commerce use behavior





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