

Print ISSN: 1738-3110 / Online ISSN 2093-7717
<http://dx.doi.org/10.15722/jds.17.07.201907.15>

Moderating of the Role of Technology Theory to the Existence of Consumer Behavior on e-commerce

Daduk Merdika MANSUR*, Erni Tisnawati SULE**, Dwi KARTINI***, Yevis Marty OESMAN****, Aditya Halim Perdana Kusuma PUTRA*****, Nurul CHAMIDAH*

Received: June 14, 2019. Revised: June 19, 2019. Accepted: July 05, 2019.

Abstract

Purpose – e-Commerce is now one of the alternatives in shopping. Ease of Use and convenience aspects are the main supporting reasons that e-commerce is a trend for most people today. This study examines the relationship between the theory of technology to consumer behavior in using e-commerce applications.

Research design, data, and methodology – The number of samples in this study was 600 samples from four major e-commerce made in Indonesia. The research method of this study Structural Equation Model (SEM) with AMOS and SPSS applications as analysis tools.

Results – The results of this study state that most hypotheses support prior research and grand theory. On the other hand, the components of technology acceptance theory are mostly able to moderate variable consumer behavior in the digital era.

Conclusions – The combination of essential elements of technology theory are oriented to the fundamental aspects of human beings as social beings. The most important thing for the development of the e-commerce industry to develop and be sustainable is the obligation to increase consumer confidence. The combination of components of technology theory and CCT can be a comprehensive marketing strategy and innovation to competitive advantage in the future.

Keywords: Theory Reasoned Action (TRA), Technology Acceptance Model (TAM), UTAUT, Consumer Culture Theory (CCT), Distribution Information Technology (DIT).

JEL Classifications: M0, M210, O31, O35.

1. Introduction

e-Commerce is now one of the alternative consumers

today in shopping; the ease and convenience factor is the main reason why e-commerce is increasing throughout the world. Various studies today have examined a lot of e-commerce phenomena, e.g., (Ragunathan, Battula, Jorika, Mounika, Sruthi, & Vani, 2015), (Masouras & Papademetriou, 2018), (Wagner, Schramm-klein, & Steinmann, 2018), and (Haming, Syaiful, Putra, & Murdifi, 2019). In Indonesia, the development of e-commerce also feels increasingly rapid. (Triandini, Djunaidy, & Siahaan, 2017). As a G-20 country, Indonesia is one of the developing countries that has been affected by the impact of globalization and technological advances, especially e-commerce (Triandini et al., 2017) and (Haming et al., 2019). The development of information technology is so rapid and so is the technology of access the internet. According to Redwing Asia data, Indonesia is using the smartphone fourth largest in the world. Whereas according to data from Roy Morgan Research ownership smartphone increased from 12% to 24%. The use of mobile phones by 10% to 84% of the population. A fantastic

* First Author, Student at Doctoral Program in Management Science, Universitas Padjajaran, Indonesia

** Faculty of Economics and Business, Universitas Padjajaran, Indonesia.

*** Faculty of Economics and Business, Universitas Padjajaran, Indonesia.

**** Faculty of Economics and Business, Universitas Padjajaran, Indonesia.

***** Corresponding Author, Faculty of Economics and Business, Universitas Muslim Indonesia, Indonesia,
E-mail: adityatrojhan@gmail.com

* Faculty of Social Science and Politics, Universitas Muhammadiyah Cirebon, Indonesia

© Copyright: Korean Distribution Science Association (KODISA)
This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<https://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

number and shows a potential positive trend, because the internet will be accessible very easily, quickly, and cheaply via a smartphone. This era, digitalization marked the start of the industrial age 4.0, with the growing technology and culture online, the shopping pattern will shift to the system e-commerce. The phenomenon of the many closed malls in developed countries indicates a shift in the habit of trade towards system online. This shift will force any country to struggle with the impact of this digitalization because otherwise, it will not get potential revenue and will even experience severe economic failure. Indonesia is predicted to be one of the big players in the world digital media. Also, five positive trends show that Indonesia will become digital user press, namely increased use of mobile phones and smartphones, growth of mobile marketing, growth of e-commerce, increased use of technology digital and changes in broadcasting to smartphones. Data from Emarketer (2016) shows penetration is the e-commerce Indonesia's smallest 13% compared to other countries such as Philippines 17%, Thailand 24%, Vietnam 26%, Malaysia 33%, Taiwan 49%, Hong Kong 34% and Singapore 51%. Rapid growth user smartphone This should be the market share of e-commerce in Indonesia. With the number of users internet reaching 82 million or around 30% of the total population in Indonesia, the market e-commerce is a gold mine which is very tempting for those who can see the potential in the future. As is the growth in China, where Alipay subscribers are currently 250 million, they are new revenue generators. The number of shopping should be online Indonesian higher along with the growing use of smartphones, penetration internet in Indonesia, the use of debit and credit cards, and the level of consumer confidence to shop online.

Technology growth has a direct impact on the development of the internet in Indonesia. The use of smartphones increasing an effect on the high use of the internet. The higher the use of smartphones, the easier it is for people to access the internet. Moreover, data package services are internet now more affordable. With only Rp.5,000, the community is getting easier to access the internet. Technology is the reason for the fast growth of users internet in Indonesia, coupled with the character of the Indonesian people who indeed have a high social lifestyle. However, on the other hand, the high number of users internet in Indonesia has no impact on the amount of shopping online via the internet. The percentage of shopping online in Indonesia is the lowest in the ASEAN region, which is only 12% (Atkearney, 2016). The Data shows the symptoms of problems in the acceptance of e-commerce in Indonesia, whereas the user country internet highest in Southeast Asia, the penetration of users e-commerce is the lowest. This phenomenon indicates that there are fundamental problems in the process of adopting e-commerce in Indonesia, especially related to behavior (Chan, Lee, Dillon, & Chang, 2007), (Grandon & Pearson,

2004) state that many benefits are obtained for companies if transactions are carried out through e-commerce. Low transaction costs, low advertising costs and promotions, faster communication between sellers and buyers, suppliers can simplify supply chains, minimize transportation needs, reduce shipping costs, reduce space requirements for selling places.

The results of empirical deepening and literature studies related to the adoption of new systems such as e-commerce for users internet in Indonesia, several factors are thought to be problems in adoption e-commerce. To complement and strengthen the pilot test research, a preliminary survey was conducted to find out things that were considered by users e-commerce in Indonesia. This initial survey is to capture all the factors that are felt and thought by users internet so that they decide to use e-commerce in shopping on the internet.

1.1. Research Problem

Based on pilot test survey by 214 respondents related to their perception of shopping services online through e-commerce. The survey results have also shown and confirmed that the factors that exist in the UTAUT model are indicated to influence the user's decision to accept and use e-commerce in shopping. From the results of the pre-survey in the field of users internet related to shopping online in Indonesia, there were 20 reasons or considerations from users internet to online purchase. The first consideration that is used as the basis for using e-commerce is the effectiveness of someone in shopping using e-commerce as much as 75% of respondents. The second consideration is the ease of interacting during the process of executing learning e-commerce as much as 67%. Respondents. Pre-survey data is, of course, only a temporary guess regarding what factors are the reasons or constraints for users internet to adopt e-commerce in shopping. The emerging factors are confirming related variables in the UTAUT model such as Performance Expectancy (PE), Effort Expectancy (EE), Social Influences (SI), Facilitating Condition (FC) and several other factors revealed in the results of the literature study and field survey.

The first factor that is thought to be the reason that prevents someone from using e-commerce is the user's distrust of shopping online. The second factor that is thought to affect users internet to adopt e-commerce is related to convenience in using it, where the results of the literature study are classified as variables Perceive Convenience (PC). Own perceptions regarding the minimum time and effort needed and simple and easy to use e-commerce greatly influence consumer decisions. The third factor that is thought to be a consideration for someone to adopt e-commerce is related to the risks that must be accepted. The fourth factor that is suspected to be the cause of someone's

obstruction to using e-commerce is that it is not yet believed that purchasing using e-commerce can increase user performance. There are still many doubts that shopping online can help get goods according to the specifications needed because the items cannot be seen and inspected directly. The fifth factor that is thought to be a barrier to the use of e-commerce is the unavailability of facilities or Facilitating Condition (FC), which in pre-research is defined as the individual belief that the organization and infrastructure already exists and supporting the use of the system is the reason for someone to want to adopt a new system such as e-commerce. The sixth factor that is thought to be influential is related to the habit of using a system online or Habit (H), which causes a person to adopt a new technological system such as e-commerce. Addiction as an automatic behavior of a person and the frequency of actions carried out automatically is also a level of someone implementing act routinely or the standard of repetition of behavioral activities carried out automatically. The seventh factor that is thought to influence someone to adopt e-commerce services is social influence or Social Influence (SI). The eighth factor that is thought to affect users internet to adopt e-commerce is the ease of factor or Effort Expectancy (EE) that must be spent in using the system.

Objectively, this study examines causality and the relationship between the implementation of the theory of technology acceptance in forming individual or group attentions which ultimately impacts on consumer behavior in online shopping at the e-commerce marketplace. This study is bridging between approaches that are quite familiar in the digital world such as TRA, TAM, and UTAUT combined with consumer behavior (consumer culture theory). With the result that it can have implications for scientific development in the field of Marketing Management and International Business, and has implications for industry players digital e-commerce throughout the world through empirical studies from Indonesia.

2. Literature Review

2.1. Theoretical Background and Hypothesis Development

Grand theory in this study in compiling variables of use, acceptance and human behavior on technology in e-commerce environment that refers to the method of TRA (Theory Reasoned Action) developed by Fishbein in 1975 where TRA is a derivative theory of psychology that leads to attitudes and behavior (Ajzen & Fishbein, 2012). Secondly, the theoretical approach to this study also uses the TAM (Theory Acceptance Model) developed by Davis in 1989. TAM is a theory that explains the acceptance of a new technology OR emerging technology. TAM itself is the

development theory of TRA (Davis, 1989). Comprehensively the end of the two grand theories leads to empirical testing models through the impact on habit formation, and culture in society using the consumer culture theory (CCT). The establishment of learning in the culture of the community is inseparable from the role of the influence of the social environment, as well as in making technology and e-commerce a culture and culture of the people. Social environment will encourage individuals or groups to behave the same and ideal in their groups. As social beings, humans always want to be a model or even imitate others (Lingyun & Dong, 2008), (Indahingwati, 2017). Illustrating the similarity between groups will form a positive perception describe in the social learning theory (SLT) (Bandura, 1971). Concerning the use of technology, the influence of other people, friendly environment, opinions and perceptions of the surrounding environment will influence individuals to participate in using technology, e.g., (Venkatesh, Thong, & Xu, 2012), (Melissa, 2013), (Ramayasa, 2015), (Malik Bader Alazzam, Samad Hasan Basari, Ibrahim, Ramli, & Naim, 2016). Furthermore, massive use of technology will provide a level of trust for new individuals and facilitate the transmission of the use of technology in its social environment (Oh & Yoon, 2014). The mandatory requirement for a technology to be accepted by society is when the technology can meet expectations than its users. E-commerce today is part of the community because it can meet people's expectations. E-commerce has become one of the alternative shopping in addition to shopping in conventional marketplaces. The development of e-commerce is the result of the increasingly widespread role of technology use today. Meeting the expectations of performance aspects makes e-commerce like a "primadonna", an inclusive and unlimited digital era is one of the primary elements that make e-commerce warmly welcomed throughout the world. The thing that underlies fast-moving e-commerce in the modern world is because of the assumption that e-commerce is more comfortable and more practical (perceived usefulness) in its use and has been proven to be able to meet effort expectancy (Oh & Yoon, 2014), (Ramayasa, 2015), (Farzin & Dahlan, 2016), (Malik Bader Alazzam et al., 2016). Apart from that, the first support and pillar in the dissemination of technology, especially the development of e-commerce, cannot be separated from the condition of the technical facilities of its users, such as the availability of e-commerce applications in both smartphones and computer applications. (Malik Bader Alazzam et al., 2016), Personal knowledge, experience, and habits of computer technology also enter as part of bringing e-commerce into a complex system because one's habits strongly influence the level of acceptance of the technology. If the procedure for its use is considered complicated and it is difficult to make it reluctant to use the system. Different if you often interact, of course, it will affect someone to intend to use a new system (Nair, Ali, & Leong, 2015), (Obeidat,

Al-Suradi, Masa'deh, & Tarhini, 2016). In its journey, e-commerce acceptance is related to the impact of loss risk (perceived of risk) that must be borne by the user, where perceived threat that is minimal will have a significant effect on the acceptance and use of e-commerce applications. Both the risk of loss of goods, loss of money and loss of time (perceive of convenience) (Al-Sarayrah, Tarhini, Obeidat, Al-Salti, & Kattoua, 2016), (Ozturk, Bilgihan, Nusair, & Okumus, 2016). Including risks about the security of personal data, therefore the certainty of the level of protection of user data will be very influential on the decision to accept e-commerce as a means to shop (Rezaei, Amin, & Abolghasemi, 2014), (Dai, Luo, Liao, & Cao, 2015). Emphasis on risk factors for consumers is very reasonable because if many things doubt and worry, it will have an impact on the emergence of someone's reluctance to try to use a new system. Trust is the perception of trust felt by users when using e-commerce in shopping (Rezaei et al., 2014). Because trust in e-commerce systems is a series of values related to virtue, competence, and integrity that are formed by hard work, speed, accuracy, the efficiency of the use of costs and the stability of the system inherent in e-commerce applications (Mu & Pereyra-Rojas, 2017). One of the factors that causes someone to use a product is because there is an intention in someone after knowing and exploring a system. The next stage will form the user's awareness and interest in his thoughts. Increasingly keen interest will create a strong desire to try. The results of the literature review related to this are called Behavior Intention, which is the level of individual intention to use a system (Kudeshia, Sikdar, & Mittal, 2016), (Ozkisi & Topaloglu, 2016). The use of e-commerce to shop will occur if there is an emphasis on one's thinking in the shopping process. Ending than the intention and habits in shopping will lead to shopping behavior. (Malik Bader Alazzam et al., 2016). Complexly, the literature review series - this review is united in the frame of the theory of UTAUT (Unified Theory Acceptance and Use Technology). Based on the literature review this hypothesis can be drawn that the component theory of technology acceptance (TAM, TRA, and UTAUT) which plays an important role in shaping the

behavioral component of Consumer Culture Theory (CCT) on e-commerce (Dwivedi, Rana, Chen, & Williams, 2011).

3. Research Design and Measurement

3.1. Samples

The study involved four major e-commerce companies in Indonesia with a total sample of 600 respondents (397 samples from bukalapak.com, 89 samples from Blanja.com, 58 samples from ompreng.com and 56 samples from rabbanimallonline.com) on July 2017 – February 2019, sampling method use purpose random sampling. The complete demographic data of respondents covering gender, age, minimum shopping transactions, and education level are explained in the table 2. The research approach uses quantitative while the analytical method uses SEM (Structural Equation Model) which processes data using AMOS statistical tools. Apart from that, the measurement of variables using the Likert scale 1-7 follows a variable measurement pattern by (Weijters, Cabooter, & Schillewaert, 2010; Meiyani & Putra, 2019) .

3.2. Measurement

Data analysis through several stages is the first stage: The goodness of fit model of AMOS which includes RMSEA < 0.08 (Hair et al., 2014), CFI > 0.95 GFI > 0.90, TLI > 0.95, AGFI > 0.90, CMIN/DF < 2.0 (Arbuckle, 1999). The second stage is testing the correlation with Nomological Validity in SPSS. The third stage of the estimation model tests through direct and moderating effects by comparing the CR (critical ratio), SE (standard error) with the probability level ($p < 0.05$) which in conclusion to answer the hypothesis. To complement the measurement model in this study using theory the technology use and acceptance (TRA, TAM, UTAUT) and consumer culture theory (CTT). Based on this study, the moderating effect model approach was described in Figure 1.

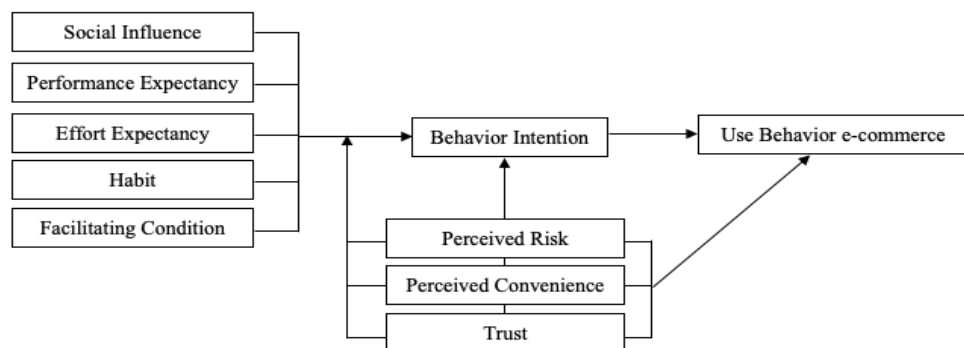


Figure 1: Conceptual Framework

Table 1. Shown the measurement of variables social influence (SI) which consists of four item questions with dimensions (e.g., social factors and images) Performance Expectancy (PE) which includes of four items of questions in dimensions (e.g., effective and helpful). Effort expectancy (EE) which consists of six items of questions with dimensions (e.g., operations, interactions, skills). Habit (H) which consists of three items of questions on dimensions (e.g., implementation of behavior and repetition). Facilitating conditioning (FC) which consists of six items of questions on dimensions (e.g., resources, knowledge, compatible). Perceived risk (PR) which consists of ten items of questions

on dimensions (e.g., performance risk, time risk, financial risk, security risk). Perceived Convenience (PC) consists of ten items of questions on dimensions (e.g., time, place, acquisition, use, execution). Trust (T) consists of six items of questions on dimensions (e.g., expertise, ability, integrity). Behavior Intention (BI) consists of seven items of questions (e.g., emphasis on doing, expect to use, must accept and use, motivation to adopt). Use behavior e-commerce (UB) consists of seven item questions on dimensions (e.g., the frequency for shopping online, the hope of reusing, having to accept and reuse and suppress the use of e-commerce applications).

Table 1: Construct Measurement

Variables	Item Question	Code
Social Influence	Shopping online can improve my self-image	Image
	Shopping online can improve my lifestyle	Social Factors
Performance Expectancy	Buying items using e-commerce is faster	Help
	Buying goods using e-commerce is more effective	Effective
Effort Expectancy	Interacting with e-commerce is easy to understand	Interaction
	Interacting with e-commerce is clearly the procedure	Operation
	I feel like I use e-commerce.	Expertise
Habit	I repeatedly shop online using e-commerce	Repetition
	I often shop online using e-commerce	Habit
Facilitating Condition	I have sufficient knowledge of shopping online	Knowledge
	I have enough information to shop online	Resource
	I shop online using e-commerce because it fits with the available facilities	Compatible
Perceived Risk	Shopping using e-commerce products is always in line with advertising	Social
	Shopping using e-commerce time is relatively fast.	Performance
	Transaction process shop online fast	Time
	Online shopping is not expensive	Financial
	Secure buyer data when shopping online using e-commerce.	Security
Perceived Convenience	Shopping online can be from anywhere	Place
	Shopping online can be anytime	Time
	Easy online shopping where to access	Acquisition
	Easy shopping online transactions	Use
	Shopping online is easy to execute purchases	Execution
Trust	Shop online using e-commerce, the service is excellent	Ability
	Shop online using e-commerce products according to specifications	Expertise
	Shop online using e-commerce products in accordance with expectations	Integrity
Behavior Intention	I will shopping use-commerce next week	Do it
	I hope to use e-commerce in shopping	Hope
	I will probably use shopping using e-commerce in shopping	Receive
	I feel the need to use e-commerce in shopping	Adopt
Use Behavior E-commerce	I often shop online using e-commerce	Frequency
	Almost every week I shop online using e-commerce	Use
	I prefer shopping online using e-commerce in searching for goods	Receive
	I will always use e-commerce again in shopping	Utilization

4. Results and Discussion

4.1. Statistics Analysis

The results of the goodness of fit model in this study show the value of RMSEA = 0.056, CFI = 0.961; GFI = 0.93; TLI = 0.96; AGFI = 0.924. While the results of descriptive statistics in table 3 explain that all items and variable measurement dimensions have a low SE value compared to a high CR value so that the estimated estimation value is also high. The mean value of

measurement of the answers of all respondents is at vulnerable 0.40 - 0.60. The measurement of respondent perception means that the answers to the gradations of respondents answered on the questionnaire are in the vulnerable agree - strongly agree. Cronbach alpha value of all variables is > 0.90; this indicates that all variables are stated to have a high level of reliability. Significance values of all explanatory variables <0.01. The significance value is also the same as what happened in table 4 testing nomological validity where all variables are mutually correlated (**)

Table 2: Data of Respondent (n = 600)

	Measurement	Total	%
Gender	Male	413	69
	Female	187	31
Age (year)	< 20 years	29	4.8
	20 - 30 years	218	36.3
	30 - 40 years	236	39.3
	40 - 45 years	117	19.5
Transaction (in rupiah)	> 1 million	89	14.8
	500 thousands -1 million	111	18.5
	250 thousands - 500 thousands	196	32.7
	< 250 thousands	204	34
Education Level	Senior High School	35	5.8
	Diploma	215	35.8
	Bachelor	300	50
	Magister of Doctoral	50	8.3
Total Respondent		600	100
e-Commerce Marketplace	Bukalapak.com	397	66,1
	Blanja.com	89	14,8
	Ompreng.com	58	9,7
	Rabbanimallonline.com	56	9,3

Table 3: The Goodness of Fit Test

Variables	Item	Mean	Estimate	S.E	C.R	S.D	Alpha	sig
Social Influence	Image	4,69	1.000			1,52	0.911	< 0.01
	Social factor	4,87	0.879	0.060	14.545	1,39		
Performance Expectancy	Help	5,75	1.000			1.17	0.910	< 0.01
	Effective	5.58	1.051	0.044	23.748	1.24		
Effort Expectancy	Interaction	5.91	1.000			0.93	0.908	< 0.01
	Operation	6.03	0.960	0.041	23.364	0.93		
	Expertise	5.76	1.069	0.045	23.792	1.02		
Habit	Repetition	5.74	1.000			1.31	0.920	< 0.01
	Habit	5.57	0.956	0.045	21.055	1.28		
Facilitating Condition	Knowledge	5.81	1.000			1.15	0.905	< 0.01
	Resource	5.62	1.112	0.045	24.559	1.26		
	Compatible	5.72	1.024	0.048	21.543	1.26		
Perceived Risk	Social	4.64	1.000			1.42	0.912	< 0.01
	Performance	4.51	0.943	0.038	25.056	1.42		
	Time	5.42	0.698	0.039	18.072	1.30		
	Financial	4.89	0.948	0.035	26.984	1.36		
	Security	4.84	0.962	0.041	23.547	1.50		

Perceived Convenience	Place	6.03	1.000			1.06	0.903	< 0.01
	Time	5.85	1.068	0.041	26.116	1.07		
	Acquisition	5.80	1.199	0.041	29.320	1.12		
	Use	5.77	1.163	0.041	28.447	1.10		
	Execution	5.65	1.137	0.042	27.084	1.11		
Trust	Ability	5.39	1.000			1.14	0.919	< 0.01
	Expertise	5.42	0.966	0.030	32.142	1.15		
	Integrity	5.14	0.967	0.035	27.375	1.26		
Behavior Intention	Do it	5.24	1.000			1.32	0.900	< 0.01
	Hope	5.44	1.048	0.045	23.324	1.28		
	Receive	5.30	1.105	0.048	23.231	1.36		
	Adopt	5.51	0.974	0.046	21.309	1.26		
Use Behavior E-commerce	Frequency	5.08	1.000			1.38	0.909	< 0.01
	Use	5.48	0.952	0.036	21.163	1.31		
	Receive	5.18	1.116	0.037	30.130	1.43		
	Utilization	4.99	1.127	0.042	26.892	1.53		

Table 4: Nomological Validity

	Social Influence	Performance Expectancy	Effort Expectancy	Habit	Facilitating Condition	Perceived Risk	Perceived Convenience	Trust	Use Behavior
Performance Expectancy	.538**								
Effort Expectancy	.643**	.683**							
Habit	.336**	.406**	.330**						
Facilitating Condition	.566**	.599**	.622**	.497**					
Perceived Risk	.580**	.460**	.586**	.298**	.512**				
Perceived Convenience	.645**	.676**	.780**	.427**	.689**	.638**			
Trust	.345**	.369**	.357**	.339**	.470**	.413**	.435**		
Behavior Intention	.653**	.656**	.717**	.515**	.665**	.647**	.794**	.473**	
Use Behavior	.473**	.442**	.506**	.540**	.692**	.467**	.571**	.509**	.715**

In testing hypotheses as stated in the literature section, the review shown in table 4. Where the direct effect testing of all variables has a positive and significant (sig <0.5) on variables Behavior intention and supports the hypothesis. In the direct effect test, the variable of Perceived convenience is the most dominant variable. Variable intention-behavior also has a positive and significant effect on the variable use of e-commerce behavior. In testing using a moderating influence that involves variables perceived risk, perceived convenience has two variables that have no significant effect if through testing the moderating effect, such as variables habit and facilitating conditions so that the hypothesis states that it is rejected. While experimenting with a moderating effect model involving variables trust, three variables have no significant effect so that this part noted that the hypothesis is rejected namely variables social influence, habit and facilitating condition.

In Table 5. shown that effort expectancy is the most

dominant variable has a positive and significant effect if through testing the moderating effect that involves the variable perceived risk on the behavior intention. Similarly of variables social influence, and variables performance expectancy. So it can be assumed that changes in the ups and downs of perceived risk will also directly influence of social influence, performance expectancy, and effort expectancy on behavior intention the e-commerce. The same thing also happened to variables perceived convenience, but there are different results if the variable trust is a moderating variable. Where the rise or fall of perceptions trust e-commerce users' only affects the performance expectancy and effort expectancy. While the ups and downs of perceptions of trust variable ones do not have an impact on social influence, habit, and facilitating the condition of e-commerce application users on their intention in using e-commerce applications.

Table 5: Hypothesis Test

Variable	Direct Effect	Moderating Effect	Estimate	S.E	C.R	P-value	Result
Social Influence	Behavior intention	-	0.097	0.024	4.090	< 0.01	Support
Performance Expectancy			0.070	0.024	2.894	0.004	Support
Effort Expectancy			0.218	0.029	7.515	< 0.01	Support
Habit			0.158	0.022	7.321	< 0.01	Support
Facilitating Condition			0.147	0.023	6.399	< 0.01	Support
Perceived Risk			0.081	0.018	4.420	< 0.01	Support
Perceived Convenience			0.423	0.034	12.362	< 0.01	Support
Trust			0.886	0.021	4.138	< 0.01	Support
Behavior intention	Use Behavior	-	0.888	0.074	11.943	< 0.01	Support
Social Influence	Behavior intention	Perceived Risk	0.062	0.051	2.208	0.028	Support
Performance Expectancy			0.064	0.045	2.312	0.021	Support
Effort Expectancy			0.113	0.053	4.259	< 0.01	Support
Habit			0.021	0.045	0.739	0.460	Reject
Facilitating Condition			0.036	0.048	1.293	0.197	Reject
Social Influence	Behavior intention	Perceived Convenience	0.048	0.049	1.968	0.050	Support
Performance Expectancy			0.053	0.049	2.183	0.029	Support
Effort Expectancy			0.142	0.057	5.501	< 0.01	Support
Habit			0.042	0.038	1.679	0.094	Reject
Facilitating Condition			-0.041	0.048	-1.599	0.110	Reject
Social Influence	Behavior intention	Trust	-0.007	0.047	-0.224	0.823	Reject
Performance Expectancy			0.079	0.050	2.593	0.010	Support
Effort Expectancy			0.056	0.043	2.074	0.039	Support
Habit			0.046	0.058	1.367	0.172	Reject
Facilitating Condition			0.050	0.055	1.573	0.116	Reject

4.2. Discussion

The results of this study provide a prominent picture of the linkages between various components of the theory of technology acceptance (TAM, TRA, and UTAUT) in e-commerce studies of components forming consumer behavior (CCT) to use an e-commerce product. The test results using the direct effect model also provide abroad interpretation that constant attention of individuals in using e-commerce product products is inseparable from the role of social and environmental influences around them, as well as consumer expectations. If a product is considered to be able to represent consumer expectations, it will make users/consumers try to use the product (Oh & Yoon, 2014). Besides that, personal habits are very influential on consumer behavior, in the case of the use of e-commerce applications, own patterns that are increasingly proficient in using technological tools and the support of technological devices that they have are the main drivers for individuals or groups to be moved to try using a product. The human habit component that is increasingly skilled in using massive digital electronic devices is the main reason why e-commerce is becoming used. The forming factors of consumer behavior in the digital era are formed from several interrelated fundamental factors. The results of the analysis of this study give us an understanding that the ease of factors and trust factors in technology are the main triggers

for an individual or community to change their behavior.

The purpose of TAM is to explain certain factors of acceptance of a technology based on data and information which aims to explain end-user behaviour. Acceptance of technology is based on two main things, namely the perception of usefulness and the perception of ease in using media or technology (perceived ease to use) (Davis, 1993), (Davis, 1989), Not much different from TRA and UTAUT. The TAM component is about perceived of usefulness/performance expectancy, the perceived risk, which includes financial perceptions, products, and also products and seen of convenience/perception of ease of use. We find that the variables of technology use and acceptance (TRA, UTAUT and TAM) have a significant effect on consumer intention-behaviour. The results of this study are in line with the results of the survey from (Tokay & Argan, 2013). The direct effect relationship on the behaviour of all variables is stated to have a positive and significant effect, including the relationship between the action of the intention towards the use of consumer behaviour also shows a considerable influence. However, if the testing is done using moderating variables, then the Habit variable, Facilitating Condition do not show a significant effect. The previous pilot test survey also answers from the pilot test that we conducted this study, that there are eight main factors for consumer prevention in online shopping because of trust issues so that the solution that must be taken by several e-commerce

applications is to introduce a dominant online shopping system to increase consumer confidence in shop online. Some cases of fraud in online shopping, discrepancies in ordered goods etc. are the primary triggers that cause the level of consumer confidence to shop online decreases (Masouras & Papademetriou, 2018), (Bressolles, Durrieu, & Senecal, 2014). We found that trust factors were the dominant factor capable of moderating consumer habits towards the acceptance and use of technology for shopping in e-commerce media. Besides that our study also found that moderation perceived convenience and perceived risk did not necessarily have a positive effect on consumer habits and thus impacted on consumer behaviour to shop online.

Theoretical Implication: consumer culture theory on modern human behavior and culture today provides a real picture, lifestyle and behavior can change with the times and technological advances and cannot be separated from the role of social support and also the technical habits of someone or group. Consumer behaviour can be formed when fulfilling several important aspects such as economic aspects, psychological aspects and anthropological aspects. Each individual will try to obtain maximum satisfaction by trying to continue the purchase of products that are needs or products that satisfy one's desires. Psychological aspects play their role in shaping consumer behaviour based on affective, cognitive and normative stimuli. Affective aspects in psychological theory and marketing refer to the feelings of consumers about a stimulus or event (Lu, Wu, & Hsiao, 2019). Aspects of cognition usually occur through the process of conscious thought or can occur unconsciously. Trust about the attributes of a product is usually evaluated naturally. The more positive the trust in a brand and the more positive each trust, the overall composition of cognition will be supported, which will ultimately support the overall attitude of the consumer (Luo & Chea, 2018). In its implementation consumer behaviour is formed massively so that it becomes a standard culture, this standard culture is an interpretation of normative values (Laczniak & Murphy, 2018). Normative elements are one of the main keys to having been applied to the TAM theory which contains the variables of perceived risk, usefulness and financial risk that are interrelated in shaping consumer behaviour. Risk perceived and financial risk are closely related to economic aspects and usefulness is closely related to psychological and anthropological aspects.

Managerial Implication: This study provides an objective justification for creative industry players in the digital world, that ease of access, efforts to minimize risks in e-commerce applications, and continuous improvement efforts in e-commerce applications must synergize and prioritize wants and markets/dominant consumers to provide positive feedback for the public. Safety, comfort and convenience factors are essential aspects that should be prioritized so that e-commerce application products get a place in the

hearts of users.

5. Conclusion

The combination of essential elements in technology in the digital era that is oriented to the fundamental aspects of human beings as social beings depicted in the frame of consumer culture theory is essential for creative industries in the digital world to be able to compete in the future. The most important thing for the development of the e-commerce industry to develop and be sustainable is the obligation to increase consumer confidence. Beside that, the orientation of components of the philosophy of technology acceptance to the aspect of CCT can be a comprehensive marketing strategy and company innovation to achieve a competitive advantage in the future.

6. Limitation and Recommendation to future research

This study uses only the scope of e-commerce made in Indonesia and does not take objects on international e-commerce applications, i.e., Lazada, Amazon, Alibaba etc. Even though using a large number of samples is recommended for future researchers to be able to use a variety of other well-known e-commerce applications in the world, collaborative research with Asian cross-country methods is highly recommended to see the influence and relationship between more global variables

References

- Ajzen, I., & Fishbein, M. (2012). The Reasoned Action Approach. *Annals of the American Academy of Political and Social Science*, 640(1), 11–27.
<https://doi.org/10.1177/0002716211423363>
- Al-Sarayrah, S., Tarhini, A., Obeidat, B. Y., Al-Salti, Z., & Kattoua, T. (2016). The Effect of Culture On Strategic Human Resource Management Practices: A Theoretical Perspective. *International Journal of Business Management and Economic Research*, 7(4), 704–716.
- Arbuckle, J. L. (1999). *Amos™ 6.0 User's Guide*.
<https://doi.org/10.1002/jid.1717>
- Atkearney (2016). Global Retail e-Commerce Keeps On Clicking The 2015 Global Retail e-Commerce Index™. *Global Retail E-Commerce Keeps On Clicking*. Retrieved from <http://www.atkearney.com/>
- Bandura, A. (1971). Social learning theory. *Social Learning Theory*, 28(3), 12-29.
<https://doi.org/10.1111/j.1460-2466.1978.tb01621.x>

- Bressolles, G., Durrieu, F., & Senecal, S. (2014). A Consumer Typology Based On e-Service Quality And e-Satisfaction. *Journal of Retailing and Consumer Services*, 21(6), 889–896. <https://doi.org/https://doi.org/10.1016/j.jretconser.2014.07.004>
- Chan, H., Lee, R., Dillon, T., & Chang, E. (2007). *e-Commerce, Fundamentals And Applications* (pp.105-127). New York, NY: John Wiley & Sons.
- Dai, H., Luo, X., Liao, Q., & Cao, M. (2015). Explaining Consumer Satisfaction Of Services: The Role Of Innovativeness And Emotion In An Electronic Mediated Environment. *Decision Support Systems*, 70, 97–106. <https://doi.org/https://doi.org/10.1016/j.dss.2014.12.003>
- Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, And User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319. <https://doi.org/10.2307/249008>
- Davis, F. D. (1993). User Acceptance of Information Technology: System Characteristics, User Perceptions And Behavioral Impacts. *International Journal of Man-Machine Studies*, 38(3), 475–487.
- Dwivedi, Y. K., Rana, N. P., Chen, H., & Williams, M. D. (2011). *A Meta-analysis of the Unified Theory of Acceptance and Use of Technology (UTAUT)*. Paper presented at IFIP international working conference on governance and sustainability in information systems-managing the transfer and diffusion of it (pp. 155–170). New York, NY: Springer.
- Emarketer (2016). *Worldwide Internet and Mobile Users: eMarketer's Updated Estimates and Forecast for 2015–2020*. eMarketer. Retrieved June 14, 2019, from <https://www.emarketer.com/Report/Worldwide-Internet-Mobile-Users-eMarketers-Updated-Estimates-Forecast-20152020/2001897>
- Farzin, S., & Dahlan, H. M. (2016). Proposing A Model To Predict Students'perception Towards Adopting An E-Assessment System. *Journal of Theoretical & Applied Information Technology*, 90(1).
- Grandon, E. E., & Pearson, J. M. (2004). Electronic Commerce Adoption: An Empirical Study of Small And Medium US Businesses. *Information & Management*, 42(1), 197–216.
- Hair, J. F., Gabriel, M. L. D., da,S., & Patel, V. K. (2014). AMOS Covariance-Based Structural Equation Modeling (CB-SEM): Guidelines On Its Application As A Marketing Research Tool. *Revista Brasileira de Marketing*. <https://doi.org/10.5585/remark.v13i2.2718>
- Haming, M., Syaiful, A. Z., Putra, A. H. P. K., & Murdifin, I. (2019). The Application of {SERVQUAL} Distribution In Measuring Customer Satisfaction of Retails Company. *Journal of Distribution Science*, 17(2), 25–31. <https://doi.org/10.15722/jds.17.2.201902.25>
- Indahingwati, A. (2017). Answering The Customer Satisfaction "Kongkow" Café Place In Surabaya. *Jurnal Ekonomika'* 45, 4(2).
- Kudeshia, C., Sikdar, P., & Mittal, A. (2016). Spreading love through fan page liking: A perspective on small scale entrepreneurs. *Computers in Human Behavior*, 54, 257–270. <https://doi.org/10.1016/j.chb.2015.08.003>
- Laczniak, G. R., & Murphy, P. E. (2018). The Role of Normative Marketing Ethics. *Journal of Business Research*, 95, 401–407. <https://doi.org/https://doi.org/10.1016/j.jbusres.2018.07.036>
- Lingyun, Q. I. U., & Dong, L. I. (2008). *Applying TAM in B2C E-Commerce Research: An Extended Model*, 13(3), 265–272.
- Lu, C.-C., Wu, I.-L., & Hsiao, W.-H. (2019). Developing Customer Product Loyalty Through Mobile Advertising: Affective And Cognitive Perspectives. *International Journal of Information Management*, 47, 101–111. <https://doi.org/https://doi.org/10.1016/j.ijinfomgt.2018.12.020>
- Luo, M. M., & Chea, S. (2018). Cognitive Appraisal Of Incident Handling, Affects, And Post-Adoption Behaviors: A Test Of Affective Events Theory. *International Journal of Information Management*, 40, 120–131. <https://doi.org/https://doi.org/10.1016/j.ijinfomgt.2018.01.014>
- Malik Bader Alazzam, A., Samad Hasan Basari, A. S. S., Ibrahim, Y. M., Ramli, M. R., & Naim, M. H. (2016). Trust In Stored Data In Ehre Acceptance Of Medical Staff: Using UTAUT2. *International Journal of Applied Engineering Research*, 11(4), 2737–2748.
- Masouras, A., & Papademetriou, C. (2018). Digital Consumer Behaviour in Cyprus : from Uses and Gratifications Theory to Digital Consumer Behaviour in Cyprus : from Uses and Gratifications Theory to 4C 's Online Shopping Approach. *Journal of Advertising and Public Relations*, 1(August), 1–11.
- Meiyani, E., & Putra, A. H. P. K. (2019). The Relationship Between Islamic Leadership On Employee Engagement Distribution In FMCG Industry: Anthropology Business Review. *Journal of Distribution Science*, 17(5), 19–28.
- Melissa. (2013). *Technology Acceptance Model (TAM)*. Universitas Bina Nusantara (Binus).
- Mu, E., & Pereyra-Rojas, M. (2017). *Practical Decision Making*. <https://doi.org/10.1007/978-3-319-33861-3>
- Nair, P. K., Ali, F., & Leong, L. C. (2015). Factors Affecting Acceptance & Use Of Rewind: Validating The Extended Unified Theory of Acceptance And Use of Technology. *Interactive Technology and Smart Education*, 12(3), 183–201.
- Obeidat, B. Y., Al-Suradi, M. M., Masa'deh, R., & Tarhini, A. (2016). The Impact of Knowledge Management On Innovation: An Empirical Study On Jordanian Consultancy Firms. *Management Research Review*, 39(10), 1214–1238.
- Oh, J.-C., & Yoon, S.-J. (2014). Predicting The Use of

- Online Information Services Based On A Modified UTAUT Model. *Behaviour & Information Technology*, 33(7), 716–729.
- Ozkisi, H., & Topaloglu, M. (2016). Science Direct Identifying College Students' Feelings and Thoughts about Online Shopping. *Procedia Economics and Finance*, 39, 17–23. [https://doi.org/10.1016/S2212-5671\(16\)30235-0](https://doi.org/10.1016/S2212-5671(16)30235-0)
- Ozturk, A. B., Bilgihan, A., Nusair, K., & Okumus, F. (2016). What Keeps The Mobile Hotel Booking Users Loyal? Investigating The Roles Of Self-Efficacy, Compatibility, Perceived Ease Of Use, And Perceived Convenience. *International Journal of Information Management*, 36(6), 1350–1359.
- Ragunathan, T., Battula, S. K., Jorika, V., Mounika, C., Sruthi, A. U., & Vani, M. D. (2015). Advertisement Posting Based On Consumer Behavior. *Procedia Computer Science*, 50, 329–334. <https://doi.org/10.1016/j.procs.2015.04.040>
- Ramayasa, I. P. (2015). Evaluation Model of Success And Acceptance of e-Learning. *Journal of Theoretical and Applied Information Technology*, 82(3), 462.
- Rezaei, S., Amin, M., & Abolghasemi, M. (2014). User Satisfaction With Mobile Websites: The Impact of Perceived Usefulness (PU), Perceived Ease of Use (PEOU) And Trust. *Nankai Business Review International*, 5(3), 258–274. <https://doi.org/10.1108/NBRI-01-2014-0005>
- Sinha, P. K., Gokhale, S., & Rawal, S. (2015). Online Retailing Paired with Kirana: A Formidable Combination for Emerging Markets. *Customer Needs and Solutions*, 2(4), 317–324. <https://doi.org/10.1007/s40547-015-0057-9>
- Tokay, M., & Argan, M. (2013). *The Effect Of Mobile Service Quality Dimensions On Customer Satisfaction*, 99, 428–438. <https://doi.org/10.1016/j.sbspro.2013.10.511>
- Triandini, E., Djunaidy, A., & Siahaan, D. (2017). A Maturity Model For e-Commerce Adoption By Small And Medium Enterprises In Indonesia. *Journal of Electronic Commerce in Organizations (JECO)*, 15(1), 44–58.
- Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer Acceptance And Use of Information Technology: Extending The Unified Theory of Acceptance And Use of Technology. *MIS Quarterly*, 36(1), 157–178.
- Wagner, G., Schramm-klein, H., & Steinmann, S. (2018). *Online Retailing Across e-Channels And e-Channel Touchpoints: Empirical Studies of Consumer Behavior In The Multichannel e-Commerce Environment* (March).
- Weijters, B., Cabooter, E., & Schillewaert, N. (2010). Intern. J. Of Research In Marketing The Effect Of Rating Scale Format On Response Styles: The Number Of Response Categories And Response Category Labels. *International Journal of Research in Marketing*, 27(3), 236–247. <https://doi.org/10.1016/j.ijresmar.2010.02.004>

