

Antecedents And Consequences of User Satisfaction in Startup Application as Digital Entrepreneurship in Indonesia

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Abstract

The main purpose of this study was to investigate the factors that influenced user satisfaction and its consequences for the use of digital entrepreneurship startup applications. Structural equation modelling was used to test causal relationships between constructs. The participants were 100 users of startup applications digital entrepreneurship in Purwokerto, who were selected via randomly sampling method. The data were collected via a questionnaire adopted from various resources. The research results proved that perceived ease of use (PEoU) had a positive influence on perceived usefulness (PU), user satisfaction (US), perceived usefulness (PU) had a positive influence on user satisfaction (US), user satisfaction (US) had a positive influence on electronic word of mouth (e-WoM), and on continuance intention (CI). Managerial implications for digital entrepreneurship startup managers, limitations, and recommendations for future research were discussed.

Keywords: Startup, Digital Entrepreneurship, Perceived Ease of Use, Perceived Usefulness, User Satisfaction, Electronic Word of Mouth, Continuance Intention

1. Introduction

Revolution 4.0 was marked by the increasingly massive use of the internet (Lasi et al., 2014) or cyber-physical systems (Lee et al., 2014) in all fields, especially in the business sector. Digital technology had a significant influence on online business development (Elia et al., 2020). This industrial revolution impacts changing the business model from owning system to sharing system, including at startups in the field of digital entrepreneurship. Startups were new companies that were struggling to exist (Salamzadeh & Kesim, 2015), while digital entrepreneurship was a business in which part or all of its business used digital technology and media (Davidson & Vaast, 2010).

In the last ten years, Indonesia's e-commerce industry has experienced enormous growth, reaching around 17 per cent, with a total business unit reaching 26.2 million (Central Statistics Agency, 2016). The existence of startups was essential for the Indonesian economy. This was because startups were able to absorb the new workforce (Jurriens and Tapsell, 2017) and encourage creative industries such as crafts, culinary, performing arts, property, and others. In 2018 the number of startups in Indonesia reached 992. Even though the number of startups had swift growth, the startup failure rate was still very high both at the global and national levels. The startup failure rate in Indonesia reached around 90 per cent (Forbes.com, 2015). In market its products, digital entrepreneurship like startups generally uses applications, so that user satisfaction for applications built by startups is critical. This fact is in line with Lee & Chung's statement (2009) which stated that consumer satisfaction was as important as

measuring the success of a company, but research on user satisfaction on startup application as digital entrepreneurship is still not widely done.

Research examining the influence of perceived ease of use (PEoU) and perceived usefulness (PU) on behavioural intention to use had previously been done. In general, PEoU had a positive influence on behavioural intention to use (Agarwal & Prasad, 1999; Davis, 1999; Venkatesh et al., 2000) and perceived usefulness also positively influenced behavioural intention to use (Venkatesh et al., 2000). PEoU and PU were essential factors that determined the desire to use a system (Wu & Wang, 2005). However, these studies were not done on startup applications, and directly on behavioural intention to use, so it was not clear how PEoU and PU can influence behavioural intention. Therefore, in this study, the user satisfaction (US) variable was a mediating variable to explain PEoU and PU's influence on behavioural intention. The theory of planned behaviour (TPB) stated that attitudes, subjective norms influenced an individual's behavioural intention, and perceived behavioural control (Ajzen, 1991). However, although the TPB has been applied to investigate users' intentions to use Information Systems (IS), limited research had applied theory to investigate IS's continued use (Lee, 2010).

The behaviour of consumers in cyberspace who easily accessed various information tended to prefer informal sources of information rather than traditional sources of information (Svendsen et al., 2011), the informal form of information was word of mouth (WoM). WoM had a high level of persuasion and was more influential than the mass media (Okazaki, 2009). Internet as a communication tool offered several advantages such as the availability of information, efficient transfer of information interaction, more personal, communication and

transaction integration (Bauer, Grether, & Leach, 2002). The use of online media to express and share with others about experiences with a company or a product was called electronic word-of-mouth (e-WoM) (Tsao & Hsieh (2012). Previous research on e-WoM generally examined e-WoM from the consumer's side and its influence on purchase intention (Davis & Khazanchi, 2008; Harrison-Walker, 2001; Lee & Youn, 2009), not on the intention to continue using the application or continuance intention (CI). Based on these reasons, this study aimed to investigate the influence of PEOU on PU and US and test the influence of US one-WoM and CI on startup applications as digital entrepreneurship.

2. Literature Review and Hypothesis

This study's theoretical framework model was based on the Technology Acceptance Model (TAM) theory developed by Davis (1989b). Rani et al., 2014 stated that researchers have widely used TAM to test the level of user acceptance of types of information and communication technology (ICT). TAM could be viewed as an adaptation of the generic Fishbein and Theory of Reasoned Action (TRA) developed by Ajzen (1991) which were developed to explain the use of individual systems in the workplace (Davis, 1989b). TAM has been widely used to test user behaviour intentions, acceptance, and adoption of new technologies by considering two important constructs such as PEOU and PU (Li and Yeh, 2010).

2.1 User satisfaction (US)

According to Fornell (1992), customer satisfaction was a mental state that occurred from a comparison between pre-purchase expectations and post-purchase perceived performance. Crosby et al. (1990) stated that satisfaction was an 'emotional state that occurred in response to an evaluation of these interactive experiences. Satisfaction was a consumer affective condition as a result of the global evaluation of all aspects that created consumer relationships with service providers (Casalo et al. 2008), while Lin and Wang, (2006) stated that satisfaction was defined as a post-purchase assessment and an effective response to the total product or service experienced. Hayati et al. (2020), stated that customer satisfaction was proven to affect customer loyalty. Choi et al. (2000) stated that customer satisfaction was important for companies because it was assumed to be a determining factor that would affect repeat sales, positive word-of-mouth, and customer loyalty. Customer satisfaction was often used to measure marketing performance (Rego et al., 2013); marketing performance was organizational performance measured in marketing functions (Suliyanto et al., 2019).

One form of customer satisfaction was user satisfaction toward application. Previous researchers had defined user satisfaction related to the use of information technology and information systems. User satisfaction was the affective attitude of someone who interacted with computer applications directly (Doll and Torkzadeh, 1988), whereas, Seddon and Kiew (1994) defined user satisfaction as the feeling of pleasure or displeasure caused after comparing the benefits received with the expected benefits from interaction with the information system. Seddon (1997) defined satisfaction as a subjective evaluation of various consequences (individual, organizational, social consequences of IS use) evaluated using a pleasant-unpleasant continuum evaluated line. User satisfaction has proven to be very important for evaluating the effect of IS and Internet / Web systems and has also been identified as the principal factor in intention to use new technology (Yoon et al., 1995; Negasha et al., 2003). In this study, electronic user satisfaction was defined as the feeling of pleasure or

displeasure with the digital entrepreneurship startup application users after comparing the expectations and the performance of the startup applications used.

2.2 Perceived ease of use (PEoU)

Davis (1989) stated that perceived ease of use (PEoU) was a situation in which someone believed that the use of technology was straightforward and did not require hard effort from the user, while Saade & Bahil, (2005) stated that PEOU was the level at which someone believed that innovation was free of effort. Technology users believed that technology was easy to use, simple to learn, flexible and compatible with user needs and values. In this study, PEOU was the level of user confidence that using a Startup application did not require hard effort.

PEOU had a positive influence on PU on mobile commerce (Lee & Jun, 2007). Revels et al., (2010) stated that PEOU was a factor that influenced PU, this was in line with Viehland & Leong, (2007), which stated that PEOU directly influenced PU and both determined the desire to use that used a system. This previously supported research (Agarwal et al., 2000) stated that there was a positive relationship between PEOU and PU on the use of communication technology. The more comfortable a system was to use, the more useful it would be for the user (Thong et al., 2004). Concerning customer satisfaction, Rezaei & Amin (2013) stated that there was a positive relationship between PEOU, PU and customer satisfaction in the context of online shopping, this was reinforced by research results (Amin et al., 2014), which stated that there was a positive relationship between PEOU, PU and mobile users' satisfaction. Peru was seen as one of the factors that determined satisfaction in the mobile industry. Peru also had a positive influence on PU on mobile commerce (Lee and Jun, 2007). Rani et al., 2014 stated that PEOU positively influenced e-satisfaction on the Learning Management System. Based on previous research, the first and second hypotheses could be formulated as follows:

H1: PEOU had a positive influence on PU

H2: PEOU had a positive influence on US

2.3 Perceived usefulness (PU)

Perceived usefulness (PU) was the belief in usefulness or the level at which users believed that technology/systems would improve their work performance (Davis et al., 1989; Venkatesh et al., 2003; Chen et al., 2007; Ajzen, 1991). PU was related to the belief that using IT would create significant value for them (Rouibah et al., 2011; Ajzen, 1991). PU was the most potent factor as a variable used to predict the use of information technology. Davis et al. (1989). Many studies proved PU was an essential factor determining the desire to use information systems or Internet technology (Adams et al., 1992; Ahn et al., 2004; Davis et al., 1989; Mathieson, 1991).

PU on the startup application means the confidence of startup application users that the application can make work easier. Several studies had shown that PU influenced satisfaction. Thompson et al. (1991) stated that individuals would use information technology if they knew the positive benefits. Park et al. (2013) stated that PEOU and PU were factors that determined satisfaction with the navigation system. Lee and Jun (2007) stated that PU determined consumer satisfaction in a mobile commerce context. Amin et al. (2014) stated that PU had a positive influence on satisfaction with mobile users. PU positively influenced perceived satisfaction on the smart plug system (Ghazal et al., 2017). PU positively influenced user satisfaction on URC personal robot service (Kim & Lee, 2014). Perceived usefulness much determined user satisfaction (Gelderman, 1998). Seddon and Kiew (1994) stated that perceived usefulness was a factor that affects user

satisfaction and Rai et al., (2002) stated that there was a positive relationship between the perceived usefulness and user satisfaction on the ERP system, while Hsu and Chiu (2004) in their research found that perceived usefulness was a determinant of user satisfaction and was believed to influence the use of e-service. Based on the results of previous studies, the following third hypothesis could be formulated:

H3: PU had a positive influence on US

2.4 Electronic Word of Mouth (e-WoM)

Since the Internet's advance, WoM over the Internet had become increasingly popular (Tsao & Hsieh, 2012). Electronic word-of-mouth (e-WoM) according to Hennig-Thurau et al., (2004) was a negative or positive statement made by actual, potential, or previous consumers regarding products or companies that were shared to people or institutions through internet media. Meanwhile, according to (Tsao & Hsieh, 2012) e-WOM was the use of online media to express and disseminate opinions and experiences about a company's products and services to others. E-WOM was very important and more effective for consumers than word-of-mouth because e-WoM had wider accessibility and reached (Jalilvand and Samiei, 2012). Based on this definition, e-WoM in this study was a communication that could be in the form of speech, writing, or consumer attitudes after using a Startup application that was shared with others through online media.

Several studies had shown that consumers would reference a product if they were satisfied. Besides, Coker's research (2013) revealed that consumer satisfaction had a powerful effect on the possibility of making referrals. Consumers satisfied with the service received would have positive word-of-mouth (Athanassopoulus et al., 2001). Jeong & Jang (2011) stated that satisfaction with restaurant employee services encouraged positive e-WoM. Ha & Im (2012) stated that consumer satisfaction positively influenced word of mouth; the study concluded that satisfied consumers tended to recommend sites to others. Turkyilmaz and Ozkan (2007) stated that customer satisfaction was the primary construct that influenced e-WoM. Zeng et al. (2009) stated that customer satisfaction had an essential role in positive e-WoM. Lovelock & Wirtz, 2007, stated that customers were more satisfied and happier with the seller, were more likely to be loyal and be the spreaders of positive WoM. Hennig-Thurau et al. (2004) found that customer satisfaction directly influenced the interest in referring to reference groups, and customer satisfaction has a direct influence on customer loyalty. Based on the results of previous

studies, the fourth hypothesis could be formulated as follows:

H4: US had a positive influence on e-WOM

2.5 Continuance intention (CI)

Continuance intention (CI) was the extent to which a person planned to continue doing something in the future (Indrawati & Putri, 2018). Continuance intention was part of purchasing behaviour in which in the context of repurchase interest, there was the concept of loyalty (Souderlund and Vilgon, 1999). Expectation disconfirmation theory (EDT) stated that the level of confirmation of the consumption process was influenced by satisfaction (Oliver, 1980). Confirmation was a perception that consumers got after they compared the pre-purchase expectations and the post-purchase performance of goods or services (Oliver, 1980). If the post-purchase performance met or exceeded the pre-purchase expectations, the consumer would be satisfied, so that the opportunity to make repurchases would be even higher.

Several previous studies stated that satisfaction had a positive influence on continuance intention in various contexts. Thong, Hong, and Tam (2006) stated that continuance intention to e-government services was influenced by satisfaction. Wen, Prybutok, and Xu's (2011) study revealed that satisfaction positively affected online repurchase intention. Lee and Kwon (2011) also found that satisfaction had a positive effect on continuance intention on web-based services, Zhao & Cao, (2010) stated that intention to continue is directly influenced by satisfaction, Rani et al., 2014 revealed that e-satisfaction has a positive effect on e-retention on the Learning Management System (LMS) and Mouakket, S. (2015) stated that satisfaction had a positive influence on continuance intention toward Facebook. Based on the results of previous studies, the fifth hypothesis could be formulated as follows:

H5: US had a positive influence on CI

3. Method

3.1 Participants

The target population in this study were users of startup applications digital entrepreneurship in Purwokerto, Indonesia. The sampling technique used a random sampling method. There were 100 respondents. Data collection was done using a questionnaire which was distributed online.

Profile of Respondent	Information	Total	Percentage
Gender	Men	10	9%
	Women	96	91%
	Total	106	100%
Age	≥17-20 years old	1	1%
	21-25 years old	20	19%
	26-30 years old	29	27%
	>30 years old	56	53%
	Total	106	100%
Occupation	Student/university student	19	18%
	Employee	41	39%
	Entrepreneur	17	16%
	Housewife	36	34%
	Others	3	3%
	Total	106	100%
Frequency of using startup application per month	1-10	95	90%
	11-20	9	8%
	21-30	2	2%
	>30	0	0%

GENERAL MANAGEMENT

	Total	106	100%
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Table 1: Profile of Respondents

Based on Table 1, it could be seen that most or 91 per cent of respondents were women, this was because the startup application studied was a kitchen needs application so that most of its users were women. Based on the age, most of them were more than thirty years old or 53 per cent, this was because at that age, the respondents were married, so they already needed kitchen needs regularly. Based on the occupation, most or 39 per cent were employees; this was because employees generally had limited time to shop conventionally to the market or stalls. Based on the frequency of using applications developed by startups, most or 95 per cent of the time in one month shop between 1-10 times, this showed that shopping using applications was not done every day, only when respondents did not have time to shop at the market or to the stall.

3.2 Data collection tool

The data were collected using a questionnaire which was adopted from several previous studies, to measure PEOU using three items adapted from (Davis et al., 1989), to measure PU used three items developed from previous studies (Wang and Liao, 2007; Davis et al., 1989).), to measure the US adopted from online transaction satisfaction using five items from (Wang and Liao, 2007), to measure e-WoM used five items adapted from (Hennig-Thurau et al. (2004) while to measure CI adopted from (Bhattacharjee, 2001; Kim, 2010). The questionnaire was based on a Likert scale of 5 where 1 indicates "Strongly Disagree" and 5 indicates "Strongly Agree" with the mid-point (3) representing neutrality.

3.3. Validity and reliability

Variable	Mean	Stdev	Indicator	Loading Factor	Cronbach Alpha	Composite Reliability	AVE
Perceived of easy use (PEoU)	5.991	0.845	PEOU_1	0.857	0.849	0.916	0.784
			PEOU_2	0.878			
			PEOU_3	0.712			
Perceived of usefulness (PU)	5.869	0.778	PU_1	0.768	0.892	0.942	0.768
			PU_2	0.897			
			PU_3	0.829			
			PU_4	0.597			
			PU_5	0.917			
User satisfaction (US)	5.852	0.820	US_1	0.784	0.862	0.923	0.799
			US_2	0.835			
			US_3	0.865			
Electronic word of mouth (e-WoM)	6.047	0.902	EWOM_1	0.924	0.962	0.981	0.945
			EWOM_2	0.984			
			EWOM_3	0.936			
Continuance intention (CI)	5.912	0.905	IC_1	0.924	0.926	0.962	0.895
			IC_2	0.955			
			IC_3	0.833			

Table 2: The validity and reliability of the research instrument Test

In this study, internal consistency used Cronbach's alpha (Cronbach's 1951; Nunnally, 1978), while convergent validity was assessed by factor loading, Composite Reliability (CR) and Average Variance Extracted (AVE) (Fornell & Larcker, 1981). Based on table 2, it was known that the factor loading of all research variables was higher than 0.5, so that all indicators were declared valid or acceptable to measure the variables studied (Hair, et al. 2010). Cronbach's alpha for all variables was above 0.6, because Cronbach's alpha was above 0.6 was considered high reliability (Nunnally and Bernstein, 1994) and composite reliability (CR) for all variables was higher than 0.7

so that the instrument reliability of all research variables was acceptable or reliable (Hair et al., 2010). The average variance extracted (AVE) of all variables was higher than 0.7 so that the instrument reliability of all variables was considered very good (Hair et al., 2010).

3.4 Analysis of the data

The descriptive analysis used SPSS software, while Structural Equation Modeling (SEM) analysis used AMOS software. SEM was used because it had several advantages such as (1) explicit assessment of measurement errors; (2)

estimation of latent (unobserved) variables via observed variables; and (3) model testing in which a structure could be imposed and assessed as to fit of the data (Kaplan, 2008)

4. Results and Discussion

4.1. Results

This study used structural equation modeling using AMOS software as the hypothesis testing. The results of the analysis

using structural equation modeling using AMOS could be seen in Figure 1. Based on Figure 1, the model accuracy test value was obtained consisting of the value of chi-square = 217,911, probability = 0.000, RMSEA = 0.093, GFI = 0.815, AGFI = 0.752, CMIN / DF = 1.912, TLI = 0.931, CFI = 0.942. Based on the accuracy test the research model was categorized as marginal because the chi-square value was higher than 139,921, the probability was smaller than 0.05, RMSEA > 0.08, GFI < 0.90, AGFI < 0.90, TLI < 0.95, CFI < 0.95, but based on the CMIN / DF value included in the good of fit category because CMIN / DF < 2.00

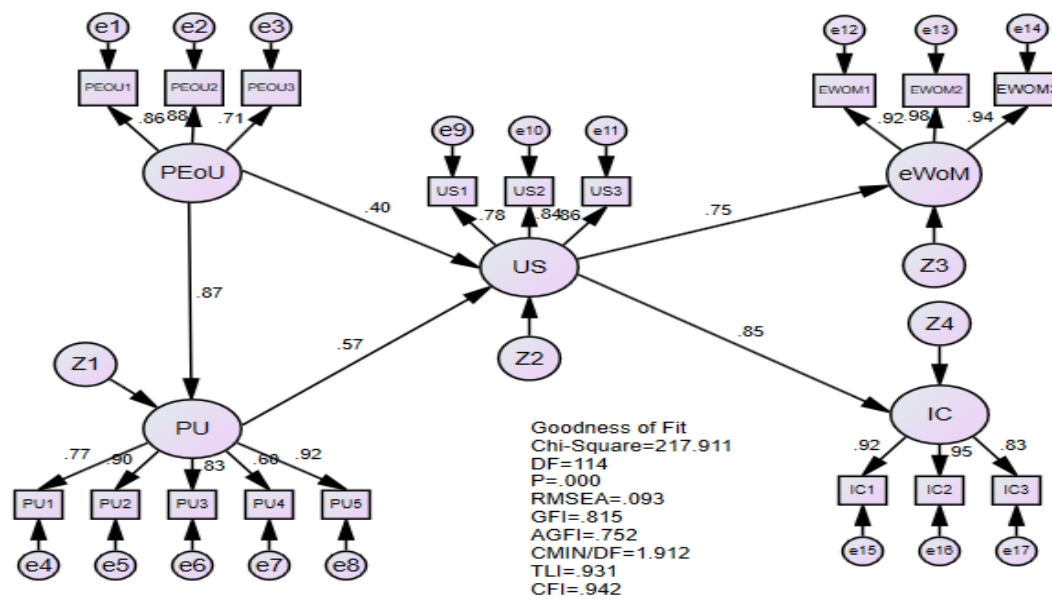


Figure 1: Result of Structural Equation Modeling

Hypothesis	Independent Variable	Dependent Variable	Standardized estimated	SE	T value	P-value	Result
H1	Perceive easy use	Perceived usefulness	0.867	0.085	9.836	0.000	Support
H2	Perceive easy use	User Satisfaction	0.403	0.127	2.877	0.004	Support
H3	Perceived usefulness	User Satisfaction	0.572	0.132	4.059	0.000	Support
H4	User Satisfaction	Electronic Word of Mouth	0.750	0.107	7.820	0.000	Support
H5	User Satisfaction	Continuance intention	0.846	0.111	8.075	0.000	Support

Table 3: Hypotheses test results

Based on table 3 it was known that the path coefficient of PEoU to PU was 0.867 with a T value of 9.836 and P-value = 0.000, this proved that the first hypothesis which stated that PEoU had a positive influence on PU was accepted. The path coefficient of PEoU to US was 0.403 with a T value of 2.877 and P-value = 0.004, this proved that the second hypothesis which stated that PEoU had a positive influence on US was accepted. The PU path coefficient to US was 0.572 with a T value of 4.059 and P-value = 0.000, this proved that the third hypothesis which stated that PU had a positive influence on US was accepted. The US path coefficient one-WoM was 0.750 with a T value of

7.820 and P-value = 0.000, this proved that the fourth hypothesis which stated that US had a positive influence one-WoM was accepted, and the US path coefficient on CI was 0.846 with a T value of 8.075 and P-value = 0.000, this proved that the fourth hypothesis which stated that US had a positive influence on CI was accepted. Based on the analysis results, all hypotheses were accepted, but based on the accuracy test, the model was generally declared marginal.

4.2 Discussion

The purpose of this study was to determine the influence of

PEoU on PU and US and test US influence on eWoM and CI on digital entrepreneurship startup applications. The study's research objectives were translated into five hypotheses, and all hypotheses in this study were accepted.

PEoU had a positive influence on PU, this was because with a clear explanation about how to use the application, it was easier to find the information needed, lower learning costs, and less time needed to use the application, so the application would be able to speed up shopping activities, could help in making decisions in shopping, could save more money, and could facilitate shopping activities. The results of this study were in line with the results of previous studies conducted by Agarwal et al., (2000), Thong et al., (2004), Lee & Jun, (2007), Leong, (2007), Revels et al., (2010), Viehland & Amin at al, (2014), which stated that PEoU was a factor that influenced PU.

PEoU had a positive influence on US, this was because the application had a clear explanation about how to use it. It was easy to find the information needed; the learning costs so that there was also less time needed to use the application so that the customer value obtained from application users would be higher, and in the end, it would increase user satisfaction of startup applications. The results of this study reinforced the results of previous studies that had been done by Viehland & Leong, (2007), Rezaei & Amin (2013), Amin at al, (2014), Rani et al., (2014), which had generally proven that PEoU had a positive influence on US.

PU had a positive influence on the US, this was due to applications that could speed up shopping activities, could help in making decisions in shopping, could save more money and could make shopping easier. It is highly expected by all customers to feel their expectations were fulfilled and felt happy to shop using the application. This was in line with the research of Thompson et al., (1991), Seddon and Kiew (1994), Rai et al., (2002), Hsu and Chiu (2004), Lee and Jun (2007), Park et al., (2013), Amin at al, (2014), (Ghazal et al., 2017), Kim & Lee, (2014), Gelderman, 1998), which stated that PU had a positive influence on US.

US had a positive influence one-WoM, this was because if customers felt that the application was in line with customer expectations and customers felt happy shopping with the application, the customer would be encouraged to talk about positive things about the application to others. They would recommend it to others and encourage others to shop using the app. This was in line with the research of Athanassopoulus et al., (2001), Hennig-Thurau et al., (2004), Lovelock & Wirtz, 2007, Turkyilmaz and Ozkan, (2007), Zeng et al. (2009), Coker (2013), Jeong & Jang (2011), Ha & Im (2012), in which these studies had proven that the US positively influenced one-WoM.

US had a positive influence on CI, this was because if customers felt that the application was in line with customer expectations and customers felt happy shopping using the application, then the customer would be motivated to want and to keep using the application, it was likely that they would still shop using the application and shortly they would shop using the application again. This was consistent with the research of Oliver, 1980, Thong, Hong, and Tam (2006), Zhao & Cao, (2010), Wen, Prybutok, and Xu's (2011), Lee and Kwon (2011), Rani et al., 2014, Mouakket, S. (2015), who in previous studies had proven that US had a positive influence on CI.

5. Limitations and Guidelines for Future Research

This study has not yet considered demographic and personality factors which in fact can influence acceptance of information technology, so future research can add demographic variables such as gender, age, race, marital

status, income, religion, education level, place, and occupation, as well as personality variables such as high innovativeness and low innovativeness as moderating variables between PEoU and PU toward US.

6. Conclusion

Based on data analysis results, it could be concluded that PEoU influenced PU, and PeoU and PU influenced US in startup applications digital entrepreneurship, while US influenced e-WoM, and CI. Based on these conclusions, to increase user satisfaction, startups digital entrepreneurship must build applications that are easy to use and provide many benefits for users. To make the application easy to use, the developers must do some careful developments, for example, explaining how to use the application clearly and making the costumers find the information needed easily. As a result, applications that have many benefits for users must be able to speed up shopping activities, help decision-making in shopping, be able to save money, and make the application easier in shopping activities. Finally, if all of those efforts are made, the number of subscribers can be increased through e-WoM, and the desire to continue using the application will increase.

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