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# Comparison of Generation X and Y: Perceived Usefulness, Perceived Ease of Use, and Subjective Norms on Purchase Intention in E-Commerce

Yulianita

## Abstrak/Abstract

*E-commerce di Indonesia menghadapi konversi yang rendah, yang menempatkan keberlanjutan bisnis dalam bahaya. Sangat penting bagi e-commerce untuk meningkatkan tingkat konversi. Namun, strategi yang digunakan untuk meningkatkan tingkat konversi mungkin tidak mencapai hasil yang signifikan jika tidak dirumuskan berdasarkan pemahaman yang komprehensif tentang target pasar. Penelitian ini menganalisis pengaruh kegunaan yang dirasakan, persepsi kemudahan penggunaan, dan norma subjektif pada niat pembelian Generasi X dan Y, dua segmen pasar potensial untuk e-commerce. Responden yang mengisi kuesioner sebanyak 100 orang, terdiri dari dua generasi (X dan Y). Dalam melakukan penelitian ini, peneliti menggunakan analisis regresi berganda. Temuan menunjukkan, terlepas dari generasi, kegunaan yang dirasakan, persepsi kemudahan penggunaan, dan norma subjektif memiliki pengaruh positif dan signifikan terhadap niat pembelian, dengan norma subjektif memiliki pengaruh terkuat dibandingkan dengan variabel lain. Namun, ketika Generasi X dan Y dihitung secara terpisah, temuan menunjukkan pola yang berbeda. Untuk Generasi X, variabel dengan pengaruh paling signifikan pada niat pembelian e-commerce adalah persepsi kemudahan penggunaan dan kemudian diikuti oleh norma subjektif, sedangkan kegunaan yang dirasakan tidak memiliki pengaruh yang signifikan. Di sisi lain, untuk Generasi Y, kegunaan yang dirasakan memiliki pengaruh paling signifikan terhadap niat pembelian mereka.*

E-commerce in Indonesia is facing low conversion, which puts the sustainability of the business in jeopardy. It is crucial for e-commerce to increase the conversion rate. However, the strategy employed to improve the conversion rate may not achieve a significant result if it is not formulated based on a comprehensive understanding of the target market. This research analyzes the influence of perceived usefulness, perceived ease of use, and subjective norms on purchase intention of Generation X and Y, two potential market segments for e-commerce. The respondents that filled out the questionnaire were 100, which were equally composed of the two generations. In conducting this research, the researcher employed multiple regression analysis. The findings revealed that regardless the generation, perceived usefulness, perceived ease of use, and subjective norms have positive and significant influence on purchase intention, with subjective norms having the strongest influence compared to other variables. However, when the responses of Generation X and Y were calculated separately, the findings showed different patterns of result. For Generation X, the variable with most significant influence on e-commerce purchase intention is perceived ease of use followed by subjective norms, while perceived usefulness has insignificant influence. On the other hand, for Generation Y, perceived usefulness has the most significant influence on their purchase intention.

## Kata kunci/Keywords:

*E-commerce, manfaat yang dirasakan, kemudahan penggunaan, norma subyektif, niat pembelian, generasi X, generasi Y*

E-commerce, Perceived Usefulness, Perceived Ease of Use, Subjective Norms, Purchase Intention, Generation X, Generation Y

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## Introduction

In the last few decades, technology has grown rapidly and significantly, which brings broad and profound impacts on human life. All aspects, including the economy, are affected by technology advancement. For instance, in this modern era, economic transactions no longer require the involved parties to meet directly, but rather the internet is used as a platform for the parties to communicate conduct their transaction. After

the involved parties completed their business deal, the products or services will be delivered while the payment for the goods is wired through electronic banking, another modern age's technology.

The abovementioned business transaction is popularly known as e-commerce. According to Gupta (2014, p. 2), e-commerce can be defined as "the use of electronic communications and digital information processing technology in business transactions to create, transform, and redefine relationships for value creation between or among organizations, and between organizations and individuals." Additionally, e-commerce is not only conducted on websites, but also on other internet platforms. Besides its diverse use of platforms, the business models of e-commerce are also varied.

Today, e-commerce has grown into a promising industry. According to existing data, there are 102,728 e-commerce retailers originated from the U.S only. The number keeps increasing around 12 – 15% per annum (Belicove, 2013). Perhaps, in the coming years, the number of e-commerce retailers at the global level can stand at 1 million.

Besides its large presence, e-commerce also generated large number of revenue. According to E-Marketer (2016), the retail e-commerce sales figures in 2015 reached \$1.548 trillion, which contributed 7.4% of total retail sales across the globe. From 2015 to 2016, the industry also experienced 25.5% growth. From the entire regions in the world, Asia-Pacific remains the world's largest market for e-commerce retailers. Based on E-Marketer's forecast in the second quarter of 2016, the retail e-commerce sales figures in Asia-Pacific would exceed \$1 trillion by the end of the year. Further, it predicted as well that the number would double to \$2.725 trillion by 2020. Singapore Post (2014) attempted to find the reason behind e-commerce's huge figure and significant growth in Asia Pacific. It found that expanding middle class, greater mobile phone and internet penetration, growing competition of e-commerce players, and improving logistics and infrastructures will fuel e-commerce growth in the region.

Although e-commerce is showing a promising future, as a relatively new industry, there is a plethora of the unknowns in the industry as it goes through many trials and errors. One of the unknowns is related to conversion rate. The conversion rate can be defined as the number of users who conduct the expected action (Nielsen, 2013). Similar to the conventional type of business, e-commerce retailers want their users to buy offered products so that the company can generate profits. Hence, conversion rate in e-commerce can be understood as the number of e-commerce online platforms' visitors who make a purchase.

Oddly, although the number of its platforms' visitors is relatively high, the conversion rate of e-commerce remains low. Some visitors even add

the desired product(s) to the shopping cart, yet the transactions are often left unfinished and no purchase is made. The e-commerce platforms' visitors who do not make any purchases caused e-commerce's low conversion rate, a phenomenon which not only happens in a few countries but also at the global level. For instance, according to a research conducted by Moe and Fader (2004) in the US, over 70% of online retailers had less than 2% overall purchase conversion rate. Similar findings were also proposed by Greenspan (2004) whose research conducted in several countries found that 45% of online retailers reported an overall 1 to 4 percent conversion rate.

Although, many types of research on e-commerce have been conducted, yet they cannot fully figure out why the conversion rate of e-commerce remains low despite its high number of unique visitors. Meanwhile, increasing conversion rate becomes substantial for e-commerce retailers, particularly those that expect commission from the sales of their partner's product. When the conversion rate is low, it not only reduces the revenue and profitability of the e-commerce retailer, but also affects the loyalty of its partners. They may switch to another retailer or decide to build its own business where consumers can purchase their products online. If the latter happens, the partner will turn into a competitor. Moreover, when a large number of partners stops working with the e-commerce retailer, it will put the sustainability of retailer's business in jeopardy. Consequently, the product cycle and revenue stream will stop.

Based on this reasoning, further research on e-commerce's low conversion is needed. The research must be able to help e-commerce retailers understand the online consumers' behavior and figure out the antecedents, which are defined by Friedman (2009) as factors that stimulate certain consequences, that influence the conversion rate of e-commerce.

There are two types of antecedents, namely internal and external antecedents. The difference between both types lies on their origin. Internal antecedent comes from the inside of consumers' mind, such as personal need and motivation. Meanwhile, external antecedent comes from external environment. In the context of this research, external antecedents can be specifically categorized as messages that are delivered by the e-commerce retailers to shape consumers' perception and encourage them to purchase goods. This research will focus on external antecedents that may influence consumers' purchase intention and actual purchase since they are the sole variables which the retailer is able to alter in improving its conversion rate.

There are a number of apposite theories to employ in studying the antecedents of consumers' behavior, one of which is Theory of Reasoned Action (TRA). The theory explains the factors that motivates an individual to perform certain

action, including making a purchase. Another apposite theory is Technology Acceptance Model (TAM), which explains the consumers' behavior towards new technology, in this case technology which facilitates online business transactions.

Indonesia becomes a suitable place to conduct research on e-commerce as it is one of the countries in Asia where the e-commerce industry has achieved significant profitability and growth. Although the e-commerce players in Indonesia are not yet concerned about the low conversion rate, they may change their perspective after the industry manages to attract more consumers. Since Indonesia is known for its large internet users and consumerism behavior, the country's e-commerce industry has a huge potential to fulfill. According to an article on TechCrunch.com, it is forecasted that the sales of e-commerce in Indonesia may possibly stand at \$130 billion in 2020. This will put Indonesia the country with the third largest e-commerce sales in Asia after China and India (Russel, 2016).

Meanwhile, a joint research conducted by Google Inc. and Temasek Holdings Pte. predicts that Indonesia's digital market will account for 40.5 percent of the total market in the region (Freischlad, 2016). The CEO of MatahariMall.com, Hadi Wenas, revealed three factors that boost the significant growth of e-commerce industry in Indonesia, namely demographic composition, a rapid increase in mobile phone as well as smartphone users, and rising internet penetration (Nusa Research, 2015). The first and the third factor are closely associated with the existence of Generation Y in Indonesia, which makes almost half of the country's total population. Generation Y, which is also known as "Digital Native," consists of those who were born between 1980 and 2000, during which many technology devices, including the internet and smartphone, were developed or invented. Thus, it is argued that Generation Y finds it easy to master technology devices and absorb lifestyles heavily imbued with online activities, such as online shopping (Chen & Wu, 2011). The behavior of Generation Y towards technology and things that related to it, are different with the preceding generation, which is Generation X.

As generation Y dominates the demographic of e-commerce consumers, it raises the urgency to understand the generation's online behavior. Regardless, it does not diminish the importance of generation X as the generation is the second largest population size in the world, including in Indonesia.

Therefore, this research aims at analyzing how external antecedents affect Generation X's and Generation Y's intention to make a purchase in e-commerce platforms. According to Lissitsa and Kol (2016), Gen X and Gen Y have distinct perceptions and attitudes about technology. For instance, the number of Gen Y that access the internet over time is higher compared to Gen X. Additionally, Gen Y also understands the technology, including the use of e-commerce, better than

Gen X. Moreover, Gen X and Gen Y also show distinct preferences in online shopping (Valentine & Powers, 2013). Due to these differences between the two generations, every hypothesis of this research will be compared to each other in order to discover which one has a more significant result.

## Literature Review

### Technology Acceptance Model

The Technology Acceptance Model (TAM) is developed based on Theory of Reasoned Action (TRA). TAM attempts to explain factors that influence the acceptance of individuals of certain technology, in this case e-commerce, a product of technological development that was recently implemented in trade.

According to this theory, there are three motivations that encourage individuals to accept or not accept new technology, namely perceived usefulness, perceived ease of use, and attitude towards the system. Davis (1989) hypothesized that the attitude of a user towards a system was a major determinant of whether the consumer would actually accept or reject it. The attitude of the user, in turn, was influenced by two beliefs, which are perceived usefulness and perceived ease of use, with the perceived ease of use factor having a direct impact on perceived usefulness. However, after a thorough study, Davis (1989) eliminated attitude as an important variable of the model as he found that perceived usefulness and perceived ease of use had a direct impact on consumers' intention to adopt or accept new technology. However, this theory has been criticized by several researchers because of the absence of social and personal control factors (Elliot and Loebbecke, 2000). Therefore, many suggested adding subjective norms, which are the focus of TRA.

### Perceived Usefulness

Perceived usefulness can be understood as an individual's perception on whether using new technology will enhance or improve their performance in conducting certain activity or not. Similarly, Liao and Cheung (2002) defined perceived usefulness as a subjective probability that utilizing certain piece of technology will refine the way of an individual completing certain activity.

There are numerous prior research that found customers' perception of usefulness of e-commerce has positive and significant influence on their purchase intention (Renny & Siringoringo, 2013, Kaufaris & Sosa, 2004). An individual with positive perception on e-commerce's tends to think that internet usage will efficiently smooth the progress of purchase and also enhance the purchase experience. In fact, one research revealed that perceived usefulness, compared to perceived ease of use, has a stronger influence on intention to use (Shadkam, Kavianpour, Honarbakhsh & Hooi, 2013). However, the results might in different cases depending on consumers' perception and attitude about technology.



### Perceived Ease of Use

The definition of perceived ease of use (PEU) has been argued among researchers. According to Monsuwe, Dellaert, and Ruyter (2004), perceived ease of use occurred when a person believes that using new technology will free him from any efforts throughout the process of using the said technology (Monsuwe, Dellaert, & Ruyter, 2004). On the contrary, Zeithaml, Parasuraman, and Maholtra (2002) considered perceived ease of use as a degree to which an innovation is easy to understand or use.

By combining these two definitions, it can be concluded that there are two factors that can prompt perceived ease of use. First, the new technology is easy to understand and operate. Second, the new technology helps an individual to achieve their objective easily. Prior research mostly found that PEU has positive influence on one's purchase intention, although most of the time, the significance of the influence is not as great as another variable, namely perceived usefulness (Cho & Sagynov, 2015).

### Subjective Norms

Subjective norm is a measurement of an individual's perception towards social pressure surrounding certain behavior; people will assess whether other persons or society will accept or reject their behavior. According to Corner and Artmitage (1998, p. 143), "normative belief is a significant understanding about preferences about whether one should or should not engage in the behavior." Hence, the judgment of other people or the society will influence an individual's motivation in conducting certain behavior.

According to the theory of reasoned action, subjective norm or social pressure can influence someone's intention on certain act, which includes shopping on e-commerce platforms. In a research conducted by Tseng, Lee, Kao, and Wu (2011), the role of subjective norm in influencing an individual to shop in e-commerce stores is more significant when they have already passed the initial adoption stage, during which the individual received many testimonials of e-commerce from prior adopters such as friends, peers, and superiors. In Indonesia, particularly the urban areas, e-commerce has passed the initial adoption. In the different research by Liat and Wuan (2014), subjective norm is the most significant predicting factor on online purchase intention among university students in Malaysia.

### Purchase Intention

According to Dodds, Monroe, and Grewal (2011), purchase intention can be defined as the likelihood of consumers' willingness to purchase certain products. For example, when an individual sees an ice cream advertising and thinks that they want to buy the ice cream, the desire can be considered as purchase intention. Meanwhile, He and Hu (2008) considered purchase intention as the attitude towards certain product that ap-

pears after an overall evaluation of the product. To illustrate, after a consumer sees a face-whitening cream advertisement, she looks for more information about the product, including its ingredients and reviews from other consumers. If after accumulating more information the consumer thinks that they want to buy the product, it can be considered as purchase intention.

In a more detailed manner, Jin and Kang (2011) explained that purchase intention can be analyzed through four kinds of behavior, namely definite plan to purchase the product, thinking unequivocally to purchase the product, contemplating to buy the product in the future, and to buy the specific product utterly. Increasing purchase intention is one of the major factors which encourage consumers to make an actual purchase. According to Brown (2003), consumers with intentions to buy certain product will exhibit higher actual buying rates than consumers have no intention of buying. This, thus, demonstrates the importance of increasing purchase intention.

### Research Framework

Based on the literature review, this research examines three variables which influence consumers' purchase intention in regard to e-commerce. They are perceived usefulness, perceived ease of use, and subjective norms.

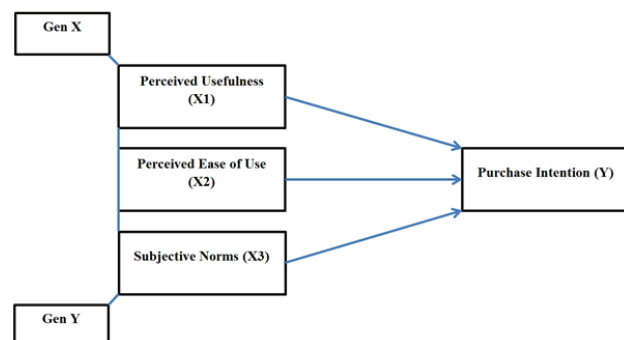


Figure 1. Research Framework

The hypotheses of this research are:

- H1: Perceived usefulness has positive and significant influence on purchase intention
- H1a: The significance of perceived usefulness' influence on purchase intention is different on Gen X and Gen Y.
- H2: Perceived ease of use had positive and significant influence on purchase intention
- H2a: The significance of perceived ease of use's influence on purchase intention is different on Gen X and Gen Y.
- H3: Subjective norms had positive and significant influence on purchase intention
- H3a: The significance of subjective norms' influence on purchase intention is difference on Gen X and Gen Y.

## Methodology

This research employs quantitative approach, which according to Zawawi (2007), is scientific and systematic research against certain phenomenon and its relation.

In order to determine the research sample, the research population must be defined first. Population refers to the entire set of people or data that are of the interest to a researcher (Cameron & Price, 2009). In this study, the research population consists of Gen X and Gen Y in the Greater Jakarta area. Meanwhile, research sample refers to a subset of the population that is studied in a research project (Cameron & Price, 2009). Since this study attempts to identify the impact of antecedents (tangible, reliability, responsiveness, assurance, security, perceived usefulness, perceived ease of use, and subjective norm) on actual purchase by intervening several variable on Gen X and Gen Y, the research sample of this study consist of Gen X and Gen Y who understand, are interested, and have visited e-commerce online platforms.

Since there are specific criteria of the research sample, this study cannot use the method of random sampling. On the other hand, purposive sampling will be more suitable, specifically the nonrandom (nonprobability) sampling technique, in which participants are selected for a study because of some of their desirable characteristics (Creswell, 1998). For this research, the charac-

teristics that the participants must have are Indonesian, part of the Gen X or Gen Y, and have browsed e-commerce platforms or websites for at least three times. Besides purposive sampling, this study also uses quota sampling to determine the minimum number of samples. According to Babbie (2010), there should be at least 30 and no more than 600 respondents. The researcher decided that the sample size of this research should be 300 samples, with 150 of them belong to Gen X and 150 to Gen Y.

In this research, a survey was conducted to collect data. According to Mathiyazhagan and Nandan (2010, p. 34), survey can be defined as “a method of descriptive research used for collecting primary data based on verbal or written communication with a representative sample of individuals or respondents from the target population”. In conducting the survey, the researcher formulated a questionnaire, which was developed to three sections, namely demography, online behavior, and measurement of participants' attitude toward the variables. The third section was formulated based on the operational framework of variables on the following table.

All the answers are multiple choices based on where the third part was developed by using 5-Likert Scale. Prior to conducting the analysis, the validity and reliability of the questionnaire and classical assumption test were performed. This was to ensure that the gathered data was

Table 1. Operational Framework of Variables

Variable	Definition	Indicators	Measurement Scale
X1 – Perceived Usefulness	The degree to which a person believes that using a particular system would enhance his/her performance (Davis, 1989)	Time saving	Interval
		Cost saving	
		Effort saving	
X2 – Perceived Ease of Use	Occurred when a person believes that using the new technology will free him from the effort during the process that leads to the final outcome (Monsuwe, Dellaert, & Ruyter, 2004).	Easy to perform	Interval
		Increase efficiency	
		Increase convenience	
X3 – Subjective Norms	The perceived social pressure to perform or not to perform the behavior (Ajzen, 1991)	Influence from family	Interval
		Influence from peers	
		Influence from society	
Y – Purchase Intention	The desire to know more about the product, select the product, and make a purchase (Tih & Lee, 2013)	Explorative	Interval
		Preferential	
		Transactional	

Table 2. Mean Value and Cronbach's Alpha of Questionnaire

Construct	Mean Value Gen X	Mean Value Gen Y	Number of Items	Cronbach's Alpha
Perceived usefulness	2.39	3.48	3	0.638
Perceived ease of use	2.58	3.15	3	0.677
Subjective Norms	2.77	3.5	3	0.718
Purchase Intention	2.6	3.41	3	0.714

Table 3. Result of Normality Test

One-Sample Kolmogorov-Smirnov Test		Unstandardized Residual
N		99
Normal Parameters <sup>a,b</sup>	Mean	.000000
	Std. Deviation	.66263321
Most Extreme Differences	Absolute	.051
	Positive	.051
	Negative	-.047
Kolmogorov-Smirnov Z		.505
Asymp. Sig. (2-tailed)		.961

appropriate for further test. Based on the validity test, there is no questionnaire item with validity value less than 0.3. This means that the entire questionnaire item can collect data accurately. Meanwhile, based on the reliability test, all variables met the minimum coefficient alpha result of 0.60 (Maholtra, 2011). It indicates that every item that represents the variable has internal consistency.

The data distribution considered normal if the P-value is more than 0.05. According to the test's results, the P-value is 0.961, proving that the data distribution is normal.

The multicollinearity of the variables can be analyzed through the value of Tolerance and VIF. If the tolerance is more than 0.10 and the VIF is less than 10, it can be concluded that there is no multicollinearity occurred. The multicollinearity occurs when independent variables are too highly correlated with each other. As the result, Yoo et al (2014, p. 12) stated that "it might cause redundant information, which means that what a regressor explains about the response is overlapped by what another regressor or a set of

Table 4. The Result of Multicollinearity Test

Model		Coefficients <sup>a</sup>	
		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	PU	.677	1.476
	PEU	.635	1.575
	SN	.663	1.509

Table 5. The Result of Multicollinearity Test

		ANOVA Table				
		Sum of Squares	df	Mean Square	F	Sig.
PU * PI	(Combined)	27.197	15	1.813	2.834	.000
	Between Groups	18.415	1	18.415	28.785	.000
	Linearity	8.782	14	.627	.981	.480
	Deviation from Linearity	53.098	83	.640		
	Total	80.295	98			
PEU * PI	(Combined)	66.404	15	4.427	10.570	.000
	Between Groups	57.837	1	57.837	138.101	.000
	Linearity	8.567	14	.612	1.461	.145
	Deviation from Linearity	34.761	83	.419		
	Total	101.165	98			
SN * PI	(Combined)	25.877	15	1.725	6.211	.000
	Between Groups	15.741	1	15.741	56.670	.000
	Linearity	10.136	14	.724	2.607	.074
	Deviation from Linearity	23.055	83	.278		
	Total	48.932	98			

other regressors explain."

According to the results of the tolerance values test, all variables are greater than 0.10. Meanwhile, the VIF values of all variables are less than 10. Therefore, there is no multicollinearity occurs in the research.

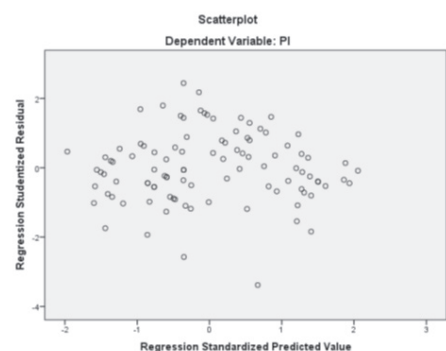
The analysis of variance (ANOVA) has two main focuses, namely the P-value of linearity and deviation of linearity. If the P-value of linearity is less than 0.05 and the deviation of linearity is more than 0.05, it means that the independent and dependent variables have a linear relationship. Based on the ANOVA table, all P-value of linearity variables are less than 0.05 and all deviation of linearity variables are more than 0.05. Hence, all independent variables have a linear relationship with dependent variables.

Tabachnick and Fidell (2007) explained that a regression model is considered good if the scatterplot takes the (approximate) shape of a rectangular; scores will be concentrated in the center (about the 0 point) and distributed in a rectangular

Table 6. The Result of Linearity Test

		ANOVA Table				
		Sum of Squares	df	Mean Square	F	Sig.
PU * PI	(Combined)	27.197	15	1.813	2.834	.000
	Between Groups	18.415	1	18.415	28.785	.000
	Linearity	8.782	14	.627	.981	.480
	Deviation from Linearity	53.098	83	.640		
	Total	80.295	98			
PEU * PI	(Combined)	66.404	15	4.427	10.570	.000
	Between Groups	57.837	1	57.837	138.101	.000
	Linearity	8.567	14	.612	1.461	.145
	Deviation from Linearity	34.761	83	.419		
	Total	101.165	98			
SN * PI	(Combined)	25.877	15	1.725	6.211	.000
	Between Groups	15.741	1	15.741	56.670	.000
	Linearity	10.136	14	.724	2.607	.074
	Deviation from Linearity	23.055	83	.278		
	Total	48.932	98			

Table 7. The Result of Heteroscedasticity Test



lar pattern. Simply put, scores will be randomly scattered in a horizontal line. In contrast, any systematic pattern or clustering of scores is considered a violation. In this research, the result of the scatterplot test reveals that the scores are randomly scattered, indicating that heteroscedasticity does not occur.

Based on three classical assumption tests, namely normality, multicollinearity, and heteroscedasticity, the data gathered data was appropriate for further test, which the multiple regression.

Regression analysis is a set of statistical processes for estimating the relationships among variables. It includes many techniques for modeling and analyzing several variables when the focus is on the relationship between a dependent variable and one or more explanatory variables (or 'predictors') (Cooper & Schindler, 2011). In the regression analysis, there are three tests, namely F test, R test, and T test. The regression analysis is divided into two types, single regression and multiple regressions. The single regression is when a regression analysis is performed between a dependent variable and one explanatory variable. On the other hand, multiple regressions are performed between a dependent variable and more than one explanatory variables. This study uses the multiple regressions analysis.

## Results

### Respondents' Demographic Profile

In regard to the respondents' gender, based on the collected data on the demographic profiles of respondents belonging to Gen X, most of them are female. According to data, 56% of the respondents are female, while 44% are male.

In regard to the age of the respondents, the age

groups are divided into three categories. Most Gen X respondents belong to age group 38 – 44 years old 46%. Followed by age group 51 – 56 years old 30% and the rest belong to age group 45 – 50 years old 24%.

In regard to income, most of the Gen X respondents, precisely 54% of them, receive a monthly income ranging from Rp 9 million to Rp 10.999 million. Meanwhile, 24% of the overall respondents have a monthly income more than Rp 11 million. Then, there are 12% of respondents with a monthly income ranging from Rp 7 million to Rp 8.999 million, 6% of respondents with a monthly income ranging from Rp 5 million to Rp 6.999 million, and 4% of respondents with a monthly income ranging from Rp 3 million to Rp 4.999 million.

In regard to the respondents' education level, the Gen X respondents are predominantly (60%) university undergraduates, followed by diploma graduate at 26%, high school graduates at 24%, and no respondent is a postgraduate.

The demographic profile of Gen Y respondents is also examined using similar factors. In regard to the respondents' gender, 60% of respondents are male while 40% are female. In regard to the age of the respondents, the age groups are divided into three categories. Most of the Gen Y respondents (48%) belong to the age group of 25 – 31 years old, followed by the 18 – 24 years old age group (30%), and lastly the 32 – 37 years old age group (11%).

In regard to income, 48% of respondents have a monthly income ranging from Rp 5 million to Rp 6.999 million, 22% of respondents have a monthly income ranging from Rp 3 million to Rp 4.999 million 12% of respondents have a monthly

Table 8. Gen X Respondents' Demographic Profile

Variable	Definition	Indicators	Measurement Scale
X1 – Perceived Usefulness	The degree to which a person believes that using a particular system would enhance his/her performance (Davis, 1989)	Time saving	Interval
		Cost saving	
		Effort saving	
X2 – Perceived Ease of Use	Occurred when a person believes that using the new technology will free him from the effort during the process that leads to the final outcome (Monsuwe, Dellaert, & Ruyter, 2004).	Easy to perform	Interval
		Increase efficiency	
		Increase convenience	
X3 – Subjective Norms	The perceived social pressure to perform or not to perform the behavior (Ajzen, 1991)	Influence from family	Interval
		Influence from peers	
		Influence from society	
Y – Purchase Intention	The desire to know more about the product, select the product, and make a purchase (Tih & Lee, 2013)	Explorative	Interval
		Preferential	
		Transactional	



Table 9. Gen Y Respondents' Demographic Profile

Demographic Factors		Frequency	Percentage
Gender	Male	30	60%
	Female	20	40%
Age	18 – 24	15	30%
	25 – 31	24	48%
	32 - 37	11	22%
Income	3million – 4.999 million	11	22%
	5million – 6.999 million	24	48%
	7million – 8.999 million	5	10%
	9million – 10.999 million	6	12%
	>11million	4	8%
Education	High school graduate	10	20%
	Diploma Graduate	5	10%
	Undergraduate	30	60%
	Postgraduate	5	10%

Table 10. Gen X and Y Time Spending Online and Online Shopping Experience

Factors		Gen X		Gen Y	
		Frequency	Percentage	Frequency	Percentage
Time spending to online	<1 hour	11	22%	2	4%
	1-2 hour	34	68%	7	14%
	2-3 hour	5	10%	5	10%
	3-4 hour	0	0%	6	12%
	>4 hour	0	0%	30	60%
Experience of online shopping	Yes	11	22%	42	84%
	No	39	78%	8	16%

income ranging from Rp 9 to Rp 10.999 million, 12%, 11% of respondents have a monthly income of Rp 7 million to Rp 8.999 million 10%, and lastly 8% of respondents have a monthly income more than Rp 11 million.

In regard to the respondents' education level, 60% of the respondents are undergraduates, followed by 20% of high school graduates, 10% of diploma graduates, and also 10% of postgraduates.

Based on the results of the analysis on Gen X respondents' and Gen Y respondents' demographic profiles, it can be concluded that respondents belonging to Gen X and Gen Y do not share similar demographic characteristics; the respondents are not homogenous, which decrease the generalizability of the findings.

### Respondents' Online Behavior

The data on the average time spent on the internet and for online shopping among the respondents is also collected. The data reveals that 68% of Gen X respondents only spend 1 – 2 hours online each day, 22% spend less than an hour, 10% spend 2 – 3 hours, and none of the respondents spends more than 3 hours. This highly contrasts the data on Gen Y respondents, which show that 60% of Gen Y respondents spend time more than 4 hours online each day, while 14% spend 1 - 2 hours, 12% spend 3 - 4 hours, and 4% spend less than one hour.

Additionally, the Gen X respondents' and Gen Y respondent's experience of online shopping also

differs. Most of Gen Y respondents (78%) have never had the experience of online, while only 22% of the respondents have the experience of online shopping. On the other hand, the majority of Gen X respondents (84%) have the experience of online shopping, while only 16% of them have never had the experience of online shopping.

These findings indicate that Gen Y respondents are more exposed to the internet rather than Gen X respondents. Following this, it can be assumed that the possibility of Gen Y embraces new technology, including e-commerce, is higher than that of Gen X.

### Regression Analysis to All Respondents

The R test on all respondents reveals that all independent variables (perceived usefulness, perceived ease of use, and subjective norms) have both positive and strong correlation with purchase intention, which is indicated by R score at 0.716. Moreover, the three variables have the ability to predict 51.2% of purchase intention, as shown by score at 0.512. Meanwhile, the remaining 48.8% of purchase intention is predicted by other variables discussed in this research.

Meanwhile, based on the F test on all respondents, showed three variables also have a significant influence on purchase intention. As revealed in the ANOVA table, Sig. or P score stands at 0.000, which is less than 0.05. According to Filho et al (2013), P score that is less than 0.05 means that statistically significant.

Table 11. Result of R test to All Respondents

Model Summary <sup>b</sup>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.716 <sup>a</sup>	.512	.497	1.7864

The result of T test demonstrates the significance of each variable's influence on purchase intention. The result of this test is also used to prove whether the research's hypotheses are proven or not.

The first hypothesis (H1) proposes that perceived usefulness has both positive and significant influence on purchase intention. According to the T test' result, the score of the  $\beta$  Unstandardized Coefficient is 0.291; thus, when the consumers' perception on e-commerce's usefulness increases by one point, it will increase their purchase intention by 0.291, proving that perceived usefulness has positive influence on purchase intention. Moreover, the P value stands at 0.012, which is less than 0.05. The score indicates that the influence of perceived usefulness on purchase intention is significant. These findings support the argument that perceived usefulness' influence on purchase intention is not only positive, but also significant, proving the first hypothesis.

The second hypothesis (H2) proposes that perceived ease of use has significant and positive influence on purchase intention. According to the T test' result, the score of the  $\beta$  Unstandardized Coefficient is 0.241; thus, when the consumers' perceptions on e-commerce's ease of use increases by one point, it will increase their purchase intention by 0.241, proving that perceived ease of use has positive influence on purchase intention. Moreover, the P value stands at 0.027, which is less than 0.05. The score indicates that the influence of perceived ease of use on purchase intention is significant. These findings support the argument that perceived ease of use' influence on purchase intention is not only positive, but also significant, proving the second hypothesis.

The third hypothesis (H3) proposes that subjective norms have significant and positive influence on purchase intention. According to the T test' result, the score of the  $\beta$  Unstandardized Coefficient is 0.323; thus, when the consumer's social environment's acceptance of e-commerce usage increases by one point, it will increase their purchase intention by 0.323, proving that subjective norms have positive influence on purchase intention. Moreover, the P value stands at 0.000, which is less than 0.05. The score indicates that the influence of subjective norms on purchase

Table 13. Result of T Test to All Respondents

ANOVA <sup>a</sup>					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	322.065	3	107.355	33.639	.000 <sup>b</sup>
Residual	306.375	96	3.191		
Total	628.440	99			

Table 12. Result of F Test to All Respondents

ANOVA <sup>a</sup>					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	322.065	3	107.355	33.639	.000 <sup>b</sup>
Residual	306.375	96	3.191		
Total	628.440	99			

intention is significant. These findings support the argument that subjective norms' influence on purchase intention are not only positive, but also significant, proving the third hypothesis.

### Regression Analysis to Each Generation (Comparison Gen X and Gen Y)

Other than analyzing the significance of perceived usefulness, perceived ease of use, and subjective norms on purchase intention of all respondents, this research also wants to specifically analyze the significance of the three variables on different generation, namely Generation X and Generation Y. The analysis attempts to compare which variable is more significant in influencing purchase intention of Gen X and Gen Y respectively.

In order to do this, the data of Gen X respondents and Gen Y respondents were analyzed separately. The result reveals that the influence of the three variables on respondents' purchase intention is different when tested on Gen X and Gen Y respondents; the correlation of the three variables and purchase intention is slightly stronger on Gen Y (0.857) than on Gen X (0.817).

Other than that, on Gen Y respondents, the three variables are able to predict 73.5% of their purchase intention. Meanwhile, on Gen X respondents, the three variables are only able to predict 66.7% of their purchase intention. This difference indicates that the influence of three variables is more significant on Gen Y than Gen X.

However, to prove the hypotheses, the researcher needs to look on the P value that defines the significance of independent variables' influence on dependent variables.

The first hypothesis (H1a) further proposes that there is a difference between the significance of perceived usefulness' influence on Gen X respondents' purchase intention and Gen Y respondents'. On Gen X respondents, the perceived usefulness' influence on their purchase intention is insignificant, as illustrated by the P value which is less than 0.05 (0.081). Meanwhile, on

Table 14. Result of Multiple Regression Analysis on Generation X and Y

	Generation X				Generation Y			
	R	R <sup>2</sup>	$\beta$ Unstandardized Coefficient	Sig/P. value	R	R <sup>2</sup>	$\beta$ Unstandardized Coefficient	Sig/P. value
Simultaneously	.817	.667			.857	.735		
Perceived Usefulness			.176	.081			.507	.000
Perceived Ease of Use			.426	.000			.406	.005
Subjective Norms			.344	.002			.401	.000

Gen Y respondents, the perceived usefulness' influence on their purchase intention is significant, as illustrate by the score of Sig that is less than 0.05 (0.000). This findings, thus, confirm the first hypothesis (H1a).

Furthermore, it can be seen from the test' result that in regard to Gen X respondents, when their perception on usefulness increases by one point, their purchase intention also increases by approximately 0.176. On the other hand, in the case of Gen Y respondents, when their perception on usefulness increases by one point, their purchase intention also increases by approximately 0.507.

The second hypothesis (H2a) proposes that the significance of perceived ease of use's influence on Gen X respondents' purchase intention is different with the influence on Gen Y respondents'. In terms of Gen X respondents, the influence is more significant because the P value is less than 0.05 (0.000). Similarly, in the case of Gen Y respondents, the perceived ease of use' influence on purchase intention is also significant as the P is less than 0.05 (0.005). The different P values indicates the influence of perceived ease of use on purchase intention is more significant on Gen X respondents than Gen Y respondents. This confirms the second hypothesis (H2a).

Moreover, in regard to Gen X respondents, when their perception on ease of use increases by one point, it increases their purchase intention by approximately 0.426. On the other hand, in the case of Gen Y respondents, when their perception on ease of use increase by one point, it increase their purchase intention by approximately 0.406.

The third hypothesis (H3a) proposes that The significance of subjective norms' influence on purchase intention is difference on Gen X and Gen Y. On Gen X, the influence of subjective norms on purchase intention is significant, indicated by the P value which is less than 0.05 (0.002). Similarly, on Gen Y, subjective norms also has significant influence on their purchase intention, indicated by the P value which is less than 0.05 (0.000). This illustrates the slight difference of the significance of subjective norms' influence on Gen X respondents' and Gen Y respondents' purchase intention, confirming the third hypothesis (H3a).

Additionally, in the case of Gen X respondents, when subjective norms increase by one point, their purchase intention also increases by approximately 0.344. On the other hand, in regard to Gen Y respondents, when subjective norms increase by one point, their purchase intention also increases by approximately 0.401.

## **Discussion**

This research finds that for all respondents, without clustering them based on which generation they belong, the three variables, namely perceived usefulness, perceived ease of use, and subjective norms, have both strong and positive influence on their e-commerce purchase inten-

tion. However, the degree of significance of each variable differs on each generation. The variable with most significant influence is the subjective norms, followed by perceived usefulness, and finally perceived ease of use.

The significant influence of subjective norms on purchase intention is also found by other researchers (Chiou, 1998; Putra, 2012; Soodan & Pandey, 2016). There are some studies that confirm the significant influence of subjective norms on online purchase intention (Amoroso, 2009; Khalil & Michael, 2009). Such causal relationship occurred because subjective norms can put individuals under social pressure, which shapes their perception on whether they should engage in specific behavior or not. Social norms are constituted by social environment, either internal or external, surrounding the individual. When the social environment accepts the behavior, it will motivate the individual to do it. On the other hand, if the behavior is considered unacceptable, it reduces the individual's desire to do it; individuals tend to avoid unacceptable behaviors to prevent adverse consequences.

However, cultural factors can affect the significance of subjective norms' influence on purchase intention as well. In a research conducted by Pavlou and Chai (2002) which compares consumers in China and the US, it finds that Chinese consumers, which adopts collectivist norms, feel obliged to base their activities on other people's perspective. Meanwhile, American consumers, which are highly individualistic, feel self-sufficient in conducting their actions; hence, their tendency to follow the subjective norms diminishes. Indonesia is a country which is imbued with collectivist culture also, which explains the result of this research indicating that subjective norms are the variable that have the most significant influences on purchase intention in e-commerce compared to other variables.

In addition, this research also finds that the influence of subjective norms on purchase intention in e-commerce is more significant among Gen Y respondents rather than Gen X respondents. This may be caused by the relative young age of the Gen Y respondents which affects their social behavior; they spend more time socializing with their peers, during which a certain urge to be accepted by their peers emerges. Hence, they tend to follow their peers' perception on certain behavior since if they do not, they fear that they will become a social pariah (Lim, Osman, Manaf, & Abdullah, 2015).

Another variable, namely perceived usefulness, also has significant influence on all's, not limited to Gen X or Gen Y respondents, purchase intention in e-commerce. Regardless, its influence is not as significant as subjective norms'. A similar finding is also confirmed by Renny, Guritno, and Siringoringo (2013), who argue that perceived usefulness of e-commerce has both positive and significant influence on purchase intention.

This is because it is the nature of human beings to seek and prefer for beneficial things, which influences people's decision making process. When an act does not bring benefits, it will be avoided and vice versa.

However, when tested among different generations, the influence of perceived usefulness on purchase intention in e-commerce is only significantly shown on Gen Y respondents. Meanwhile, among the Gen X respondents, the influence is not as significant. This may be due to the fact that Gen X did not grow up along with the technology. Hence, their perception on the usefulness of technology, including e-commerce, is low (Lissitsa & Kol, 2016). In contrast, Gen Y has high confidence in e-commerce. According to a research conducted by Muda, Mohd, and Hassan (2016), Gen Y perceives e-commerce as a platform that allows the consumers to make a purchase while conveniently saving time and expenses. This research finds that Gen Y respondents' perceive e-commerce as very useful, as illustrated by the mean value of Gen Y respondents' perceived usefulness (3.48).

Similar with the two abovementioned variables, the perceived ease of use has significant influence on purchase intention in e-commerce as well. A similar result was also found by several prior research projects, such as Renny, Guritno, and Siringoringo' (2013). The significance of perceived ease of use on purchase intention may be caused by the fact that no one likes to make extra efforts to achieve something mundane like making a purchase. Hence, when an e-commerce platform is difficult to use, it will discourage potential consumers before they develop purchase intention. On the other hand, if the consumers perceive an e-commerce platform as easy to use, they will be more willing to learn to use the platform, increasing the significance of perceived ease of use' influence on purchase intention.

However, the influence of perceived ease of use on purchase intention differs among Gen Y and Gen X. In regard to Gen Y respondents, perceived ease of use in e-commerce is the least significant compared with other variables. This may be due to the fact that they have acquired familiarity with information technology since their adolescence, making them more adept to it. Hence, even when an e-commerce platform is relatively difficult to use, it does not significantly impact their intention to purchase. On the other hand, this contrasts with the result of regression on Gen X respondents. For Gen X respondents, perceived ease of use has the most significant influence on their purchase intention in e-commerce. It might be related to Gen X's less fluency in technology, particularly the internet and e-commerce, compared to Gen Y. Unlike Gen Y, most of Gen X did not grow up along information technology advancement, but rather they learn about it during their adulthood. That is why Gen X is often labeled as digital immigrant. Therefore, as they do

not have sufficient aptitude in using new technology, perceived ease of use becomes a very important factor for them.

## Conclusion

This research finds that for all respondents, without clustering them based on the generation to which they belong, the three variables, namely perceived usefulness, perceived ease of use, and subjective norms, have both strong and positive influence on their purchase intention in e-commerce. The variable with the most significant influence is subjective norms, followed by perceived usefulness, and perceived ease of use. Regardless, the degree of significance of each variable differs among each generation. For Gen X, despite the three variables' impact, only perceived ease of use and subjective norms that have significant influence on e-their purchase intention in e-commerce. Meanwhile, the influence of perceived usefulness is relatively insignificant. On the other hand, for Gen Y, the most significant variable in influencing their purchase intention in e-commerce is the subjective norms, while perceived usefulness and perceived ease of use are relatively less significant.

This demonstrates the difference between Gen X and Gen Y. Therefore, the marketers need to treat these generations differently. If a similar marketing strategy is implemented on both generations', it might not work effectively in increasing their purchase intention. Thus, before formulating the strategy, the marketers must ensure that it is aligned with the actual condition. According to this research's findings, e-commerce must focus on improving potential customers' perception of ease of use first. This can be done by simplifying the interface and flow path or providing customer service to help customers, which will make it easier for potential customers to browse and select a product, and make a purchase. After improving the perception of marketers can provide tutorials to the target market. Some of the suitable ways to do this are by sending tutorial video or officers to teach the target market about the e-commerce. To be more effective, the tutorial can target a group of target market at once, such as mothers that take and wait for their children during school hours.

Meanwhile, for the Gen Y, the marketing strategy should focus on creating a trend among youngsters by employing the word-of-mouth marketing strategy. This is because subjective norms have the most significant influence on Gen Y's purchase intention in e-commerce.

## Limitation

Similar with other studies, this research has a number of limitations. First, this research covers only relatively a small number of respondents. Moreover, the respondents mostly live in Jakarta. Therefore, the findings cannot be used to explain the attitude of all Gen X and Gen Y across



the country. Future studies with a larger sample size which also includes respondents from the rural area are needed. Second, this research did not test the correlation between independent variables, while there is possibility that the independent variables are correlated to each other. How

independent variables correlate with each other may affect how the marketing plan should be implemented. Hence, future studies which test the correlation between independent variables are needed.

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