The Intention Of Indonesian Middle-Class Millennial Consumer To Purchase Through E-Commerce

Evelyn Hendriana [a], Nyayu Noor Natasha Dewi Akiel [b], Nyssa Nadira Nathania Silalahi [c], Farras Ramadhan[d]
[a,b,c,d] Binus Business School, Master Program, Business Management, Management Department, Bina Nusantara University, Jakarta, Indonesia
Email [a]evelyn.hendriana@binus.edu

Article History: Received: 11 January 2021; Revised: 12 February 2021; Accepted: 27 March 2021; Published online: 28 April 2021

Abstract: The rise of the e-commerce industry in Indonesia started 10 years ago and Indonesia is predicted as the market leader in Southeast Asia by 2025. The growth of this industry is driven by an increasing number of middle-class millennial consumers who are technology savvy and have higher purchasing power. Despite the importance of this consumer segment, there are limited studies about the intention of middle-class millennial consumers to purchase through e-commerce, particularly in developing countries, such as Indonesia. This study intends to examine the factors leading to consumer intention to shop online by including perceived security and perceived privacy to extend the theory of Technology Acceptance Model (TAM). Data were collected from 187 respondents and analyzed using PLS-SEM. The findings showed that perceived usefulness, perceived ease of use, perceived security, and perceived privacy influences consumers' intention to shop in e-commerce, which was mediated by their attitude toward e-commerce. Among these influencing factors, perceived usefulness had a greater role in shaping consumer attitudes toward e-commerce than perceived ease of use, perceived security, and perceived privacy..

Keywords: E-Commerce, Middle-Class Millennial Consumer, TAM, Purchase Intention

1. Introduction

Over the past years, Indonesia's e-commerce market has rapidly grown 60-70% on an annual basis since 2014 and will reach USD60 billion in 2020 (Australian Trade and Investment Commission, 2018). According Google & Temasek (2019), transaction value based on the Gross Merchandise Value (GMV) method recorded on Indonesia's e-commerce platform in 2015 reached USD1.7 billion equivalent to IDR294 trillion and the market will be worth USD53 billion by 2025, making it the leader of e-commerce in Southeast Asia in the near future (Tempo, 2019).Euromonitor transcribes the proliferation of e-commerce in Indonesia shows that people shopping interest in 2014 has reached USD1.1 billion, higher than Thailand and Singapore (Katadata, 2014) and Badan Pusat Statistik (BPS, 2014) recorded that in the last 10 years increased by 17 percent with a total number of e-commerce businesses reaching 26.2 million units (Idea, 2019). In Indonesia, there is an increasing number of sessions for e-commerce applications from 8 billion in 2016 to 30 billion in 2019 (Google et al., 2019). The rise of e-commerce market in Indonesia triggered by the behavior of urban middle-class millennial who are described as the early adopters of technology and the concept of shopping on e-commerce platforms (The Jakarta Post, 2017). The growth of the world population of middle-class is expected to reach 5.5 billion by 2030, with the majority 66% represented by Asians (European Commissions, n.d.). In 2020 to 2030, Indonesia's middle-class population will be overtaken by India, and China. Since 2010, the population of the middle-class in Indonesia is the largest, followed by the Philippines, Vietnam, Thailand and Malaysia, and in the future will become one of factors in the economic growth due to their purchasing power (Alvara Research Centre, 2016). There are 74 million of middle-class and affluent customers (MAC) in Indonesia and will have reached 141 million people by 2020, approximately 64 percent from total population in Indonesia (Boston Consulting Group, 2013).According to Asian Development Bank, the majority of the Indonesian middle class are living in urban areas with daily spending $2 to $40, which can be further categorized into lower-middle class, middle-middle class, and upper-middle class (Alvara Research Centre, 2016). Among these people, some of them are young consumers who were born between 1984 and 1999, also known as the millennial generation. The projection of urban-middle-class millennial population in Indonesia will have reached 35 million in 2020 (Alvara Research Centre, 2017).The Indonesian Central Bureau of Statistics reported that 63.5 million people from the total 179.1 million productive population in 2020 are millennial (IDN, 2020). Millennial consumers are a significant contributor to the growth of the e-commerce industry and dominated 64% of online shoppers in Indonesia (Ipsos, 2018). Millennial are described as male and female within the 21-36 age group in the year of 2020, which are divided into junior millennial (21-28 years old) and senior millennial (29-36 years old) (IDN, 2020). During 2012 to 2016, the Indonesian customer in the e-commerce industry within the millennial age group 18-34 years old was 80% dominated by male (Australian Trade and Investment Commission, 2018), however in 2017 female customers reached more than 60% (Kumparan, 2017). In 2017 there are 20 million online shoppers in Indonesia and expected to increase to 65 million by 2020 (Statista, 2020). Despite this potential increasing number of online shoppers, there are some issues that may hinder consumers to shop online. One of the main problems faced by e-commerce in developing countries, such as Indonesia, is the distrust of users towards website security. Kompas (2020) reported that 91

million user data and more than 7 million merchant data from Indonesian unicorn Tokopedia were leaked and sold on the internet black market site. Indonesian Minister of Communication and Information, Rudiantara, said that Indonesia still does not have laws governing the protection of personal data, which is very different from developed countries like in Europe (Tirto, 2019).There are many factors that encourage people to buy products or services through e-commerce, one of them is attitude toward e-commerce (Pavlou & Fygenson, 2006; Smith et al., 2008). Consumer intention to shop online is also influenced by their level of adoption to e-commerce technology. Many studies about consumers' intention to purchase online are applying the theory of Technology Acceptance Model (TAM) (e.g. Cheng et al., 2006; Chandio et al., 2013). TAM was proposed by Davis in 1989 as an extension to the Theory of Reasoned Action (TRA). This theory is particularly used to explain individual's adoption of information technology (Lee, Kozar, & Larsen, 2003), which is relevant to e-commerce. Referring to this theory, one's intention to adopt new technology in the context of this research is online shopping, influenced by perceived usefulness and perceived ease of use (Changchit et al., 2018). Although TAM is popular to study one's adoption and intention to use information technology and information systems (Rupanjali, Bhal, & Kapoor, 2013), some scholars argue that additional variables are still needed to strengthen predictive power of behavioral intention (Davis, 1989; Rupanjali et al., 2013).Changchit et al. (2018) stated that the factors that influence consumers to shop online in developing countries might be different from those in developed countries. In the e-commerce context, perceived security (PS) and perceived privacy (PP) are believed to influence consumer behavioral intentions (Hanudin, 2007; Nasri & Charfeddine, 2012; Ashraf et al., 2014). Consumer's perception over the security features of a website have been cited as one of the determining factors of website success (Greunen, Herselman, & Niekerk, 2010). Kim et al. (2008) also confirmed the relationship between information quality, perceived security, and perceived privacy protection and trust, these factors have a great purchase influence on e-commerce. Users' perception of security and privacy can influence their confidence in making online transactions and trigger user behavior intentions (Balapour, 2020). Hence, perceived security and perceived privacy variables are relevant in influencing consumer's willingness to shop online, particularly in countries that have low Internet security and data protection such as Indonesia. Furthermore, most studies in e-commerce were also not specified analysing the behaviour of the young middle-lass population (e.g., Razafimandimby, 2017; Molina-Castillo, 2016; Agag & El-Masry, 2016; Ayeh, 2015; Ravallion, 2010; Soopramanien & Robertson, 2007) particularly in developing country. One exception is the study of Changchit et al. (2018) that looked at the influencing factors of purchase intention through online shopping of university students in Thailand. Due to the technological savvy of young consumers and the value of middle-class consumers to the nation's economy, it would be more interesting to focus on this segment, so that marketers may gain deeper insights on the online purchasing behavior of this consumer segment.The purpose of the study is to examine the influence of perceived usefulness, perceived ease of use, perceived security, and perceived privacy on purchase intention to shop online that mediated by attitude toward e-commerce of Indonesian middle-class millennial. The research questions for this study are described in the following: (1) How do perceived usefulness, perceived ease of use, perceived security, and perceived privacy influence attitude toward e-commerce?, (2) How do perceived ease of use influence perceived usefulness?, (3)How does attitude towards e-commerce influence the intention to purchase in e-commerce?

2.Literature Review

2.1purchaseintention

Purchase intention is defined as the consumer's preference for buying a product or service (Keller, 2001). Ajzen (1991) states that the main aspect that drives individuals to perform a behavior is intention. According to Fitzsimons and Morwitz (1996), decision makers use and measure purchase intentions as input to decisions. Future sales can be predicted and correlated with purchase intentions and investigations are needed as to why purchase intentions do not always translate into sales. There are several theories that can be used to see customer purchase intentions towards e-commerce, one of them is the technology acceptance model (TAM) (Hernández, 2010). TAM is considered as the most effective model in being able to test consumer acceptance and behavior towards technology. In TAM there are two cognitive factors that can determine a person's perception of information systems viz perceived usefulness (PU) and perceived ease of use (PEOU). Previous studies that applied TAM to examine customer acceptance towards technology reported a significant relationship between perceived usefulness and perceived ease of use as determinants of consumer acceptance of technology that drives their intention to purchase through e-commerce (Amaro & Duarte, 2015; Agag & El-Masry, 2016; Vahdat et al., 2020).

2.2.Theory of Technology Acceptance Model (TAM)

A few theoretical models have been implemented to explain user acceptance and usage behaviour regarding emerging the information technologies. In any case, TAM, as a model to understand customer attitudes towards mobile technology use (Rivera et al., 2015), known as the most accepted paradigm (Venkatesh & Davis, 2000).

As an adaptation of Theory of Reasoned Action (TRA), there are two new variables: perceived usefulness, and perceived ease of use to replace prior variables (McFarland & Hamilton, 2006). Davis (1989) as the originator of the Theory of Technology Acceptance Model (TAM) states that the perception of risk has a significant relationship to the level of acceptance of the technology. TAM provides customer intention with justification and validity, explanation of variances in customer behaviour within the context of technology (Kim et al., 2016). Davis (1989) introduced it as a model to predict behavioral intention to adopt computer technology and information systems. According to TAM, consumers' attitude and behavioral intention to use technology or system depends on the perceived usefulness (PU) and the perceived ease of use (PEOU). TAM is widely used in computers and technology-related behavior (Cheng et al., 2006; Chandio et al., 2013). In the past, the TAM has been used by researchers to investigate factors that affect the acceptance and adoption intentions of technological innovations (Cheng et al., 2006; Chandio et al., 2013). It is also the most widely used theory in studies that measure the adoption intentions of internet or e-banking (Wang et al., 2003; Cheng et al., 2006)

2.3.Perceived Usefulness

Perceived usefulness is described as the beliefs of target customers that a specific technology will generate significant value (Olaleye et al., 2018). TAM posits that behavioural intention is determined by attitude towards the system used, and the perceived usefulness, where attitude is a direct function of usefulness (Gupta, 2017). Perceived usefulness is the essential web architecture highlights. Shah et al (2014) notices functionality, enjoyment, reliability, process and responsiveness as the website features alludes to elements, for example, usability, data introduction, navigation, personalization, and usefulness highlights of a site as the plan qualities of a site.The classification proportions of a site are perplexing and hard to be assessed by clients though web architecture highlights and traits are all the more straightforward and simpler to be assessed by clients. It is accepted that clients will in general assess the safety efforts of a site dependent on their experience and quick interface with the framework (Shah et al., 2014). Along these lines, other than clients' view of classification, mechanical arrangements and confirmations, clients' encounters and impression of a site interface are affecting the attitude of the customer to purchase the product.Technology Acceptance Model can be applied to look at the customer attitude toward e-commerce and its belongings, and the acknowledgment to buy over the web. This attitude is influenced by two principal factors: usefulness and ease of use of e-commerce. For usefulness, the client endeavors to get numerous advantages from electronic buy, for example, setting aside cash, time, and the huge choices of items or administrations. Ashraf (2014) conducted research using TAM to study online shopping adoption in Pakistan and Canada. The findings showed that attitude has a significant relationship as a mediator between perceived usefulness and the intention to shop online in both countries. Similar findings are reported by various scholars indicating that a framework which is found out and overseen effectively fulfills people and intention to use the system (Daştan, 2016). Therefore, the hypothesis is formulated as: *H1 : Perceived usefulness has a positive influence on customer's attitude toward e-commerce.*

2.4.Perceived Ease of Use

Davis et al. (1989) portrayed that the objective framework in the "Perceived of ease of use" should be freed from exertion and anticipated by the customer. Davis (1993), therefore, stated that a specific framework is required in the absence of extortion. Celik (2008) found that people who see new innovation in a valuable view are more eager to learn and use. Perceived ease of use is fundamental in influencing customer participation in e-commerce (Molina-Castillo, 2016). Nowadays, the mandatory requirements for e-commerce applications in the middle of a digital environment are easy to use, and the application is considered as useful and also usable. In this manner, if a site has an efficient interface to help consumers to discover the data they require for exchanges, clients will see it as a dependable and reliable site that plans to build up a drawn-out relationship with its consumer (Shah et al., 2014). Contends that consumers may utilize web architecture highlights to pass judgment on the classification measures and traits of a site. Attitudes are known as an indication and reaction to determine people's effort and willingness to try (Baek, 2013). A complicated system can impact people's attitude and ease of use (Rogers, 1995). However, the "perceived ease of use" is described as user's expectation for target system with less effort (Davis et al.,1989), which is also considered as a significant point to understand user's response toward information technology (Agarwal & Karahanna, 2000; Chau & Hu, 2001; Hong et al., 2002; Liu & Wei 2003).Past studies revealed a significant relationship between intention to use and perceived ease of use (Daştan, 2016; Agarwal & Prasad, 1999; Venkatesh & Davis, 2000; Davis et al., 1989). In e-commerce context, perceived ease of use is described as the user's perception that online shopping facilitated the process of shopping more easier and with less effort (Pelaez, et al., 2017). Previous research reported that ease of use significantly influenced attitudes towards online shopping (Agag & El-Masry, 2016; Ayeh, 2015). An easy to use system will be considerably useful, therefore TAM suggests that an easy to use online shopping site may lead to perception of usefulness. Any enhancement to ease of use affecting the increased performance (Davis, Bagozzi, & Warshaw, 1989). It is expected there is a direct effect from ease of use to perceived usefulness (Venkatesh & Davis, 2000).

Likewise, a few examinations have affirmed that perceived ease of use has a solid impact on perceived usefulness (Daştan, 2016). Therefore, the hypotheses regarding the perceived ease of use are formulated as:*H2 : Perceived ease of use has a positive effect on perceived usefulness.H3 : Perceived ease of use has a positive effect on customer attitude toward e-commerce.*

2.5.Perceived Security

Privacy and security concerns are mutually exclusive, yet they influence one another (Balapour & Sabherwal, 2016). Furthermore, they are both really sensible for customers in online trades (Balapour & Sabherwal, 2016). It has been built up that in online business exchanges, client protection observations emphatically impact their security recognitions (Balapour & Sabherwal, 2016). Shah (2014) exhibited that clients' impression of protection on informal community destinations influences their security recognitions.Indahingwati (2019) keeps up the conviction that security concerns recommend the security of cash related data, for example, credit card data or online record passwords. She states that an online exchange is secure if the data comes from the correct party and appears at the correct segment without being seen, changed, or destroyed during the headway technique and cutoff. She also mentions that the battle that clients believe online to be a moral issue and imagine that online shippers should ensure the security of delicate data which they hold. Balapour and Sabherwal (2016) indicated that the forerunners of protection and security influence one another, distinguishing the need to additionally research the collaboration between these two similarly significant constructs in protection and security writing. Against this setting, this assessment acknowledges that assurance acknowledgments impact clear security. Thus, this assessment loosens up and adds to the interconnection of insurance and security composing concerning adaptable applications.On the other hand, the intellectual parts of the inward factor sub-segment allude to the degree of getting, thought and acknowledgment of data for people who will at that point structure a progression of contemplations that take an interest in adding to the last disposition of people to dynamic to have results of merchandise or administrations they need. Positive cognitive aspects will likewise give positive input to purchasers to purchase an item, just as negative criticism or awful experience that has been acquired by customers before is additionally a solid thought to decline to purchase an item/administration item. In its journey, humans, as complex social creatures, cannot be separated from elements such as ethics, security, morals and norms in behaving, including in terms of purchases (Indahingwati, 2019).The previous study showed that when shopping on the e-commerce website, customers are generally concerned about site security and protection (Chang, 2016). Sites could decline shoppers' apparent dangers of the web condition by advancing security highlights (Chang, 2016), for example, expressly clarifying security and security arrangements and guidelines (Chang, 2016). Taking care of clients' issues helps buyers to build up subjective trust toward sites and successfully diminishes apparent dangers. Therefore, the hypothesis is formulated as:*H4 : Perceived security has a positive effect on customer's attitude toward e-commerce.*

2.6.Perceived Privacy

Online trust guarantee is important for consumers because it can help them to reduce security and privacy violations when conducting online commercial transactions (Blut et al., 2015). Miyazaki (2001) believes that information privacy and consumer concerns are the most important issues faced by a technology-based environment. The perceived privacy protection can be used as a reference for online sellers to protect consumers obtained during online transactions against unauthorized disclosure or use (Kim et al., 2008).Consumers can be suspicious that online sellers will even sell their personal information to other companies and persons. It is because during online transactions, online sellers request and collect a large amount of consumer's personal information, such as name, home address, telephone numbers, email address, bank account, and credit card number during online transactions (Kim et al., 2008). Therefore, consumers have concerns about how websites manage their personal information. Riquelme and Roman (2014) there are several things that can affect privacy on consumers' online trust, including gender, age and education.E-commerce can build consumer trust as long as they can conduct online transactions in accordance with consumer expectations. This statement supported from previous studies by Gurung and Raja (2016) found that privacy and security affect consumer attitudes in using e-commerce, where this attitude has a significant influence on consumer purchase intentions. McCole et al. (2010) conducted a study on online trust that included attitudes and purchase intentions. The findings found that when consumers have high privacy awareness it will affect their attitude towards online purchases. Through this reality, if consumers have lack confidence that their privacy will be protected by online sellers, they may not continue to purchase through e-commerce because they will feel threatened (Van Dyke, Midha, & Nemati., 2007; Ponte et al., 2015). Therefore, the hypothesis is formulated as:*H5 : Perceived privacy has a positive influence on customer's attitude toward e-commerce.*

2.7.Attitude toward e-Commerce

Eagly and Chaiken (2007) determine that an individual's favor and disfavor for a particular object can be seen from his psychological path or can be classified as attitude. Attitude has an important role in influencing thoughts, feelings of consumers in decision making. Barber, Taylor, & Deale (2010) suggests that consumers' attitude should be investigated, along with sustainability practices, and also the purchase intentions. Various attitude models should be developed to investigate consumers' attitude and purchase intentions. Several studies have found that attitude has a strong influence on customers' intention to purchase (Das, 2014; Zhang & Kim, 2013). Based on research conducted in Malaysia, Hasbullah et al. (2016) reveals that attitudes towards online shopping have a significant positive relationship with intention to buy. Their findings show a link between positive attitudes and increased intention to purchase through e-commerce. This is supported by other research such as Sheppard et al. (1988), Bredahl (2001), Chen (2007), Tang and Medhekar (2010), and Michaelidou and Hassan (2010). Therefore, the hypothesis is formulated as: *H6 : Attitude toward e-commerce has a positive influence on intention to purchase in e-commerce.*

3.Methods

3.1.Sample

A quantitative research approach is used to obtain a picture on the middle-class millennial's online purchase intention. The online questionnaires were randomly distributed to targeted respondents domiciled in Jakarta, as one of urban areas in Indonesia, and represent the millennial generation within the age range of 21 – 36 years old in 2020, also represent middle-class with daily spending of 2 – 20 USD.

A convenience sampling method was applied to select the samples. Convenience sampling in some cases is viewed as 'coincidental tests' since components might be chosen in the example basically, as they simply happen to be arranged, spatially or authoritatively, close to where the specialist is leading the information assortment (Etikan, 2016). Prior to the main survey, a pilot survey of 25 samples were conducted for reliability and validity testing. Data were collected in May 2020 by distributing questionnaires to target respondents via online. In total, 187 valid responses were used to analyze perceived usefulness, perceived ease of use, perceived security, perceived privacy, attitude toward e-commerce and purchase intention of the middle-class millennial generation.

3.2.Measures

The questionnaire consists of several sections. The first section consists of ten (10) questions related to the socio-demographic characteristics of the participant (age, marital status, work, etc). The questions in this segment is to classify and filter respondents. Is it middle class and millennial or not. The other six sections were asking respondents' assessment on the variables in this study. The questions were developed based on a literature review. There were five items measuring perceived usefulness adopted from Dickinger and Meyer (2008), Vahdat et al. (2019), and Changchit et al. (2018, five items measuring perceived ease of use adopted from Dickinger and Meyer (2008), five items measuring perceived security adopted from (Balapour, 2020), and five items measuring perceived privacy adopted from (Balapour, 2020). The items measuring attitude toward e-commerce and purchase intention were adopted from Suntornpithug and Khamalah (2010), in which each variable was measured by 5 items. Each item measuring variables of interest was measured by a 5-point Likert scale (1 as Strongly disagree - 5 as Strongly agree).

In this research, we used structural equation modeling (SEM) for data analysis, a statistical modeling technique that is very cross-sectional, linear and general. Included in SEM is factor analysis (factor analysis), path analysis (path analysis) and regression (regression). It is a statistical technique used to construct and test statistical models that are usually in the form of causal models.(Sarwono, 2010). The reason for using SEM is because SEM has characteristics that are an analytical technique to confirm rather than to explain. Using SEM in this study to determine whether a particular model is valid or not rather than use it to find a particular model is suitable or not, although SEM analysis often also includes elements used to explain (Sarwono, 2010). This study applied PLS-SEM due to the small sample size, which was less than 250 as required by CB-SEM.

4.Results And Discussion

4.1.Profile Of Participants

There were 238 questionnaires collected from May 11-12, 2020 with a usable rate 78.6 percent for 187 respondents. As presented in **Table 1**, the respondents' profile consisted of female (53.5%) and male (46.5%) and dominated by millennial juniors aged 21-28 years (64.7%). There were respondents with single status (71.1%), married status (28.3%) and divorced/widowed (0.5%). The majority of respondents had bachelor's degrees (71.7%) and around (56.7%) work as employees with an average monthly income of Rp3,800,001 - Rp10,000,000 (56,7%). More than half of respondents (56.7%) had a total daily spending in general for Rp60,001 - Rp150,000. The results of the sample proved that the majority of respondents actively shop through e-commerce, around

48.7% shopped 1-2 times in a month, followed by 31.0% more than 3 times, and the rest (20.3%) shopped less than once a month. The most frequently purchased products are food and beverages (55.1%) and home accessories (54.5%). Reasons many respondents like shopping through e-commerce is because of the competitive prices (77.5%) and the time efficiency (73.3%). Around 28% respondents bought electronics, gadgets, hobbies, and child care products through e-commerce.

Table 2 presents the descriptive statistics, validity, and reliability of the items. This study used descriptive analysis to look at the characteristics of the data set. The respondents agreed that e-commerce helped them to meet their needs. Specifically, the benefits and conveniences offered by e-commerce affect their attitude in conducting transactions. The purchase intention of middle-class millennial consumers through e-commerce was influenced by perceived usefulness and perceived ease of use, followed by their trust in the securities of how an e-commerce site can protect their personal data privacy. They agreed that the four variables, perceived ease of use (PEOU), perceived usefulness (PU), perceived security (PS) and perceived privacy (PP) can influence their attitude to shop through e-commerce.

This study also did construct validity and reliability tests. As shown in **Table 2**, construct validity was measured by factor loading and average variance extracted (AVE). One item, PS5, was excluded from the analysis due to low factor loading (less than 0.5). After deleting this item, the factor loading of remaining items were ranging from 0.801 (Perceived Privacy) to 0.927 (Perceived Security) and AVE from 0.543 (Perceived Privacy) to 0.761 (Perceived Security). The reliability was measured by Cronbach's alpha which ranged between 0.763 (Purchase Intention) and 0.894 (Perceived Security) and composite reliability that ranged between 0.854 (Perceived Privacy) and 0.927 (Perceived Security). The result of discriminant validity (see **Table 3**) indicated that all factors were not fundamentally related since the square root of AVE was greater than the correlation between two variables. The hypotheses were examined using Partial Least Square - Structural Equation Modeling (PLS-SEM). **Table 4** and **Figure 2** presents the effects of exogenous factors on the endogenous variable.

As shown in **Table 4,** all hypotheses were supported. The influence of perceived usefulness on attitude toward e-commerce was positive and significant (**β**=0.430, p-value < 0.01), which supported H1. The influence of perceived ease of use on perceived usefulness was also positive and significant (**β**=0.754, p-value < 0.01), which supported H2. Perceived ease of use had a positive influence on attitude toward e-commerce (**β**=0.283, p-value < 0.01), which supported H3. The effect of perceived security influence on customer's attitude was positive and significant (**β**=0.111, p-value < 0.05), which supported H4. The influence of perceived privacy on customer's attitude was positive (**β**=0.121, p-value < 0.05), which supported H5. Lastly, customer's attitude had a positive influence on purchase intention (**β**=0.764, p-value=0.000), which supported H6.

This study found that perceived usefulness played a more significant role in affecting customers' intention to use e-commerce to shop via attitude toward e-commerce. In contrast to perceived usefulness, perceived security was the least significant factor that influenced intention to shop in e-commerce. The finding also showed that perceived ease of use had direct and indirect influence on attitude toward e-commerce.

5.Discussion

There is a positive relationship between the perceived ease of use to perceived usefulness which is supported by previous studies (Ashraf, 2014; Agag & El-Masry, 2016). The behaviour of middle-class millennial to accept new technology, such as e-commerce, is more adaptable and more eager to learn how to use it. Those behaviors resulted in a generation preference of online shopping through e-commerce instead of conventional stores on a frequent basis.

The influence of perceived usefulness and perceived ease of use on attitude toward e-commerce is positive and significant. These elements are the most important element that shapes consumer's attitude toward e-commerce. In addition, respondents are really concerned about the usefulness towards e-commerce, for example the time efficiency. If they perceive that e-commerce really saves their time for shopping and offers competitive prices, they are more likely to have favorable attitudes toward e-commerce and willing to do the purchasing toward e-commerce.

Results revealed that there is a significant effect between perceived security and perceived privacy with attitude toward e-commerce. Even though Indonesia is predicted to be the e-commerce market leader in the future, it's contrary to the lack of awareness of personal data protection, and no laws governing data privacy and security. Also no further investigations conducted for any leaked data and no punishment/fine from the government to the e-commerce entity. This condition resulted in distrust of users towards website security in Indonesia.

Several studies have revealed a relationship between attitudes toward purchase intentions (Chen, 2007; Tang and Medhekar, 2010; Michaelidou and Hassan, 2010) which are correlated with the results of this research. Thus,

attitudes towards e-commerce have an important role towards purchase intentions. As of some variables that influence attitudes, here in the form of perceived usefulness, perceived ease of use, perceived security and perceived privacy also have an important role on consumer purchase intentions. This study revealed that the hypothesis between consumer attitude and purchase intention is accepted in high significance. The more positive customer's attitude toward e-commerce, the more likely they are to purchase online.

6.Conclusion

This study examines the role of perceived usefulness, perceived ease of use, perceived security, and perceived privacy related to consumers' purchase intention to shop online mediated by attitudes towards e-commerce in developing countries, particularly middle-class consumer millennials in Indonesia. The findings validate the usefulness of TAM to explain consumer behavioral intentions toward e-commerce. Both variables in TAM, namely perceived ease of use and perceived usefulness, have positive effects on consumers' attitudes toward e-commerce. It is also found that perceived ease of use has a positive effect on perceived usefulness. This study extends TAM by including perceived security and perceived privacy to the model and found that both variables have a significant effect on attitudes toward e-commerce. As consumer's attitudes toward e-commerce increases, he/she is more likely to purchase through e-commerce.

6.1.Theoretical Implication

The growth of e-commerce in Indonesia is very rapid and is even predicted to be the leader of e-commerce in Southeast Asia in 2025. However, limited studies have analyzed the factors affecting consumers, especially middle-class millennial shopping through e-commerce in developing countries, especially in Indonesia. Although the number of e-commerce users continues to increase, there are still many issues related to the lack of security of users personal data. Reflecting on previous research, this study examines the factors that influence consumer attitudes toward purchase intention through expanding TAM theory by adding new variables namely perceived security (PS) and perceived privacy (PP). The results showed that by entering these two new variables can further enrich the findings of attitude and purchase intention especially in middle-class millennial consumers.

6.2.Managerial Implication

Using data provided in this research, business practitioners would understand the factors that influence the purchase intention through e-commerce for this middle-class millennial segment as the significant contributor in the e-commerce market. In terms of socio-demographic factors, almost half of the correspondents consider that shopping through e-commerce is no more convenient than shopping in conventional stores. It is the convenience and competitive prices that encourage them to continue choosing to shop online.This research proves that perceived security and perceived privacy affect the attitudes of consumers to perform online purchase transactions, but their effects are not too significant. Government also has an important role in the growth of e-commerce in Indonesia. Contributions that can be made are through construct laws governing the protection of the privacy and security of consumers' personal data, Further studies should be conducted for these factors for further examination and enhancement.However, it is suggested that improvement and enhancement should be conducted by the management in terms of perceived usefulness and perceived ease of use such as time efficiency and user friendly to more strengthen the relationship of these factors to the intention to purchase.

7.Limitations and Recommendation

In this study, the data collected were from 187 respondents. Respondents who participated in the study are from the millennial generation in Greater Jakarta while there are several urban areas in Indonesia such as Jakarta, Surabaya, Medan, etc. Therefore, future research should include a broader respondent niche, such as collecting respondents from several major cities in Indonesia with a greater number of sampling. This study also recommends to include additional variables, such as customer trust and perceived risks as mediators of the relationship between perceived privacy, perceived security, and attitude toward e-commerce to have a better understanding of consumers' purchase intention through e-commerce.

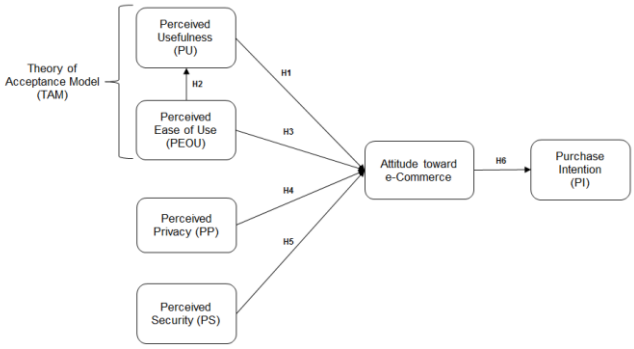

Figure 1 : Research Framework

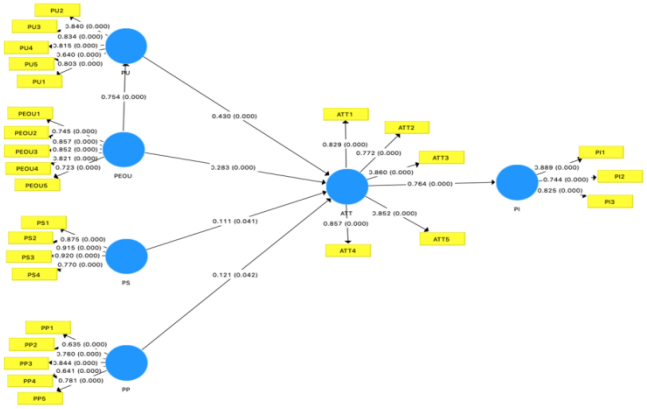

Figure 2 : Path Diagram

Table 1. Demographic Characteristics of Respondents (n = 187)

Demographic Characteristics	Amount	Percent
Gender		
Female	100	53.5
Male	87	46.5
Age		
Junior Millenial (21 – 28 years old)	121	64.7
Senior Millenial (29 – 36 years old)	66	35.3
Education Level		
High School	8	4.3
Diploma I-III	12	6.4
Undergraduate	134	71.7
Postgraduate	33	17.6
Occupation		
Student	5	2.7
Employed	141	75.4
Self-Employee	23	12.3
Housewife	14	7.5
Unemployment	4	2.1
Marital Status		
Single	133	71.1
Married	53	28.3
Divorced/Widowed)	1	0.5
Monthly Income		

< Rp3.800.000	12	6.4
Rp3.800.001 – Rp10.000.000	106	56.7
Rp10.000.001 – Rp15.000.000	30	16.0
Rp15.000.001 – Rp20.000.000	21	11.2
> Rp20.000.001	18	9.6
Daily Spending		
< Rp30.000 – Rp60.00	51	27.3
Rp60.001 – Rp150.000	106	56.7
Rp150.001 – Rp300.000	30	16.0
E-commerce Shopping Frequency		
1-2 times in a month	91	48.7
Less than once a month	38	20.3
More than 3 times in a month	58	31.0
Reason to Purchase through e-commerce		
User friendly	101	54
Time efficiency	137	73.3
Variant Products	106	56.7
Competitive Price	145	77.5
Promotion / Discount	118	63.1
Frequent Product Bought through e-commerce		
Foods & Beverage	104	55.6
Cosmetics	73	39
Apparel	89	47.6
Home Accessories	102	54.5
Books	24	12.8
Travel & Accomodation	53	28.3
Transportation	28	15
Others	53	28.3

N = 187

Note : As of May 13, 2020, the exchange rate was IDR14,812 equal to USD 1

Source : Research Result (2020)

Table 2. Descriptive statistics, validity and reliability (n=187)

Variable & Items	Descriptive Statistics		Construct Validity		Construct Reliability	
	Mean	Standard Deviation	Factor Loading	AVE	Cronbach's Alpha	Composite Reliability
Perceived Usefulness (PU)						
E-commerce helps me to accomplish my need more quickly.	4.273	0.676	0.803	0.624	0.847	0.892
E-commerce helps me to accomplish my needs easier.	4.369	0.762	0.840			
E-commerce helps me to accomplish my need more efficiently.	4.225	0.680	0.834			
E-commerce is useful for me.	4.390	0.909	0.815			
E-commerce is more convenient than offline stores.	3.390	0.742	0.640			

Perceived Ease of Use (PEOU)						
I think that e-commerce sites are user-friendly.	4.139	0.680	0.745	0.643	0.860	0.900
It seems easy to me to learn how to use e-commerce sites.	4.283	0.701	0.857			
It seems to me that using e-commerce is easy.	4.342	0.686	0.852			
Advanced e-commerce makes me more efficient.	4.198	0.752	0.821			
Shopping is more efficient with e-commerce.	3.995	0.811	0.723			
Perceived Security (PS)						
I feel safe in doing my transactions in e-commerce.	3.471	0.842	0.875	0.761	0.894	0.927
E-commerce sites have adequate security features.	3.503	0.855	0.915			
I perceived the transaction in e-commerce is secure.	3.465	0.873	0.920			
I am confident that the banking information that I provide to complete my transaction will only reach its system.	3.348	0.885	0.770			
I believe inappropriate parties may deliberately view the information I provide during my transaction with mobile banking application system [R]	0.000	0.000				
Perceived Privacy (PP)						
I am aware of the exact nature of information that will be collected during a transaction through e-commerce.	3.829	0.762	0.635	0.543	0.787	0.854
I believe I have control over how the information I provide during a transaction with e-commerce.	3.422	0.941	0.760			
I believe I can subsequently verify the information I provide during a transaction with e-commerce.	3.743	0.730	0.844			
I believe that e-commerce will disclose my information without my consent	3.102	1.037	0.641			

[R].

I believe there is an effective mechanism to address any violation of the information I provide with an online store.	3.519	0.950	0.781			
Attitude (ATT)						
I feel shopping in e-commerce stores is pleasant.	3.995	0.777	0.829	0.697	0.891	0.920
I feel shopping in e-commerce stores is fast.	4.107	0.871	0.772			
I feel shopping in e-commerce is convenient.	4.230	0.683	0.860			
I feel shopping in e-commerce is enjoyable.	3.963	0.823	0.857			
In general, I have a good attitude toward online shopping.	4.150	0.653	0.852			
Purchase Intention (PI)						
I would like to purchase with e-commerce.	4.037	0.748	0.889	0.675	0.763	0.861
I am likely to purchase with e-commerce even though other conventional stores could provide the same product with the same price.	3.246	1.041	0.744			
I intend to purchase products from e-commerce within the next 3 months.	4.134	0.883	0.825			

Source : Research Result (2020)

Tabel 3. Discriminant analysis (n=187)

	ATT	**PEOU**	**PI**	**PP**	**PS**	**PU**
ATT	0.835					
PEOU	0.711	0.802				
PI	0.764	0.644	0.822			
PP	0.463	0.444	0.366	0.737		
PS	0.473	0.453	0.410	0.485	0.872	
PU	0.734	0.754	0.751	0.379	0.407	0.790

Source : Research Result (2020

Tabel 4. Result of direct effects of variables

	ß	Standard error	T Values	P Values	Remark
H1: PU -> ATT	0.430	0.075	5.731	0.000	Supported
H2: PEOU -> PU	0.754	0.035	21.304	0.000	Supported
H3: PEOU -> ATT	0.283	0.071	3.959	0.000	Supported
H4: PS -> ATT	0.111	0.064	1.736	0.041	Supported
H5: PP -> ATT	0.121	0.070	1.735	0.042	Supported
H6: ATT -> PI	0.764	0.032	24.060	0.000	Supported

Source : Research Result (2020)

8. Recommendations

Based on the data obtained as a result of the study, it is seen that the students have problems in the fieldspecific skills such as understanding, interpretation, thinking and reasoning in the new examination system. On the other hand, the opinion is that the textbooks and the exam are not parallel, so teachers have various difficulties. In this direction, various activities can be organized to increase students' motivation and to gain reading habit. By making use of constructivist teaching methods and techniques, learning environments where students can construct knowledge can be designed and studies can be done accordingly. In addition, it is thought that it would be beneficial to provide teachers with in-service training for the exam.

References

1. Agag, G. and El-Masry, A. A. (2016). Understanding Consumer Intention to Participate in Online Travel Community and Effects on Consumer Intention to Purchase Travel Online and WOM: An Integration of Innovation Diffusion Theory and TAM with Trust, Computers in Human Behavior, 60, 97-111. doi: 10.1016/j.chb.2016.02.038.
2. Agarwal, R. and Prasad, J. (1999). Are Individual Differences Germane to The Acceptance of New Information Technologies?, Decision Sciences, 30(2), 361–391. doi: 10.1111/j.1540-5915.1999.tb01614.x.
3. Agarwal, R. & Karahanna, E. (2000). Time Flies When You're Having Fun: Cognitive Absorption and Beliefs about Information Technology Usage, MIS Quarterly, 24 (4), 665–94. doi: 10.2307/3250951.
4. Ajzen, I. (1991). The Theory of Planned Behavior, Organizational Behavior and Human Decision Processes, 50(2), 179-211.
5. Alvara Research Centre. (2017). Indonesia 2020: The Urban Middle-Class Millennials. Available https://www.researchgate.net/publication/314448735_Indonesia_2020_ The_Urban_Middle_Class_Millenials (April 28, 2020).
6. Alvara Research Centre. (2017). The Urban Middle-Class Millennials Indonesia: Financial and Online Behavior. Available from https://alvara-strategic.com/wp-content/ uploads/whitepaper/The-Urban-Middle-Class-Millenials.pdf (April 29, 2020).
7. Amaro, S. and Duarte, P. (2015). An Integrative Model of Consumers' Intentions to Purchase Travel Online, Tourism Management, 46, 64-79. doi: 10.1016/j.tourman.2014.06.006.
8. Ashraf, A. R., Thongpapanl, N., and Auh, S. (2014). The Application of The Technology Acceptance Model Under Different Cultural Contexts: The Case of Online Shopping Adoption. Journal of International Marketing, 22(3), 68-93. doi: 10.1509/jim.14.0065.

9. Australian Trade and Investment Commission. (2018). E-commerce in Indonesia: A Guide for Australian Business. Available https://www.austrade.gov.au/news/latest-from-austrade/2018/e-commerce-australias-shopfront-to-indonesia (April 28, 2020).
10. Ayeh, J. K. (2015). Travellers' acceptance of consumer-generated media: An integrated model of technology acceptance and source credibility theories, Computers in Human Behavior, 48, 173–180. doi: 10.1016/j.chb.2014.12.049.
11. Baek, Y. (2013). Commerce Analysis of User's attitude Toward Apps, Intention to Use and Continual Consuming Intention-Focused on Mobile, International Journal of Contents, 9 (4), 35–44. doi: 10.5392/IJoC.2013.9.4.035.
12. Barber, N., Taylor, D.C. and Deale, C. S. (2010). Wine tourism, environmental concerns, and purchase intention, Journal of Travel & Tourism Marketing, 27, 146–165. doi: 10.1080/10548400903579746.
13. Balapour, A., Nikkhah, H. R., and Sabherwal, R. (2020). Mobile application security: Role of perceived privacy as the predictor of security perceptions. International Journal of Information Management. doi:10.1016/j.ijinfomgt.2019.102063.
14. Bansal, G. and Zahedi, F. M. (2014). Trust-discount Tradeoff in Three Contexts: Frugality Moderating Privacy and Security Concerns, Journal of Computer Information Systems, 55 (1), 13-29. doi: 10.1080/08874417.2014.11645737.
15. Blut, M., Chowdhry, N., Mittal, V. and Brock, C. (2015). E-service quality: A meta-analytic review, Journal of Retailing, 91(4), 679-700. doi: 10.1016/j.jretai.2015.05.004.
16. Boston Consulting Group. (2013). Indonesia's Rising Middle-Class and Affluent Consumers. Available https://www.bcg.com/publications/2013/center-consumer-customer-insight-consumer-products-indonesias-rising-middle-class-affluent-consumers.aspx (April 28, 2020).
17. Bredahl, L. (2001). Determinants of Consumer Attitudes and Purchase Intentions with Regard to Genetically Modified Food–results of a Cross-national Survey, Journal of Consumer Policy, 24(1), 23-61. doi: 10.1023/A:1010950406128.
18. Celik, H. (2008). What determines Turkish customers' acceptance of internet banking. International Journal of Bank Marketing, 26(5), 353-370. doi: 10.1108/ 02652320810894406.
19. Chandio, F. H., Abbasi, M. S., Nizamani, H. A. and Nizamani, Q. U. A. (2013). Online banking information systems acceptance: a structural equation modelling analysis. International Journal of Business Information Systems, 12(2), 177. doi: 10.1504/ijbis.2013.052050.
20. Chang, S. H., Chih, W. H., Liou, D. K. and Yang, Y. T. (2016). The Mediation of Cognitive Attitude for Online Shopping. Information Technology & People. doi: 10.1108/ITP-08-2014-0172.
21. Changchit, C., Robert, C.,Lonkani, R.,Pholwan, K. and Pongwiritthon. (2018). Determinants of Online Shopping Influencing Thai Consumer's Buying Choices, Journal of Internet Commerce,1–23. doi: 10.1080/15332861.2 018.1496391.
22. Chau, P. Y. K. and Hu, P. J. H. (2001). Information Technology Acceptance by Individual Professionals: A Model Comparison Approach. Decision Sciences, 32 (4), 699–719. doi: 10.1111/j.1540-5915.2001.tb00978.x.
23. Chen, M. F. (2007). Consumer Attitudes and Purchase Intentions in Relation to Organic Food in Taiwan: Moderating Effects of Food-related Personality Traits. Food Quality and Preference, 18(7), 1008-1021. doi: 10.1016/j.foodqual.2007.04.004.
24. Cheng, T. C. E., Lam, D. Y. C. and Yeung, A. C. L. (2006). Adoption of internet banking: An empirical study in Hong Kong. Decision Support Systems, 42(3), 1558–1572. doi: 10.1016/j.dss.2006.01.002.
25. Das, G. (2014). Factors Affecting Indian Shoppers′ Attitude and Purchase Intention: An Empirical Check. Journal of Retailing and Consumer Services, 21(4), 561-569. doi: 10.1016/j.jretconser.2014.04.005.
26. Daştan, İ. and Gürler, C. (2016). Factors affecting the adoption of mobile payment systems: An empirical analysis. EMAJ: Emerging Markets Journal, 6(1), 17-24. doi: 10.5195/emaj.
27. Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. MIS Quarterly, 13(3), 319–340. doi: 10.2307/249008.
28. Davis, F. D. (1993). User Acceptance of Information Technology: System Characteristics, User Perception and Behavioral Impact. International Journal of Man-machine Studies, 38, 475-487. doi: 10.1006/imms.1993.1022.
29. Davis, F. D., Bagozzi, R. P. and Warshaw, P. R. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. Management Science, 35(8), 982–1003. doi: 10.1287/mnsc.35.8.982.
30. Dickinger, A., Arami, M.and Meyer, D. (2008). The Role of Perceived Enjoyment and Social Norm in The Adoption of Technology with Network Externalities. European Journal of Information Systems, 17(1), 4–11. doi: 10.1057/palgrave.ejis.3000726.

31. Eagly, A. H. and Chaiken, S. (2007). The Advantages of An Inclusive Definition of Attitude. Social Cognition, 25(5), 582-602. doi: 10.1521/soco.2007.25.5.582.
32. Etikan, I., Musa, S. A. and Alkassim, R. S. (2016). Comparison of Convenience Sampling and Purposive sampling. American Journal of Theoretical and Applied Statistics, 5(1), 1-4. doi: 10.11648/j.ajtas.20160501.11.
33. European Commissions. (n.d). Developments and Forecasts of Growing Consumerism. Available https://ec.europa.eu/knowledge4policy/foresight/topic/growing-consumerism/more-developments-relevant-growing-consumerism_en (May 8, 2020).
34. Fitzsimons, G. J. and Morwitz, V. G. (1996). The Effect of Measuring Intent on Brand-Level Purchase Behavior, Journal of Consumer Research, 23, 1-11. doi: 10.1086/209462.
35. Google, Temasek, Bain, & Company. (2019). E-conomy SEA 2019. Available https://www.bain.com/globalassets/noindex/2019/google_temasek_bain_e_conomy_sea_2019_report.pdf (April 19, 2020).
36. Greunen, D. V. Herselman, M. E. and Niekerk, J. V. (2010). Implementation of Regulation-based E-procurement in The Eastern Cape Provincial Administration. African Journal of Business Management, 4(17), 3655–3665.
37. Gurung, A. and Raja, M. K. (2016). Online privacy and security concerns of consumers. Information & Computer Security, Vol. 24 No. 4, pp. 348-371. doi: 10.1108/ICS-05-2015-0020.
38. Gupta, A. and Arora, N. (2017). Understanding determinants and barriers of mobile shop- ping adoption using behavioral reasoning theory. J. Retail. Consum. Serv. 36, 1–7.
39. Hanudin, A. (2007). Internet Banking Adoption Among Young Intellectuals. Journal of Internet Banking and Commerce, 12(3), 1–13.
40. Hasbullah, N. A., Osman, A., Abdullah, S., Salahuddin, S. N., Ramlee, N. F. and Soha, H. M. (2016). The Relationship of Attitude, Subjective Norm and Website Usability on Consumer Intention to Purchase Online: An Evidence of Malaysian Youth. Procedia Economics and Finance, 35, 493-502. doi: 10.1016/S2212-5671(16)00061-7.
41. Hernández, B., Jiménez, J. and Martín, M.J. (2010). Customer Behavior in Electronic Commerce: The Moderating Effect of E-purchasing Experience. J. Bus. Res. 63 (9–10), 964–971. doi: 10.1016/j.jbusres.2009.01.019.
42. Hong, W. J. Y. L., Thong, W. M., Wong and Tam, K. Y. Tam. (2002). Determinants of User Acceptance of Digital Libraries: An Empirical Examination of Individual Differences and System Characteristics. Journal of Management Information Systems, 18(3):97–124. doi: 10.1080/07421222.2002.11045692.
43. Idea. (2019). Pasar idea 2019 Hadir Untuk Pertama Kalinya di Indonesia. Available https://idea.or.id/berita/detail/pasar-idea-2019-hadir-untuk-pertama-kalinya-di-indonesia (May 18, 2020).
44. IDN Research Institute. (2020). Indonesia Millennial Report 2020: Understanding Millenial's Behaviours and Demystifying Their Stereotypes. Available https://cdn.idntimes.com/content-documents/Indonesia-millennial-report-2020-by-IDN-Research-Institute.pdf (April 28, 2020).
45. Indahingwati, A., Launtu, A., Tamsah, H., Firman, A., Putra, A. H. P. K. and Aswari, A. (2019). How Digital Technology Driven Millennial Consumer Behaviour in Indonesia. Journal of Distribution Science, 17(8), 25-34. doi: 10.15722/jds.17.08.201908.25.
46. Ipsos. (2018). E-Commerce Outlook Report 2018. Available https://www.ipsos.com/en-id/e-commerce-outlook-2018 (April 28, 2020).
47. Katadata. (2014). "INFOGRAFIK: Indonesia, Pusat E-Commerce Asean". Available https://katadata.co.id/infografik/2016/01/04/indonesia-pusat-e-commerce-asean (April 11, 2020).
48. Keller, K., L. (2001). Building Customer-based Brand Equity: Creating Brand Resonance Requires Carefully Sequenced Brand-building Efforts. Marketing Management, 10(2), 15-19.
49. Kim, Y. G. and Woo, E. (2016). Consumer acceptance of a quick response (QR) code for the food traceability system: Application of an extended technology acceptance model (TAM). Food Research International, 85, 266–272. doi: 10.1016/j.foodres.2016.05.002
50. Kim, D. J., Ferrin, D. L. and Rao, H. R. (2008). A trust-based consumer decision-making model in electronic commerce: the role of trust, perceived risk, and their antecedents. Decision Support Systems, 44(2), 544-564. doi: 10.1016/j.dss.2007.07.001.
51. Kompas.com. (2020). Data Tokopedia, Gojek, dan Bukalapak Bocor di Tengah Absennya RUU PDP. Available https://tekno.kompas.com/read/2020/05/04/20170027/data-tokopedia-gojek-dan-bukalapak-bocor-di-tengah-absennya-ruu-pdp?page=1 (May 4, 2020).

52. Kumparan.com. (2017). "60 Persen Pelaku Belanja Online Didominasi oleh Wanita". Availble https://kumparan.com/kumparanstyle/60-persen-pelaku-belanja-online-didominasi -oleh-wanita/full (April 28, 2020).
53. Law, M., Kwok, R. C. W. and Ng, M. (2016). An extended online purchase intention model for middle-aged online users. Electronic Commerce Research and Applications, 20, 132-146. doi: 10.1016/j.elerap.2016.10.005.
54. Lee, Younghwa, Kozar, Kenneth A. and Larsen, Kai R.T. (2003) "The Technology Acceptance Model: Past, Present, and Future", Communications of the Association for Information Systems: Vol. 12 , Article 50. doi: 10.17705/1CAIS.01250
55. Liu, X. and Wei, K. K. (2003). An empirical study of product differences in consumers' e commerce adoption behavior. Electronic Commerce Research and Applications, 2 (3):229–40. doi: 10.1016/S1567-4223(03)00027-9.
56. McCole, P., Ramsey, E. and Williams, J. (2010). Trust considerations on attitudes towards online purchasing: The moderating effect of privacy and security concerns. Journal of Business Research, 63(9-10), 1018-1024. doi: 10.1016/j.jbusres.2009.02.025.
57. McFarland, D. J. and Hamilton, D. (2006). Adding contextual specificity to the technology acceptance model. Computers in Human Behavior, 22(3), 427–447. doi: 10.1016/j.chb.2004.09.009.
58. Michaelidou, N. and Hassan, L. M. (2010). Modeling the factors affecting rural consumers' purchase of organic and free-range produce: A case study of consumers' from the Island of Arran in Scotland, UK. Food Policy, 35(2), 130-139. doi: 10.1016/j.foodpol.2009.10.001.
59. Miyazaki, A. D. and Fernandez, A. (2001).Consumer perceptions of privacy and security risks for online shopping. Journal of Consumer affairs, 35(1), 27-44. doi: 10.1111/j.1745-6606.2001.tb00101.x.
60. Molina-Castillo, F. J., Guirao, A. R., Lopez-Nicolas, C. and Bouwman, H. (2016). Analysis of mobile prepayment (pay in advance) and post-payment (pay later) services. International Journal of Mobile Communications, 14(5), 499-517. doi: 10.1504/IJMC.2016.078725.
61. Nasri, W. and Charfeddine, L. (2012). Factors affecting the adoption of Internet banking in Tunisia: An integration theory of acceptance models and theory of planned behavior. The Journal of High Technology Management Research, 23 (1), 1–14. doi: 10.1016/j.hitech.2012.03.001.
62. Pavlou, P. A. and Fygenson, M. (2006). Understanding and predicting electronic commerce adoption: an extension of the theory of planned behavior. MIS Quarterly, 30 (1), 115–143. doi: 10.2307/25148720.
63. Olaleye, S. A., Salo, J. 7.1300514.
64. Ponte, E. B., Carvajal-Trujillo, E. and Escobar-Rodríguez, T. (2015). Influence of trust and perceived value on the intention to purchase travel online: Integrating the effects of assurance on trust antecedents. Tourism Management, 47, 286-302. doi: 10.1016/j.tourman.2014.10.009.
65. Ravallion, M. (2010). The Developing World's Bulging (but Vulnerable) Middle Class. World Development, 38(4), 445–454. doi: 10.1016/j.worlddev.2009.11.007.
66. Razafimandimby, A. R. (2017). Middle-Class Composition and Growth in Middle-Income Countries. ADBI Working Paper 753. Tokyo: Asian Development Bank Institute. Available https://www.adb.org/sites/default/files/publication/325056/adbi-wp753.pdf (April 28, 2020).
67. Riquelme, I. P. and Román, S. (2014). Is the influence of privacy and security on online trust the same for all type of consumers?. Electronic Markets, 24(2), 135-149. doi: 10.1596/1813-9450-4816.
68. Rivera, M., Gregory, A. and Cobos, L. (2015). Mobile application for the timeshare industry. Journal of Hospitality and Tourism Technology, 6(3), 242–257. doi: 10.1108/jhtt-01-2015-0002.
69. Rogers, E. M. (1995). Diffusion of innovations, 4th ed. New York: The Free Press.
70. Rupanjali, N., Bhal, K.T. and Kapoor, G.T. (2013). Factors influencing IT adoption by bank employees: An extended TAM approach. Vikalpa: The Journal of Decision Makers, 38(4), 83–96. doi: 10.1177/0256090920130406., Sanusi, I. T. and
71. Okunoye, A. O. (2018). Retailing mobile app useful- ness: customer perception of performance, trust and tension free. International Journal of E-Services and Mobile Applications (IJESMA), 10(4), 1–17. doi: 10.4018/IJESMA.2018100101.
72. Pelaez, A., Chen, C.-W. and Chen, Y. X. (2017). Effects of Perceived Risk on Intention to Purchase: A Meta-Analysis. Journal of Computer Information Systems, 1–12. doi: 10.1080/08874417.201
73. Sarwono, Y. (2010). Pengertian dasar structural equation modeling (SEM). Ilmiah Manajemen Bisnis.
74. Shah, M. H., Peikari, H. R. and Yasin, N. M. (2014). The determinants of individuals' perceived e-security: Evidence from Malaysia. International Journal of Information Management, 34(1), 48-57. doi: 10.1016/j.ijinfomgt.2013.10.001.

75. Sheppard, B. H., Hartwick, J. and Warshaw, P. R. (1988). The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research. Journal of consumer research, 15(3), 325-343. doi: 10.1086/209170.
76. Smith, J. R., Terry, D. H., Manstead, A. S. R., Louis, W. R., Kotterman, D. and Wolfs, J. (2008). The attitude-behavior relationships in consumer conduct: the role of norms, past behavior, and self-identity. The Journal of Social Psychology, 148(3), 311–333. doi: 10.3200/SOCP.148.3.311-334.
77. Soopramanien, D. G. R. and Robertson, A. (2007). Adoption and usage of online shopping: an empirical analysis of the characteristics of "buyers" "browsers" and "non-internet shoppers. Journal of Retailing and Consumer Services, 14(1):73–82. doi: 10.1016/j.jretconser.2006.04.002.
78. Statista. (2020). Number of Online Shoppers in Indonesia in 2017 and 2020. Available https://www.statista.com/statistics/971411/indonesia-number-online-shoppers/ (April 2, 2020).
79. Suntornpithug, N. and Khamalah, J. (2010). Machine and Person Interactivity: The Driving Forces behind Influences on Customer Willingness to Purchase Online. Journal of Electronic Commerce Research, 11(4), 299.
80. Tang, Y. and Medhekar, M. (2010). Drivers of green power electricity purchase. In Australian and New Zealand Marketing Academy Conference, (2008) (pp. 1-8). ANZMAC.
81. Tempo. (2019). E-commerce Crackdown on Stores Selling Shady Coronavirus Products. Available https://en.tempo.co/read/923798/indonesias-e-commerce-transactions-highest-in-southeast-asia (May 4, 2020).
82. The Jakarta Post. (2017). Fintech Talk: How fintech shapes millennials' financial behavior. Available https://www.thejakartapost.com/news/2017/02/14/fintech-talk-how-fintech-shapes-millennials-financial-behavior.html (April 28, 2020).
83. Tirto. (2019). Menkominfo: Indonesia Tertinggal Karena Belum Punya UU Data Pribadi. Available https://tirto.id/menkominfo-indonesia-tertinggal-karena-belum-punya-uu-data-pribadi-ecCt (May 4, 2020).
84. Vahdat, A., Alizadeh, A., Quach, S. and Hamelin, N. (2020). Would you like to shop via mobile app technology? The technology acceptance model, social factors and purchase intention. Australasian Marketing Journal (AMJ). doi: 10.1016/j.ausmj.2020.01.002.
85. Van Dyke, T. P., Midha, V. and Nematic, H. (2007). The effect of consumer privacy empowerment on trust and privacy concerns in e-commerce. Electronic Markets, 17(1), 68-81. doi: 10.1080/10196780601136997.
86. Wang, Y., Wang, Y., Lin, H. and Tang, T. (2003). Determinants of user acceptance of Internet banking: An empirical study. International Journal of Service Industry Management, 14(5), 501–519. doi: 10.1108/09564230310500192.
87. Venkatesh, V. and Davis, F., D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. Management Science, 46 (2):186–204. doi: 10.1287/mnsc.46.2.186.11926.
88. Zhang, B. and Kim, J., H. (2013). Luxury fashion consumption in China: Factors affecting attitude and purchase intent. Journal of Retailing and Consumer Services, 20(1), 68-79. doi: 10.1016/j.jretconser.2012.10.007.