Analysis and Comparison of Three Generations of E-Commerce in Indonesia

Widarto Rachbini\textsuperscript{a}, Harimurti Wulanjani\textsuperscript{b}, Iha Haryani Hatta\textsuperscript{c}, Nurul Hilmiyah\textsuperscript{d*}, \textsuperscript{a}Post Graduate School, Universitas Pancasila, \textsuperscript{b,c,d}Faculty of Economy and Business, Universitas Pancasila, Email: \textsuperscript{d*}nurulhilmiyah@gmail.com

There are three generations of e-Commerce users in Indonesia. The Millennial generation, Generation X, and Baby boomers. Therefore, there is a need to study e-CRM, e-service quality (utilitarian and hedonic dimensions), e-satisfaction, and e-loyalty towards those three generations. The purpose is to determine the partial effect of e-CRM, e-service quality (utilitarian and hedonic dimension) on e-satisfaction, e-loyalty and the effect of e-satisfaction on e-loyalty towards these three-generations. The data is collected by distributing the questionnaire via an online survey that was obtained 458 respondents based on the purposive sampling method. The data analysis technique used a structural equation model (SEM) through SmartPLS software. The result of the study shows that there is a significant impact of the utilitarian e-service quality dimension towards all generation e-commerce users. On the other hand, the influence of hedonic e-service quality dimension only impacted the millennial generation. Furthermore, e-satisfaction affects e-loyalty of all generation of e-commerce users.

\textbf{Key words:} E-service quality, e-commerce, e-CRM, e-satisfaction, e-loyalty, millennials, X, and baby boomer generation.

Background

The role of the internet has been very important in daily activities for a human lifestyle in modern civilisation since the commercialisation of the internet in the mid-90s (Rachbini dan Hatta, 2018). Indonesia has the largest digital economic opportunities and potential in the ASEAN region where the number of digital economies in Indonesia has reached $27 billion. Furthermore, digital economics in Indonesia has been projected to reach $100 billion in 2025 (Google Indonesia, 2018). One of the main key drivers of the effectiveness of the Indonesian
digital economic growth is the e-commerce sector. The size of the Indonesian e-commerce market in 2018 was $12 billion. In addition, the projected annual growth combination from 2015 to 2025 is 41%. The E-commerce foundation (2018) reveals that the three largest visited e-commerce sites in Indonesia are Tokopedia, BukaLapak, and Olx. The percentage of online shoppers in Indonesia belong to a large group of internet users after the following countries which are Australia (81%), Cina (73.7%), Malaysia (70%), Korea Selatan (63%), Vietnam (53%), and India (48%).

Nevertheless, the phenomenon that occurs shows that e-commerce penetration is not in line with the number of internet users and the population of Indonesia. IDN Research Institute (2019) stated that 63 million Indonesian citizens fall into the millennial generation category. According to Alvara Research (2016), the definition of Millennials is individuals who are 20 to 39 years old, Generation X generation are individual who are 40 to 54 years old, and baby boomers are individuals who are 55 to 74 years old. Those three generations have each their own uniqueness. The millennial generation of Indonesia is strongly influenced by smartphones, internet, and social media. The internet consumption of the millennials generation was higher than other generations due to the internet emergence and it has become a basic necessity for the millennial generation. Meanwhile, generation X is a generation before the millennials generation. This generation is considered to be quite modern although it still adheres to things inherited by the baby boomer generation. Furthermore, the baby boomer generation is conservative and upholds existing principles and traditions (Alvara Research, 2016).

Age is not the only contribution to the internet development context, and especially in the world of Indonesian e-commerce. Two other factors are customer relationship management (CRM) and e-service quality. Sanayei and Jokar (2013) stated that e-service quality has a significant impact on consumer satisfaction which can create positive influence by word of mouth. Moreover, Kotler and Armstrong (2018) said that the presence of various new technologies has led customer relationship management (CRM) into electronic CRM (e-CRM). The phenomenon of increasing internet penetration globally cause e-CRM to become recognised as a communication tool that leads it into a relationship-building approach (Lam et al., 2013). The used of e-CRM in building a relationship with consumers has been proven to effect e-satisfaction and e-loyalty (Alhaiou et al., 2012). Meanwhile, Abdulfattah, (2012) analysed the e-CRM functionalities on satisfaction towards the bank's website and he found that e-CRM can increase consumer satisfaction.

The satisfaction is a result of e-service quality which predicted the influence of e-loyalty (Al-Dweeri et al., 2017). The multidimensional concept in service quality is proven to be significantly able to influence e-satisfaction (Arcand et al., 2017). Safety in transactions in an electronic environment is also proven to be a significant predictor of e-satisfaction.
(Szymanski dan Hise, 2000), and the perceived benefits and ease of use significantly influenced e-satisfaction (Kim dan Lee, 2013). On the other hand, e-satisfaction on e-service quality also an effect of sociality and enjoyment dimension is part of the hedonic e-service quality dimension (Arcand et al., 2017). Satisfied customers tend to feel trust and commitment, having a long term relationship as well as towards the providers' services (Azila dan Noor, 2012; Oumar et al., 2017).

Based on the explanation above, this study is to develop previous research models on the partial effects of e-CRM and e-service quality towards e-loyalty based on e-satisfaction of three e-commerce generation users (millennials, X, and baby boomer) in the e-commerce business sector in Indonesia.

**Literature Review and Hypothesis Development**

**Electronic Loyalty (e-Loyalty)**

Nowadays, many companies focus on customer relationship management (CRM) which used to control and manage the customer information as well as customer touchpoints to maximise customer loyalty (Kotler dan Armstrong, 2018). Ludin and Cheng (2014) described customer loyalty as a sustainable relationship between the customer and the brand of the companies. This can be seen as resistance or refusal to switch to another brand in the situation or problem at hand. Customers can develop a strong sense of loyalty towards the brand, as reflected in retention, repurchase, and recommending the brand (Kotler et al., 2017).

E-loyalty has a similar concept of loyalty to the company. Loyalty to a company outcome reflects on buying behaviour and repeated visits to a store (Anderson and Srinivasan, 2003). There are so many studies have conducted to show how service quality can affect e-loyalty (Srinivasan, Anderson, and Ponnavolu, 2002; Prougestaporn, Visansakon, and Saowapakpongchai, 2015). Al-Dweeri et al., (2017) did not distinguish between two types of loyalty which are behavioral and attitudinal in his study. Attitudinal loyalty refers to positive behaviors that lead to repetitive behavior (Soltani and Gharbi, 2008) which considered as true loyalty. Meanwhile, behavioral loyalty refers to customers commitment to the brand. Thus, an emotional component needs to be considered in order to be able to encourage customers to change suppliers if suppliers change their marketing strategies (Pitta et al., 2006).

**Electronic Satisfaction (e-Satisfaction)**

Customer satisfaction is an emotion that expresses an individual feeling satisfied after consuming a product (Ruenrom et al., 2005). Satisfaction can be seen as a key construct to
describe all kinds of relationship between two constructs (Sanzo et al., 2003), and lies at the core of exchange-based relationship (Vesel dan Zabkar, 2010).

Satisfaction in a virtual environment (e-satisfaction) has become a key factor in competing with competitors to be successful in the market (Anderson dan Srinivasan, 2003; Zeglat et al., 2016). However, e-satisfaction is a concept that is hard to define due to there being many interactions with other variables. Consequently, it can be considered as an effective behaviour which influences user behaviour and evaluates product or services which ultimately can determine user loyalty (Zhang dan Dran, 2000).

**Electronic Customer Relationship Management (e-CRM)**

The digital era has led to various tools related to CRM such as websites, advertising, online video, mobile ads and apps, blog, online community and social media (Kotler dan Armstrong, 2018). The presence of new technology and increasing internet penetration globally has caused CRM to electronic customer relationship management (e-CRM). E-CRM has become a relationship-building platform and a prevalent communication tool (Lam et al., 2013). E-CRM defines as a system and information technology infrastructure that can support the CRM strategies and implementation.

The transformation of CRM traditionally into e-CRM has occurred in recent decades (Bahri-Ammari dan Mraidi, 2016; Muro et al., 2013). E-CRM is visualised as an action to manage customer-based electronic relationships (Sujitha dan Johnson, 2017) and enable organisations to provide suitable products and services. Besides that, it also gives customer satisfaction which can increase customer loyalty (Dolly dan Pruthi, 2014; Dubihlela dan Khosa, 2014). An e-CRM concept is online-based and acts as a medium. This can be via email. E-commerce activities use several channels to reach customers online (Choknumkij dan Fongsuwan, 2014). Thus, based on a variety of theories, e-CRM can be defined as an electronic CRM or online-based CRM service to manage, build, and maintain a relationship with customers. The purpose is to create customer satisfaction and loyalty.

**Electronic Service Quality (e-Service Quality) – Utilitarian Dimension**

The construct of e-service quality’s utilitarian dimension is very related to the basic needs of customers in supporting online trading transactions (e-commerce). One of the most fundamental aspects is security or privacy and is correlated with the transmission of information through mobile devices. Before the consumer adopts a mobile banking service, they have to evaluate the security of the services to be used (Arcand et al., 2017). The security or privacy is an online customer perception towards security before performing a particular e-commerce transaction. Al-Dweeri et al., (2018) stated that security or privacy has
an important role to ensure the personal and financial data protection as well as transaction security which has a positive influence on service quality assessment offered by a particular website. Indirect, this factor also impacts customer loyalty. The guarantee of security and privacy can reduce customer concerns on the illegal disclosure of personal data which leads to higher levels of customer confidence. The security and privacy aspects are considered as a fundamental factor to encourage the adoption of mobile electronic use (Sreejesh et al., 2016), such as internet banking (Bolar, 2014), and online shopping (Shafiee dan Bazargan, 2017). The security and privacy aspect are the main factors of e-service quality (Arcand et al., 2017).

The next indicator in the utilitarian dimension in e-service quality is practicality. The practicality is use-oriented and supports interactivity (Brangier et al., 2015). This shows the hypertextual nature of the online environment whereby the function and information are interconnected as part of the electronic content. Practicality is an aspect related to perceived ease and perceived usefulness and helps customers to evaluate and measure e-service quality (Arcand et al., 2017). Basically, practicality implicitly reflects perceived ease of use (Davis, 1989) and perceived usefulness (Bressolles, 2006) in an electronic-based service. Perceived ease of use and perceived usefulness are the main factors that influence user behavioural intention in using technology. Perceived usefulness is the level of trust of the user in benefits of using systems, while the perceived ease of use is the extent of user trust in using a system that will be free of effort (Davis, 1989). Thus, it is important to consider user perception in adopting technology, especially how it affects user behaviour (Weerasinghe dan Hindagolla, 2018).

Electronic Service Quality (e-Service Quality) – Hedonic Dimension

The construct of the hedonic dimension of e-service quality is related to the quality of design, sociality and enjoyment. Considering the consumer, service quality of the website as the overall superiority of the website (Parasuraman et al., 2005). Thus, the superiority has to consider many aspects such as design (Al-Dweeri et al., 2018). According to Arcand et al., (2017), the design is a connection between aesthetic content and functions. Furthermore, Hausman dan Siepke (2009) defined design as a collection of graphics that are chosen precisely, balanced and attractive, that can attract the attention of the consumer so that it can increase the effectiveness of website design and increase conversion rate performance.

Internet development is growing rapidly as a media for social interaction (Rachbini, 2017). Each individual can contribute and interact with another unfamiliar consumer online (Cook, 2008). The present consumer is very social. Thus, they communicate and trust each other. In fact, consumers al more likely to believe a friend and family over a brand or organisation. Hence, the consumer is interconnected to each other (Kotler et al., 2017). Sociality indicator
is the second aspect that forms hedonic dimension e-service quality. Sociality is a social benefit obtained from human interaction through the internet (Arcand et al., 2017). Meanwhile, enjoyment is the third indicator of hedonic dimension e-service quality. Bauer et al., (2006) analysed the emotional benefits of their research model which consisted of several indicators which included enjoyment. Enjoyment is an intrinsic motivation that is felt based on pleasure or the pleasure experienced when using an electronic device (Giovannini et al., 2015).

Research Methodology

This study uses a quantitative approach because of its focus on testing several numbers of the research hypothesis. The hypothesis is a tentative statement which can be tested and predict the outcome results based on empirical data (Sekaran dan Bougie, 2016).

The data collection of this study uses a non-probability sampling approach. The sampling uses a purposive sampling approach which is limited to certain individuals who are able to provide the information needed by the researchers. This is because the samples only provide information based on the criteria that have been decided by the researcher (Sekaran dan Bougie, 2016). The sampling criteria was for a consumer who has made online transactions through BukaLapak, Tokopedia, Shopee, Blibli, and e-commerce in Indonesia within the past one month.

Likewise, the sample size has an important role in interpreting the result of the research. Abdillah dan Jogiyanto (2015) revealed that if the number of samples is more than 100 or between 150-200, it is an ideal number to get more stable value. The number of samples in this study is targeted at a minimum of 100-200 respondents in each generation of internet users.

Furthermore, the data were tested for validity and reliability. According to Hair et al, (2010) and Zeithaml et al. (1996), the indicator used to measure each variable was proven to be valid for the factor loading $\geq 0.60$. The value of average variance extracted (AVE) of each construct is from 0.50 and above. The variable is reliable if the Cronbach alpha $\geq 0.70$. Those results represented the full model of the study which is suitable for use and included in the goodness of fit category. The data is analysed using SEM. For the hypothesis test based on the T-test, $t$ arithmetic$>1.96$, the alternative hypothesis will be accepted.

The Result of the Research

Based on the respondent data of the study, the research involved 458 respondents who were 56.8% (woman) and 43.2% (man). Most of the respondents are millennial generations, who
are 20 to 39 years old (63.8%), gen X is 27.1% who are 40 to 54 years old and a baby boomer is 9.1% who are 55 to 74 years old. Furthermore, the majority education background of the respondents is postgraduate (48.9%), degree (27.9%), senior high school (18.1%) and diploma (5%). Meanwhile, based on the residency, most of respondents live in JABODETABEK (76.6%), West Java and Banten (10.5%), Central Java and Yogyakarta (5.0%), East Java (3.3%), Sumatera and others (4.6%) with monthly income greater than 10 million (29.3%), ≥ 2.5 - 5 million (23.80%), > 5 – 7.5 million (17.2%), < 2.5 million (16.6%), and > 7.5 - 10 million (13.1%).

Besides that, the results of the study showed that most respondents have made online shopping within the past one month through Tokopedia (31.4%), Shopee (29.9%), BukaLapak (14.2%), Lazada (11.6%), and other forms of e-commerce (12.9%). Moreover, most of the respondent used the smartphone to perform online shopping via mobile application within the past one month (76.4%), and via the mobile site (10.3%), laptop (9.6%), tablet and other devices (3.7%). Likewise, the average of online shopping within the past three months are < 500 thousand IDR (50.0%), ≥ 500 thousand - 1 billion (31.9%), > 1 - 2.5 billion (10.7%), > 2.5 - 5 billion (4.1%), and > 5 billion (3.3%). The frequency of online shopping within past one month are one time (36.2%), 2 times (29.5%), 3 times (20.3%), > 5 times (5.2%), and 4-5 times (8.8%).

The result of confirmatory factor analysis test (CFA) shows that the research model of this study has acceptable validity and reliability construct which indicates the model is a good fit. This can be seen through the indicator used to measure each variable which has been proven valid with factor loading ≥ 0.60 as well as each construct has average variance extracted (AVE) value ≥ 0.50. The Cronbach alpha value also ≥ 0.70. The result represented the full model in the research. Hence, it is suitable to use since it also falls into the goodness of the fit category.
Based on the first figure, H1 – H2 shows millennial generation refusal because $t_1 = 0.33$ and $t_2 = 0.33$ (arithmetic < 1.97). Meaning that e-CRM variable does not influence e-satisfaction and e-loyalty partially. Meanwhile, H3 is accepted because $t_3 = 6.47$ (arithmetic > 1.97) and H4 is rejected ($t_4 = 1.26$). Hence, it shows that the hedonic dimension e-service quality variable has a significant influence on e-satisfaction. However, it does not have significant effects on e-loyalty. Furthermore, H5 is accepted ($t_5 = 4.24$) and H6 is rejected ($t_6 = 1.80$). The result described that utilitarian dimension e-service quality variable has a significant influence on e-satisfaction, but it does not have a significant influence on e-loyalty. Lastly, H7 is accepted ($t_7 = 9.28$) for millennials generation which means that e-satisfaction variable influences e-loyalty.

Likewise, based on the second figure, H8 – H9 are rejected for X generation which consists of the e-CRM variable ($t_8 = 0.65$ and $t_9 = 0.71$). It shows that e-satisfaction and e-loyalty does not have a significant influence on e-satisfaction and e-loyalty. H10 – H11 in X generation, hedonic e-service quality dimension ($t_{10} = 1.02$, $t_{11} = 0.73$) does not significantly influence e-satisfaction and e-loyalty. Meanwhile, H12 is accepted ($t_{12} = 6.97$), and H13 is rejected ($t_{13} = 0.24$) in X generation. Meaning that, utilitarian dimension e-service quality affects e-satisfaction, however it does not have a significant impact on e-loyalty. Lastly, H14 in X generation, e-satisfaction variable ($t = 6.71$) has significant influence on e-loyalty.
Figure 2. Research Model (t-value) – X Generation

Figure 3. Research Model (t-value) – Baby Boomer Generation
Figure 3 shows that $H_{15} – H_{16}$ in the baby boomer generation, e-CRM variable ($t_{15} = 1.09$, $t_{16} = 0.84$) does not have a significant impact on e-satisfaction and e-loyalty. $H_{17} – H_{18}$ in baby boomer generation, hedonic dimension of e-service quality variables ($t_{17} = 0.35$, $t_{18} = 1.42$) does not have significant effect on e-satisfaction and e-loyalty. Meanwhile, $H_{19}$ is accepted ($t_{19} = 2.17$) and $H_{20}$ is rejected ($t_{20} = 0.51$) in baby boomer generation. Hence, utilitarian dimension e-service quality influence e-satisfaction. On the other hand, it does not have an effect on e-loyalty. Lastly, $H_7$ in baby boomer generation, e-satisfaction variable ($t = 1.84$) effects e-loyalty.

**Conclusion and Recommendations**

The is no significant influence of e-CRM on e-satisfaction and e-loyalty in all generations. However, there is the influence of the hedonic dimension and e-service quality on e-satisfaction for millennials generation. On the other hand, it has not been proven to influence gen X and the baby boomer generation. Furthermore, dimension hedonic e-service quality effects e-loyalty on the millennial generation, but it does not effect gen X and the baby boomer generation. The result of the study shows that there is a significant influence of utilitarian service quality on e-satisfaction but not for e-loyalty in all generations. Besides that, e-satisfaction effects e-loyalty in all generations.

For further research, it is strongly recommended to analyse e-CRM and e-service quality in business to business (B2B) oriented e-commerce and to conduct research on e-commerce globally on other countries. Likewise, the next researchers are also advised to use the longitudinal study approach to obtain new findings related to online shopping trend changes from time-to-time. Those suggestions are expected to develop the research concept and able to make a positive contribution both academically and practically.
REFERENCES


766


