AN EMPIRICAL RESEARCH OF FACTORS AFFECTING CUSTOMER SATISFACTION: A CASE OF THE INDONESIAN E-COMMERCE INDUSTRY

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ABSTRACT

The purpose of this study is to analyze the effect of website design, reliability, time saved, product variety, and delivery performance towards customer satisfaction in the Indonesian e-commerce industry. The instrument for collecting the data is using the questionnaire. The number of samples that obtained in this study is 200 samples, in which, 15 of them should be omitted since those questionnaires weren't filled properly, resulted in a total of 185 samples being deemed usable and used for this study. The data were analyzed using PLS-SEM Method. The results of this study found reliability, time saved, product variety, and delivery performance has positive and significant effect toward customer satisfaction, in which product variety has the highest effect toward customer satisfaction among the other variables. However, this study also found out that there is no significant effect between website design and customer satisfaction. This study further suggests that company specializing in the e-commerce industry should always enhance their product and services to their customer, in which customers will be satisfied, thus increasing their likeliness to repeat their purchasing experience on the company in the future.

Keywords: Satisfaction; website design; reliability; time saved; product variety; delivery performance

ABSTRAK

Penelitian ini dilakukan guna mengetahui secara mendalam pengaruh desain website, keandalan, penghematan waktu, variasi produk, dan kinerja pengiriman terhadap kepuasan pelanggan pada industri e-commerce di Indonesia. Penelitian ini menggunakan metode survei, dimana, kuesioner digunakan sebagai instrumen untuk mengumpulkan data. Sebanyak 200 responden berpartisipasi pada penelitian ini, dimana, 15 kuesioner harus dibuang karena pengisian yang tidak lengkap. Dengan demikian, sebanyak 185 data yang valid dan reliabel digunakan untuk selanjutnya digunakan dan diproses pada penelitian ini. Seluruh data diolah dengan menggunakan metode partial least squares-structural equation modelling (PLS-SEM). Berdasarkan hasil pengolahan data, diperoleh hasil bahwa reliability, time saved, product variety, and delivery performance memiliki pengaruh yang positif dan signifikan terhadap kepuasan pelanggan, dimana, variabel product variety memiliki pengaruh yang paling besar terhadap kepuasan pelanggan dibandingkan dengan beberapa variabel yang lain. Sementara itu, hasil pengolahan data pada penelitian ini juga menemukan bahwa website design tidak memiliki pengaruh yang signifikan terhadap kepuasan pelanggan. Berdasarkan hasil ini, maka peneliti ingin merekomendasikan kepada seluruh perusahaan Indoesia yangn bergerak di bidang e-commerce untuk dapat terus meningkatkan performa perusahaan berkaitan dengan kualitas produk dan jasanya kepada pelanggan, dengan harapan bahwa hal ini dapat meningkatkan kepuasan pelanggan serta meningkatkan intensi pelanggan untuk dapat mengulangi aktivitas pembelian terhadap perusahaan tersebut di masa mendatang.

Keywords: Kepuasan pelanggan; desain website ; keandalan ; penghematan waktu; variasi produk; performa pengiriman

1. Introduction

Technology had rapidly evolved throughout the time, in which it had enabled people to work and complete their activities easier and in the more efficient way (Wilson & Keni, 2018). One example of this trend is the emergence and the rising popularity of the internet. Internet is a global networking system, which allows people to communicate globally, search

any information easily, and allow people to sell and/or purchase product or service via online. In terms of business, the rapid development of the internet has affected the way business is conducted (Kaur, 2011). Due to the development of internet, the way people conduct business has changed into a more sophisticated ways. For example, to be able to establish a business, there's no need for seller to build a physical store anymore, and there is no face-to-face interaction between the seller and buyer. Therefore, when the buyer wants to buy products or services, they can directly buy it via online or through the website. In the modern term, doing the business activities in this ways could be defined as electronic commerce.

E-commerce could be defined as commercial transactions between two parties, organizations and individuals, in which conducted through networks or digital technology (Psaila & Wagner, 2007). E-commerce includes some types of activities, such as retail shopping, banking, food ordering, ticketing, etc. Mostly, electronic commerce utilize websites as a place for transactions, although it may utilize another range of technologies such as e-mail, mobile application, or even social media. E-commerce is a kind of new business model that has sparked a change, especially in the form of marketing. Marketing in the context of the e-commerce industry could be referred as an attempt made to market a product or service, and also to build customer relationship among the seller and buyer by using electronic media or the internet (Kotler & Amstrong, 2014, p.678). In terms of the competition in the e-commerce industry, because there are so many new competitors popped out in the industry, then it is compulsory for the existing companies to find some ways in order to maintain it's lead and success in this industry. Regarding this statement, customer satisfaction became an important issue that company should put their focus on. Customer satisfaction is a tool for the company to get added value from its customers, and also could act as a factor which enable the company to survive in the competitive market environment.

Briefly, satisfaction could be defined as an overall evaluation made by a consumer, after experiencing the product or service perceived performance compared to their expectations (Mosahab *et al.*, 2010). Therefore, in terms of maintaining customer satisfaction, there are several factors in which had been proven effective in affecting customer satisfaction toward a company. Luo *et al.*, (2012) stated that the design and the visual appearance of the website act as an interface between the buyer and the seller, in which website with a good design had a greater chance in making customer satisfied. Other than website design, reliability had become one of the important aspects for achieving customer satisfaction (Zaim *et al.,* 2010). Similarly, time and browsing saving by the website are likely to be proved in more positive relationship to satisfaction (Ranjbarian *et al.*, 2012). Moreover, on the context of online store, the chance to offer wide range of product are bigger than physical store (Saprikis *et al.*, 2010). The reason is online store has many alternatives due to the unlimited shelf-space as virtually. Thus, online store has more chance to satisfy their customer by offering diverse range of product and try to fulfill the customer need. Delivery performance also an important aspects in online store, in which delivering right products without defect, packaged the product safely, products should be able to meet the promised delivery schedule or should be called on time, will make the online customer satisfied or pleased with the services (Ziaullah, 2014). This research was conducted in order to analyze whether

the factors described above could actually affect customer's satisfaction in the Indonesian e-commerce industry. Previous research by Zhou *et al*.,(2009) and Wilson and Keni (2018) only assess the impact of service quality and website design quality toward customer satisfaction in the e-commerce industry, which imply that there might be another factors affecting customer satisfaction which yet to be explored. This research was conducted in order to fill this gap.

2. Literature Review
2.1 Marketing and Internet Marketing
Marketing itself refers to the process of creating, communicating, delivering value to customers and build customer relationship in order to get benefit of it such as profitability and customer equity in long term period of the time (Kotler & Keller, 2009; Wilson *et al*., 2018). Marketing is also about identifying human and social needs, then match company's product to their needs, and get profitability of it (Kotler & Keller, 2009). Then, according to Pillai *et al*., (2010), the activities of marketing are including product planning, pricing, promoting or advertising, distributing products, which aimed to fulfill and satisfy their customer.

Marketing, especially on its strategy can be adapted based on the situations and conditions that the company will face on the market (Ward, 2016). In todays development of internet, the way to market company's product can be more easily done through the internet. **Internet marketing** (also known as e-marketing or web marketing) is an attempt made to market a product or service and also build relationship through or using electronic media or the internet (Kotler & Amstrong, 2014). The purpose of online marketing is to reach potential customers through the channels where people spend time on

searching, shopping, or even socializing by online.

Marketing via the internet is also the way to widen the market coverage of the company (Linton, 2017). This means that the company's brand or product information can reach the people in certain areas or even abroad, without having to go directly to the area to promote the product. Anyone with an online business, as well as most offline businesses, can participate in online marketing by creating a website and build customer relationship at little cost than the traditional one (Linton, 2017). The online company primarily use strategies to market their product or service online, such as website design strategies, online promotions, email marketing, search engine optimization, social media, pay-per-click advertising, blogs, et cetera (Ward, 2016).

2.2 Electronic Commerce
Briefly, e-commerce reflects to the commercial transactions between two parties, organizations and individuals, which conducted through networks or digital technology (Psaila & Wagner, 2007). E-commerce is often misplaced for e-business, but actually they are different. "E-business is the form of optimization of a company's business activities that use digital technology, and does not involve an exchange in value" (Strauss & Frost, 2014). E-business has a wide range of business, not only about trading, but includes collaboration of business partners, customer service, job vacancies, et cetera. But, when an electronic business involve transmitting value, then it is already an e-commerce.

Strauss and Frost (2014), also define e-commerce is the subset of e-business that concerned on transactions, such as buying or selling or paying or marketing via online, digital value creation, virtual marketplaces, et cetera. (Strauss & Frost,

2014). E-commerce typically uses the website to perform the commercial transactions, even though it may also uses other platform, such as electronic mail, electronic data interchange, electronic funds transfer, and other networks based technologies in which those networks will automatically move to electronic environment and change the way they operate.

2.3 Satisfaction

There are many literature has defined or measured satisfaction in many ways. Satisfaction shortly refers to the customer's overall assessment to the product and service performance of the company (Ludin & Cheng, 2014). Satisfaction also reflects to the customer response to the overall product performance of an organization measured over a set of customer needs (Tjiptono, 2008). Another definition of satisfaction is overall evaluation from the customer after experiencing the company's product or service performance, in which if the company's performance matches their expectations then the customer is satisfied (Mosahab *et al*., 2010). Customer satisfaction is also not an absolute concept, but rather relative to customer's experience of shopping and/or using the product or service (Tjiptono & Chandra, 2011). Therefore, to gauge the concept of satisfaction can use several factors such as expectations and performances of the company.

Meanwhile, satisfaction also defined as an emotional state of pleasure or disappointment where a person may feel due to comparing their perceptions (outcome) and expectations of product or service's performance (Kotler & Keller, 2009). These comparison means that if product or service's perceived performance matches their expectations, the customer is satisfied. But, if the performance remains below expectations, the customer is dissatisfied or dissapointed. If the performance exceeds expectations, the customer will be highly satisfied or delighted. In effort to achieve customer satisfaction, Kaihatu *et al.,* (2015) stated that expectation and perception are important things that needed to be understood. Perception is the subjective judgment on the actual performance of the goods or services that received or experienced by customer, while customer expectation is the standard or reference that customer had before they receive the experience, in which the standard could be built by the past buying experience, product advertisement, word of mouth, etc.

2.4 Website Design

Briefly, website design explained about the appeal of user interface design that developed for the visitors (Maiyaki & Mokhtar, 2016). Website design reflects to the aesthetics elements, such as color, graphic, or text, together with the ease of use and visual attractiveness which is presented directly to the website visitors (Bressolles & Durrieu, 2011). Moreover, website design also can be defined as any components or elements that being part of a website, such as content, organization, and structure of the site, which are visually appealing and pleasing to the eye (Kassim & Abdullah, 2010).

On the e-commerce environment, website serves as the interface between an online retailer and its consumer. Thus, the design of website has important role for online retailer to create good "first impression" for the visitors. But it's a kind of challenge to create a well-designed website that could give good first impression for the visitors (Kotler & Keller, 2009). The well-designed website could be seen through clear layout, ease of site navigation, well-organized appearance, and the information on the website is

up-to-date (Tao *et al*., 2009). Similarly, website design should be fast speed of download and clear product information (Francis, 2009). Besides that, if the website design classified as good, then it will build on post-purchase satisfaction and create buying interest to the online website (Luo *et al.*, 2012).

2.5 Reliability

"Reliability defined as an ability from service provider, such as company or organization, to deliver promised services to customer accurately and dependably" (Auka *et al.,* 2013). The concept of giving service as promised can be interpreted that the company able to keep the promises and able to perform the service right on the first time without any mistakes for customer. Reliability can be described through giving best performance of services, available products to be sold, and error-free transaction processing. Iberahim *et al*., (2015) also added ways in describing this concept, such as delivering services in designated time and how the company or organization handle the problem faced by customer.

In the context of e-commerce, website is a tool to communicate and interact with the customer and the company provides the product or service through the website. Hence, reliability can be adapted into e–commerce, which refers to the ability of the website to deliver the actual service performance as promised dependably (Swaid & Wigand, 2007). The measurement for reliability on website e-commerce including several dimensions, such as fulfill orders correctly, honest to the product offered online, updating website frequently, website runs smoothly, or error free in online transactions, keeping personal information secure, accurate in online purchasing, and delivering the order promptly (Omar *et al.,* 2015). The stocks of product that will sell it to customer is also

important to be considered; When customers selects the product, then the pages wrote that stock has been sold out, it shows that the website can't performs the service as promised and can't be relied on by the customer.

2.6 Time Saved

Time is an important thing for every person (Khalil, 2014). Time could be termed as money by some people so that they could manage their time effectively. Moreover, people define time in such a way in order to be able to do several activities at one time. Unfortunately, in this modern era, people are very busy with work and leisure activities quickly taking over all the "time" in the whole day. While some people could have much time to shop, others simply don't have time as they are too busy with working. This arises the issue of perceived time pressures, which is described as the degree to which an individual is lacking in time because of many task of living to be done (Bashir *et al.,* 2015). This perceived pressure primarily come out from the situational factor, in which people are having too much work or too many things to be done. Therefore, this is where online shopping become solution as it saves valuable time in which can put to better use elsewhere (Khalil, 2014). One of the best reasons to shop online is the ability to save time and also their energy. They do not need to visit physical store and no limit business hours to shop where it will make consumers' life easier indirectly. Still, they do not have to wait in checkout lines or be crowd in store, shopping at home all day, and saving travel costs.

Time saved further described as the extent of time and/or effort spent by customer when make a purchasing in the online store under considerations (Lee & Joshi, 2007). In online stores, customers expect to save on time spent in searching

for the needed product in comparison to traditional stores. They also need minimal effort to browse an entire product assortment inside the online store. But mostly, online shopping can reduce consumers' shopping time, especially for those consumers whose times are perceived to be costly when they do offline shopping. Conversely, customers are also aware about how long the time that they spent while doing a transaction over the webstore (Nwokah & Juliet, 2016). If the process of doing transaction take a long time, so customer's time is being wasted and end up to dissapoitment. Similarly, Seiders *et al.,* (2007) also stated that easy to browse or search the information through the web store, fast transaction and browsing, and convenience using the website for shopping are the consideration in minimize customer's non-monetary costs (time and effort) during shopping, and hence resulting in customer satisfaction.

2.7 Product Variety

The assortment of products available in-store, and provided by the firm or organization can be defined as product variety (Kotler & Keller, 2009). Product variety also reflects as the quantity of different product types offered within a single product category (Maiyaki & Mokhtar, 2016). The main reasons of offering a wide variety of product is the consumer itself, in which they are the sources of demand for the product (Ho & Tang, as cited in Kim, 2006). For any firms or organizations, providing diverse range of products will helps to meet the specialized demands of the customer (Xia & Rajagopalan, 2009). Similarly, it will also give many preferences for customer to choose based on their need, want, taste, or even budget. The variety of the product further can increase the likelihood at least one product offered can closely match an individual preference. In addition, on the context of online store, the chance to offer wide range of product are bigger than physical store (Saprikis *et al.,* 2010). One of the reason is online store has many alternatives due to the unlimited shelf-space as virtually. Thus, online store has more chance to satisfy their customer by offering diverse range of product and try to fulfill the customer need. This action can also give companies more profit, build long-term relationship with their consumer, and attract new customer to take a look and then make a purchase in the store.

2.8 Delivery Performance

In brief, delivery performance explains about the timeliness of the firm in delivering or sending their good or service to the customer (Lee & Joshi, 2007). Delivery time in the context of website could be the gauge for item "place" in marketing mix, which is stands on how the product or service is dispatched on-time to the final destination (Abdallah & Jaleel, 2016). Further, delivery performance describes about "how well the product is delivered to the customer, including the speed, accuracy, and care along the process of delivering to the final destination" (Kotler & Keller, 2009).

In the scope of e–commerce, delivery has been a famous issue among the online customers. In purchasing goods by online, customers usually faces several issues related to delivery, such as delayed, product damage, and wrong product shipped (Lee & Joshi, 2007). First, even though the website has well-designed or easy to use, the customer may switch to the other online store or back to the physical store if the delivery performance is not offered reasonable time or it could be said as delay. But, this problem can occur by external factors beyond the firm's control, such as traffic, road damage, and weather conditions on certain months (Bourlakis *et*

al., 2011). Second, the issue of product, together with the package is damaged. These may be caused by the trip along the delivering by courier or the company did not check the product before send it to the courier. So the company should be responsible on it by trying to fix this issue, such as offering the return program by the designated time, giving voucher as the form of apology, et cetera. Third, the delivery performance concerned about product shipped have to be the same as they ordered before over the website. Further, the retailer or company also must deliver the products that same as the graphic and description listed on their website. These three issues will grow disappointment or make a perception that this company could not be reliable, as it is not delivered as promised before. Customer prefer faster on delivery time, because online shoppers are anticipating quicker timely delivery than going to the physical store. These services such as timely and reliable delivery will make the customer satisfied then they will keep using the same online store on the next day.

2.9 Effect of Website design toward customer satisfaction

Website design has been an important thing to be focused, in which it is the interface between online consumer and the retailer. Site design can be regarded as the extent to which the site developed and designed carefully for visual attractiveness, easy access, and simple navigation to the visitors. If the retailer design their website as well, it will further attract the consumer to scroll, searching the products, and made a purchasing on its page. It will also reduce the time on information search, make the consumer happy to operate the website, then resulting in satisfied and pleasure based on its design (Luo *et al.* 2012).
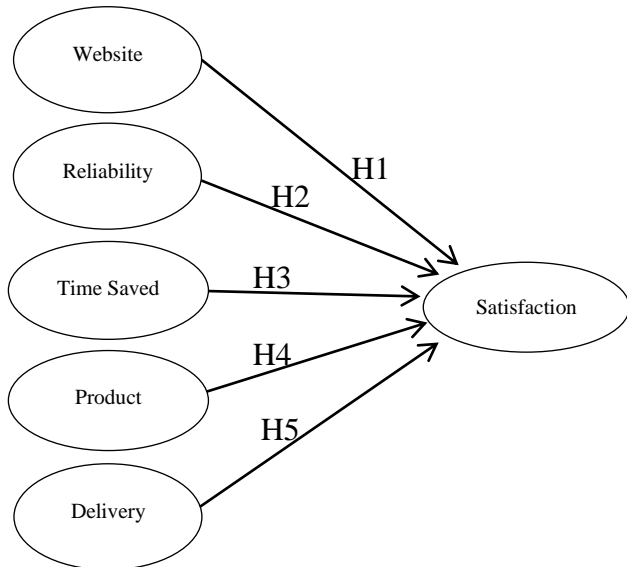
Figure 1. Research Model
Source: Alam & Yasin (2010)

Based on the previous research conducted by Guo *et al.,* (2012), Liu *et al.,* (2008), Alam and Yasin (2010), Karim (2011), Kassim and Abdullah (2010), and Chen *et al.,* (2012), there is positive effect between website design and customer satisfaction on the context of online shopping. According to Sakhaei *et al.,* (2014) and Ling *et al.,* (2016), on the sector of internet banking, website design also has positive relationship to online customer satisfaction. Thus, author would like to posit the first hypothesis:

H$_1$: Website design positively affect satisfaction

2.10 Reliability positively affect satisfaction

Reliability is one of the important aspects for achieving customer satisfaction (Zaim et al. 2010). Reliability refers to the ability from the company or organization to provide promised service dependably. If the company fulfills the service as promised to customer, then the customer will satisfied and declares that the company is dependable. However, the better the consumers' perception of company's

reliability, customer satisfaction will also be higher.

Based on prior research conducted by Sakhaei *et al*., (2014) and Ma (2012) on the online banking sector, reliability has a positive influence to customer satisfaction directly. According to the research by Gunarathne (2014), Hossain (2012), Minh *et al*., (2015), Rao and Sahu (2013), and Tuan & Linh (2014), there is a positive effect between reliability and guest satisfaction on the hotel industry. Moreover, Alam and Yasin (2010), Swaid and Wigand (2007), Karim (2011), and Omar *et al*., (2015) has conducted a research on the online shopping context, resulting that reliability positively associated with customer satisfaction. Dreheeb *et al*., (2016) has found that reliability significantly related to user satisfaction with the use of e-learning system. Siddiqi (2011) chose banking industry for his research, has found that reliability has positive correlation to satisfaction. From the previous studies above, reliability and customer satisfaction have positive relationship with each other, then the increase or decrease in reliability will affect the increase or decrease of customer satisfaction. Thus, author would like to posit the second hypothesis:

H_2 :Reliability positively affect satisfaction

2.11 Time saved positively affect satisfaction

Savings in time is one of the advantages on shopping through website or online (Nwokah & Juliet, 2016). When the web store offers access anytime and anywhere, no need to queue, speedy and fast transaction on the pages, customers are being satisfied and pleased as those examples can save their time and energy (Ahmad & Ali, 2011). Similarly, time and browsing saving by the website are likely to be proved in more positive relationship to satisfaction (Ranjbarian *et al.* 2012). There are several studies show a positive relationship between time saved and customer satisfaction. On the online shopping context, Lee & Joshi (2007) and Ranjbarian *et al*., (2012) found that time saved is associated with satisfaction. On the electronic banking sector, Ahmad & Ali (2011) also found that time saving has a relationship towards customer satisfaction. According to those prior study, it could be said that if the website or online company could saved consumer's time when they bought products through the web store, then it could make them satisfied and pleased. Therefore, author would like to posit the third hypothesis:

H_3 :Time saved positively affect satisfaction

2.12 Product variety positively affect satisfaction

Product variety is the broad categories of product provided by the company aimed to fulfill consumer demand and needs. Szymanski and Hise stated that wide assortment of products may attract the customers and satisfaction would be more positive when online stores provide broad variety of products (Guo *et al.,* 2012). Saprikis *et al.,* (2010) further stated that web store has more opportunity to provide many categories of products into the store compared to the traditional one. By offering broad variety of products to online consumers, they have many preferences to choose product based on their need, want, or taste. Offering many preferences will further make the customers satisfied as the company can meet and fulfill the heterogeneous customer demand through the online store.

According to prior study by Alam and Yasin (2010), Liu *et al*., (2008), Lin *et al*., (2011), Guo *et al.,* (2012), and Ziaullah

et al., (2014), it were found that product variety has a positive effect on customer satisfaction in the online shopping environment. This means that wider product variety offered by the company will increase satisfaction of the customer. Therefore, author would like to posit the fourth hypothesis:

H_4 :Product Variety positively affect satisfaction

2.13 Delivery performance positively affect satisfaction

In the online shopping environment, timely and reliable delivery is the two important roles for making the online consumer satisfied or pleased (Ziaullah *et al.,* 2014). The reliable delivery refers to the delivering right products without defect and packaged the product safely; and products should be able to meet the promised delivery schedule or should be called on time. If the company performs their delivery service such as late or unsafe products, customers can switch easily to another web store and just a single click away or even customer moved to the conventional shop.

According to the studies by Lee & Joshi (2007), Liu *et al.,* (2008), Lin *et al.,* (2011), Dharmesti & Nugroho (2012), Alam & Yasin (2010), Ziaullah *et al.,* (2014), and Guo *et al.,* (2012), there is a positive influence between delivery performance and customer satisfaction on the online shopping environment. Moreover, based on Wu & Zhang (2015) and Kedah *et al.,* (2015), on the context of online food ordering service, delivery performance has an association with the customer satisfaction in which the food they have ordered can be delivered fast and safely, and they can enjoy free charge of delivery service. Therefore, author would like to posit the fifth hypothesis:

H_5: Delivery performance positively affect satisfaction

3 Research Method

This research was conducted by personally distributing a total of 200 questionnaires to the respondents, in which respondents in this research were those who have ever visited and made a purchasing activity toward an e-commerce website in Indonesia. The amount of sample size used in this research were drawn based on the recommendation of several researcher, as Hair *et al.,* (2010) stated that for a research which implemented the structural equation modeling (SEM) method, a sample size between 150 and 400 respondents were enough to justify the results. Moreover, Beavers, Iwata and Lerman (2013) stated that for a multivariate study, the minimum sample size required was 150, while the maximum amount of sample size required was 300 sample. Meanwhile, this research implemented non-probability sampling, in which, judgemental sampling was chosen as the sampling method in this research. Judgemental sampling method was implemented in order to ensure that all subjects or respondents participated in this research are the one who had ever bought a product through an e-commerce website. Moreover, regarding the questionnaire used in this research, a total of 22 items representing all six variables were included in the questionnaire, in which out of 22 items, four items representing variable website design were adapted from Guo *et al.,* (2012) and Liu *et al.,* (2008); four items representing variable reliability were adapted from Swaid and Wigand (2007) and Sakhaei *et al.,* (2014); three items representing variable time saved were adapted from Lee and Joshi (2007); three items representing variable product variety were adapted from Guo *et al.,* (2012); four items representing variable delivery

performance were adapted from Guo *et al*., (2012) and Lee and Joshi (2007); and four items representing variable customer satisfaction were adapted from Guo *et al*., (2012) and Fang *et al*., (2014). Furthermore, the questionnaire of this research used likert scale, in which respondent's responses to the item on the questionnaire were ranging from 1 to 5 (5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, and 1 = Strongly Disagree).

Before the research was conducted, a pretest study was conducted by distributing the questionnaires to a total of 50 respondents to ensure the validity and reliability of the questionnaire, and also to ensure the clarity of the questionnaire, in which respondents could fully understood the meaning of each statement. After conducting the pretest, it was revealed that all items and variables were deemed valid and reliable. Furthermore, after collecting several responses regarding the wording of the questionnaire, authors made some modifications on several items of the questionnaire before using it on the actual research. In the actual research, after all data were gathered, the data will be carefully checked and reviewed in order to ensure that all of the questionnaires were properly and completely filled by the respondents. After completing the

checking process of the questionnaires, the data were then will be analyzed using PLS-SEM method in order to know the relationship between variables.

4. Result and Discussion
4.1 Respondent's Profile

Out of 200 questionnaires which were distributed, a total of 185 were usable, and therefore were further used in this research. 15 questionnaires were omitted since respondents didn't fully answer all of the questions, some questions were left blank, and respondents giving the same answer for all questions. Therefore, a total of 185 were deemed usable. Before conducted an analysis on the data, the respondent's demographic analysis were conducted in order to know the profile of the respondents. Based on the result, it was revealed that the majority of the respondents were male (69.2%), and aged between 19 to 24 years old (48.1%). Furthermore, the majority of the respondents were students (56.2%), and had an average monthly spending between Rp 2.000.001 to Rp 5.000.000 (54.6%). After completed the analysis of the profile of the respondents, the data were then further processed in order to analyze and determine the relationship between variables.

Table 1. Respondent's Profile

Demographics variables	Category	Frequency	Percentage
Gender	Male	57	30.8%
	Female	128	69.2%
Age	≤ 18	15	8.1%
	19 – 24	89	48.1%
	25 – 30	39	21.1%
	31 – 36	32	17.3%
	≥ 37	10	5.4%
Occupation	Student	104	56.2%
	Entrepreneur	26	14.1%
	Private employee	33	17.8%
	Other occupation	22	11.9%
Monthly spending	≤ Rp 2.000.000	27	14.6%
	Rp 2.000.001 - Rp 5.000.000	101	54.6%
	≥ Rp 5.000.001	57	30.8%

Source : Data analysis (2018)

4.2 Measurement Model (Outer Model) Analysis

Before the data were analyzed in order to determine whether the independent variables discussed in this research did have an impact toward customer satisfaction, a measurement model analysis were first conducted in order to determine whether the data had fulfilled the validity and reliability criteria of the model. Hair, Ringle and Sarstedt (2011) stated that in PLS, goodness-of-fit measurement were conducted both the measurement model analysis and the structural model analysis. In this analysis, several criteria were determined in order to analyze whether the items and variables had fulfilled the validity and reliability requirements, such as the factor loadings value of each items should exceeded 0.7, the AVE value should exceeded 0.5 and the square root value of AVE should be greater than the correlation between latent variables (discriminant validity assessment), in which all items and variables should fulfilled those criteria in order to be deemed valid. Moreover, both the value cronbach's alpha and the composite reliability of each variables should exceeded 0.7 in order for the model to be deemed as reliable.

Table 2. Measurement Model (Outer Model) Assessment

Items	Variables	Cronbach's alpha	Composite Reliability	AVE
WD1	Website Design	0.783	0.757	0.501
WD2				
WD3				
WD4				
REL1	Reliability	0.780	0.818	0.525
REL2				
REL3				
REL4				
TS1	Time Saved	0.794	0.789	0.610
TS2				
TS3				
PV1	Product variety	0.866	0.886	0.509
PV2				
PV3				
DP1	Delivery performance	0.818	0.725	0.601
DP2				
DP3				
DP4				
CS1	Customer Satisfaction	0.803	0.767	0.623
CS2				
CS3				
CS4				

Source : Data analysis (2018)

Table 3. Discriminant Validity Assessment

	Website Design	Reliability	Time Saved	Product variety	Delivery Performance	Customer Satisfaction
Website Design	**0.708**					
Reliability	0.670	**0.820**				
Time Saved	0.457	0.702	**0.765**			
Product variety	0.501	0.657	0.685	**0.772**		
Delivery performance	0.568	0.598	0.534	0.601	**0.739**	
Customer Satisfaction	0.608	0.683	0.569	0.635	0.714	**0.809**

Source : Data analysis (2018)

Based on the measurement model assessment, it was revealed that all items and variables had fulfilled the measurement model criteria, since all items and variables had been deemed valid and reliable. Moreover, based on the result of the discriminant validity assessment presented on table 3, it could be concluded

that the square root value of AVE of each variable had been greater than the correlation between latent variables. For example, the square root value of AVE of variable website design quality (0.708) was greater than the correlation between latent variables, such as reliability (0.670), time saved (0.457), product variety (0.501), delivery performance (0.568), and customer satisfaction (0.608). After the model had passed the measurement model criteria, the data were then further analyzed in the structural model assessment in order to determine the relationship between variables, and also to find out whether the independent variables had a positive effect toward customer satisfaction.

4.3 Structural Model (Inner Model) Analysis

The structural or inner model analysis was conducted in order to determine the relationship between variables discussed in this research. In the inner model analysis, the relationship between variables will be assessed using two criteria, which are the R-squared (R^2) value and the path coefficient value using bootstrapping technique. For the path coefficient assessment, a cut-off value of 1.96 with 5% of significance level were used in this research, in which independent variables had a positive impact on customer satisfaction if the t-value is greater than 1.96. In the other hand, if the t-value between variables were below than 1.96, then it could be assumed that the independent variable don't have a positive effect on customer satisfaction. Furthermore, t-value assessment was also used as a method to test the hypotheses, in which the hypothesis will be rejected if the t-value between variables was lower than 1.96, and the hypothesis will be accepted if the t-value between variables was greater than 1.96.

Table 4. Path Coefficient analysis

Relationship between Variables	t-statistics	Cut-off value	Hypotheses Testing Result
Website design positively affect satisfaction	1.274	1.96	Not Supported
Reliability positively affect satisfaction	2.325	1.96	Supported
Time saved positively affect satisfaction	2.648	1.96	Supported
Product variety positively affect satisfaction	3.902	1.96	Supported
Delivery performance positively affect satisfaction	2.988	1.96	Supported

Source : Data analysis (2018)

Table 5. R-Squared Assessment

Variable	R-Squared
Customer Satisfaction	0.657

Source : Data analysis (2018)

Based on the structural (inner model) assessment, it was revealed that the r-squared value is 0.657 or 65.7%. This result means that customer satisfaction were explained by the independent variables, which are consisted of website design, reliability, time saved, product variety, and delivery performance, by 65.7%, while the rest (32.3%) were explained by the other variables which

were not discussed in this research. Furthermore, based on the path coefficient analysis, it was revealed that out of 5 variables, website design quality turned out to be a factor which didn't have a significant impact toward customer satisfaction.

The first hypothesis proposed that website design positively affect customer satisfaction. However, based on the results, it was revealed that website design has no positive effect on customer satisfaction or website design is not significantly affect customer satisfaction, since the t-value was lower than the cut-off value of 1.96. Thus, hypothesis 1 (H_1) was not supported. This result suggest that in the Indonesian e-commerce industry, consumers didn't put too much attention or the attractiveness or the quality of a website, since website only been perceived as an intermediary which connect consumers and the sellers. Therefore, website design didn't affect consumers' level of satisfaction, since it only act as a "bridge" which enables the company to communicate with the consumers (or potential buyer).

The second hypothesis proposed that reliability positively affect customer satisfaction. Based on the result it was revealed that reliability has positive effect toward customer satisfaction since it's t-value was greater than 1.96 (2.325 > 1.96). Thus, the second hypothesis is supported. The third hypothesis proposed that time saved positively affect customer satisfaction. Based on the result, it was revealed that time saved has positive effect toward customer satisfaction since the t-value was greater than 1.96 (2.648 > 1.96) Thus, the third hypothesis is supported The fourth hypothesis proposed that product variety positively affect customer satisfaction. Based on the result, it was revealed that product variety has positive effect toward the customer satisfaction since it's t-value was greater than 1.96

(3.902 > 1.96). Thus, the fourth hypothesis is supported. The fifth hypothesis proposed that delivery performance positively affect customer satisfaction. Based on the result, it was revealed that delivery performance has positive effect toward the customer satisfaction since it's t-value was greater than 1.96 (2.988 > 1.96). Thus, the fifth hypothesis is supported.

The objective of this research is to know whether or not there's a positive effect between website design, reliability, time saved, product variety, delivery performance toward customer satisfaction in the Indonesian e-commerce industry. The testing of all five hypotheses in this research had revealed that four variables, namely reliability, time saved, product variety, delivery performance proved to have a positive and significant effect on customer satisfaction, while website design didn't had a significant impact on customer satisfaction. This was in line with the previous research conducted by Ludin and Cheng (2014), in which website design didn't significantly impact customer satisfaction. In which it was revealed that Malaysian young people has low involvement in buying products online, hence they did not have much past experience in using the website for shopping. If they have low involvement of the website shopping, then they are also not notice too much on the visual appearance or the features provided on the website. Moreover, on the online purchase on e-ticketing in Mongolia conducted by Byambaa and Chang (2012), website design has no effect toward online satisfaction, in which the online consumer put their focus more on the security when transaction the website. Moreover, they also prefer to buy ticket directly from the airlines office in which it has face-to-face interaction of buyer and seller. In the other hand, in Indonesia, Dharmesti and Nugroho (2012) has conducted their

research in the context of online store in Indonesia and the sample sizes are 208 respondents. The result is website design has not significantly affect the online consumers' satisfaction, in which the respondents put more emphasize on the security, delivery performance, and good customer service rather than good-website design.

Another study conducted by Paramita and Nugroho (2014) also on the context of website shopping in Indonesia, also found that the design of the website has no significant relationship in creating online customer satisfied. On their research, their respondent argues that the design is not the main consideration to make them satisfied, but more likely about the delivery the product in designated time, or provide good quality of information on the online product could more make them satisfied over the web store. Moreover, in the e-commerce industry, the quality of the website developed by a company didn't have an important role in influencing people's satisfaction, despite played an important part or factor which could the extent and quality of the communication conducted between consumers and sellers (since no face-to-face communication were occurred in the e-commerce industry). It is mainly because since website only served as a "bridge" to connect consumers and sellers, the level of importance that it has on satisfaction was lower compared to the other variables (such as reliability, time saved, product variety, and delivery performance). In this case, companies would struggle to instill satisfaction on consumers' minds (make consumers satisfied) if they weren't able to serve their consumers well (for example, consumers will be disappointed if the there are not many varieties of products sold or offered by the companies. Or, in the other word, consumers will be disappointed if the amount of variety regarding the products or services offered by the companies were too "narrow" which cause consumers to have little choice in regard with their buying behavior or buying preferences toward the products.

There is a high chance that consumers will be more disappointed if companies fail to ensure the reliability regarding the delivery system of the product rather than when the website used to access the web services of the company failed. It is mainly because as consumers could explore another website or method to access the companies' e-commerce page, it would be difficult for consumers to access another method to deliver the products to it's destination once the products had been sent. Therefore, if the products failed to reach the consumers' address in a timely manner, then it would disappoint consumers, which could cause dissatisfaction to occur and grow on consumers' mind. When this happened, it would be difficult for the company to solve, reduce, or eliminate the feeling of dissatisfaction which had already occurred since there's a tendency that consumers will find another alternative or competitors to buy the either the same or different products in the future.

Consumers level of dissatisfaction tend to lower when they felt that they can't access the website because of an unknown or unforeseen circumstances, as they realize that such an error would be solved in a matter of time. Moreover, nowadays, almost every e-commerce companies had developed a mobile application software which could act as an alternative to access the companies' web page, in which, consumers (or potential consumers) who had downloaded the app could access the companies' web portal by "tapping" on the logo of the app. Using this way, there's no need for consumers to access the companies' e-commerce portal through the conventional website, thus minimizing (or

even eliminating) the risk of website error. Therefore, it is understandable on why website quality didn't have a significant impact on customer satisfaction, since the importance of website was still lower compared to the other variables studied in this research.

Similarly, previous research had underlined that possibility that the design of the website might likely act as the factor which will draw potential customers to visit the website and then buy the product from the website. A good website design also might be more affect to the purchase intention, rather than satisfaction. This findings was also in line with the statement on Kotler and Keller (2009), which stated the key challenge in this industry was to design an attractive website on first viewing and interesting enough to encourage repeat visit on the next days. Previous research from Paramita and Nugroho (2014) also support this findings in which a good website design can be more influential to the purchase intention from the potential customer. However, in order to satisfy customers and retaining them, the services performed by online company, such as reliability or the delivery performance play more important role compared to website design. Therefore, the first hypothesis was not supported in this research.

4.4 Managerial Implications
Based on the result of the research above, it was revealed that reliability, time saved, product variety, and delivery performance had positive effect on satisfaction, while website design didn't have a significant impact on customer satisfaction. This results indicated that the quality of a website (for example, the navigational aspects of a website, the aesthetical aspects of a website, the layout of a website, et cetera) didn't influence people's satisfaction toward e-commerce websites. In this case, website was only act as a "bridge" which connect or act as an intermediary between customers (or potential customers) to seller.

Furthermore, the other variables, such as reliability, time saved, product variety, and delivery performance were revealed to have a positive impact on satisfaction. These findings indicated that the timeliness of a website (e-commerce company) in regard with the service that they offer to customers, the reliability aspect of a website, the delivery performance of the e-commerce company (for example, the goods that were ordered by customers were safely and timely arrived at the destination), the timeliness of the service performed by the company, and the variety of products offered by the company to it's customers through it's website could influence people's satisfaction toward the company.

5. Conclusions
Based on the result of the research above, it was revealed that reliability, time saved, product variety, and delivery performance had positive effect on satisfaction, while website design didn't have a significant impact on customer satisfaction. Regarding this result, it was suggested that companies specializing in the e-commerce industry should keep providing the products and services at the highest level to it's consumers, in which only by then, consumers will satisfy and enjoy buying products from the website in the future, and more likely to repeat their purchasing experience on the same website.

Furthermore, despite the extensive nature of this research, it didn't mean that this research is free from limitations. First of all, this research only conducted an analysis on the e-commerce industry in Indonesia, thus the results generated in this research might not be generalizable to the other companies. Further research

might conduct another research using this topic in another country in order to increase the generalizability of the topic. Second, there are only five variables discussed in this research in order to analyze their relationship toward customer satisfaction. However, there might be another variables which could also impacted customer satisfaction which weren't discussed in this research. Further research might conduct another research in this topic in order to explore the other variables which might have a positive impact on customer satisfaction. Third, this research was conducted in the e-commerce industry, in which might hinder the result of this research might not be generalizable to the other industry. Therefore, further research in the other industry were encouraged in order to increase the generalizability and the understandings of this topic in the other industry.

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