

Increasing consumers to consumers (C2C) e-commerce in central Java, Indonesia

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CHRONICLE

ABSTRACT

Article history:

Received March 10 2020
Received in revised format March 15 2020
Accepted June 10 2020
Available online June 10 2020

Keywords:

Product Quality
Trust
Purchase Decision

Online shopping is recently showing rapid development. There are a lot of e-commerce sites with several categories that appear in the community, along with changes in the way people shop from conventional shopping into virtual shopping. The most publicly visited e-commerce sites are C2C e-commerce sites, namely Tokopedia, Shopee, Bukalapak, and Elevenia. However, the popularity of C2C e-commerce sites must be reviewed since there is a decrease in marketing performance and in brand share over the period 2018-2019, which can weaken and harm C2C e-commerce sites. This research was conducted to analyze the factors that influence trust, purchase intention, and transaction security to improve consumer purchasing decisions of C2C e-commerce sites in Central Java. Using data from 160 respondents who had made purchases on the C2C e-commerce site throughout 2019, ten hypotheses were proposed through the Structural Equation Model (SEM) analysis. The results show that purchasing decisions were influenced by trust. Consumer trust increases if the quality of the products provided by the website is adequate, thus will shape consumer trust.

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1. Introduction

The rapid development of technology and communication has made it easier for humans to do their daily activities, one of which is to do activities using the internet. All aspects of human life are affected by the presence of the internet, for example in the business sector. This sector utilizes the internet to trade cheaply, quickly and easily with people around the world. Furthermore, buyers and sellers involved in e-commerce trading are no longer constrained by time in stores, geographical marketing areas, and catalog shipments (Schöder et al., 2016; Lee et al., 2019). The most publicly visited e-commerce sites are C2C e-commerce sites, namely Tokopedia, Shopee, and Bukalapak, which have been proven to rank in the top 3 categories of e-commerce in Indonesia, released by Iprice's report on the e-commerce competition map in Indonesia. C2C e-commerce sites are superior compared to others, because they provide a policy that consumers not only buy but also sell their products leading to an increase in online transactions. With the increase in online transactions, it has been recognized that the open and global nature of the web shows online transactional activity at a high level of vulnerability, uncertainty, and insecurity (Faqih 2016). In 2019, it was proven that C2C e-commerce experienced a decline in web visitors which caused a decline in market share. It was later identified that there are problems and also consumer complaints (Goutam & Gopalakrishna, 2018; Giao et al., 2020; Ha & Nguyen, 2019).

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Table 1

Issues Regarding E-Commerce Shopping Sites in the Consumer To Consumer (C2C) Category

No	Shopping Site	Date of Complaint	Complaint Media	Issue
1.	Tokopedia	20 th of June 2019	Consumer Media (Susanto)	A smartphone worth of Rp5,100,000 received by a customer do not match the chosen color, Tokopedia refuses to respond to consumer complaint, and accuses the consumer of manipulating the transaction. Hence, the consumer's Ovo fund is still deducted.
2.	Shopee	10 th of July 2019	Consumer Media (Liana Therandhana)	Consumer data privacy issues (personal phonebook activity appears in Shopee notifications).
3.	Bukalapak	15 th of February 2019	Bukalapak.com community on behalf of rachmandmc	There was a smartphone purchase transaction but the goods did not arrive.
4.	Elevenia	01 st of July 2016	PetisiOnline.Com (Kumala)	Elevenia is regarded as doing scam because it often organizes fake events.

Source: Consumer media, Bukalapak.com community, PetisiOnline accessed on September 2019

Table 1 shows that there are some problems faced by C2C e-commerce sites for consumers which cause disappointment and loss. In accordance with the negative problems of C2C e-commerce sites, this has an impact on the decline in monthly web visitors in 2019 as follows.

Table 2

Map of C2C E-Commerce Competition in Indonesia Q1 2019 - Q3 2019

C2C E-Commerce Ratings	Online store	Monthly Web Visitors Q1 2019	Monthly Web Visitors Q2 2019	Monthly Web Visitors Q3 2019
1	Tokopedia	137,200,900	140,414,500	65,953,400
2	Bukalapak	115,256,600	90,705,300	55,964,700
3	Shopee	74,995,300	89,765,800	42,874,100
4	Elevenia	3,394,400	3,001,400	856,700

Source: IPrice Group Magazine 2019

Table 2 displays a map of C2C e-commerce competition in Indonesia Q1-Q3 2019. In the final quarter there were problems experienced by all marketplaces, especially C2C from Tokopedia, Shopee, Bukalapak, and Elevenia, namely a decline in web visitors. Analysis of the total decline was considered quite drastic. Of the many problems faced by C2C e-commerce sites, it turns out that E-commerce IQ—based on a survey conducted by online with a total of 1,240 representatives respondents throughout Indonesia—stated that Tokopedia is the site most sought after by Indonesian consumers to buy toy category products by 9% and lifestyle and hobbies by 10%. Furthermore, Shopee also became a popular site for Indonesian consumers in fashion and beauty category. Bukalapak is a site sought by consumers throughout Indonesia in the mobile & electronics category, with a percentage of 25%, followed by Tokopedia with 22%. This shows that C2C e-commerce sites are widely used by Indonesian people and become a convenient shopping site for consumers, because in 2019, e-commerce sites such as Tokopedia, Shopee, and Bukalapak are among the best 10 e-commerce sites in Indonesia generally, and it placed the ranking of the top 3. But on the contrary, purchase intention and purchasing decisions for C2C e-commerce in 2019 tend to decrease as seen in the decrease of web visitors which has an impact on the decrease in the revenue of sellers on the C2C e-commerce platform. This purpose of the study is to analyse the factors that influence trust, purchase intentions, and transaction security to improve purchasing decisions. Whereas questions of the research, include:

1. Does the quality of information affect trust?
2. Does product quality affect trust?
3. Does service quality affect trust?
4. Does trust affect perceived risk?
5. Does trust affect purchase intention?
6. Does trust affect purchasing decisions?
7. Does the perceived risk affect the purchase intention?
8. Does the purchase intention affect the purchase decision?
9. Does transaction security affect purchasing decisions?

2. Literature review and hypotheses

According to Gunawan et al. (2019), purchasing decisions are processes that encourage consumers to identify needs, product options, choose certain products and brands. The responsibility that must be carried out by the producer or seller is to provide the best product quality and exactly the same with the description given so customers give positive feedback of the product. Quality of service is also an important aspect given by companies in online shopping. Consumer safety issues will affect

perceptions of trust so sellers must be able to increase security on e-commerce websites (Sharma et al., 2019; Wibowo and Dirgantaran, 2017). There are important factors to build trust in online shopping which influence purchasing decisions:

The effect of information quality on trust

Research conducted by Hassan et al. (2017) states that information quality has a positive effect on trust. Consumers with a lack of prior experience have a tendency to depend on perceptions about the quality of the website to develop initial trust. Furthermore, according to Towers and Xu (2016) and Hariguna and Berlilana (2017), that there is a positive relationship between the quality of information with online consumer trust. Websites that have adequate information quality will also have greater online trust.

H₁: The higher the quality of information, the higher the level of trust.

The effect of product quality on trust

Good product quality will cause consumers to have higher trust. The research conducted by Ziaullah et al. (2015) and Suhaily and Darmoyo (2017) state a positive relationship between product quality and trust. Product quality becomes a fundamental determinant of consumer desire to buy from e-commerce websites and leads to trust in the web.

H₂: The higher the quality of the product, the higher the level of trust.

The Effect of service quality on trust

Quality of service affects consumer trust. Good quality service will build consumer trust, and poor service quality will reduce consumer trust. Research done by Kundu and Datta (2015) states that there is a significant relationship between service quality and trust. Furthermore, the results of research conducted by Chek and Ho (2016) states that there is a relationship between service quality and trust. Thus, consumers who have trust in sellers will depend on them because of the guarantee of good service quality.

H₃: The higher the quality of service, the higher the level of trust.

The effect of transaction security on trust

Transaction security on online shopping is one of the important things that builds trust. Transaction security is a consideration of consumers in shopping online because no one is in direct control. According to Sharma et al. (2019) and Wibowo and Dirgantaran (2017), there is a positive relationship between the security of transactions towards trust. Electronic retailers must have a certain way and focus on online security controls to develop trust, and make the internet a reasonable medium for business transactions (Alam et al., 2018).

H₄: The higher the security of the transaction, the higher the level of trust.

The effect of trust on perceived risk

According to research results by Rouibah et al. (2016), risk perception is a factor that negatively affects consumer trust in online transactions. The perceived risk is a negative perception of consumers that online sellers will not meet security requirements and result in losses. Furthermore, the results of the study by Shao et al. (2019) states that there is a negative relationship between trust and risk perception.

H₅: The higher the level of trust, the lower the perception.

The effect of trust on purchase intention

Research results from Liu et al. (2019) and Al-Adwan (2019) suggest that consumer confidence has a positive effect on purchase intention. With the review, recommendations, and services provided by the sellers, consumers can feel and decide whether or not to trust the platform which will end up in the intent to purchase. Furthermore, according to Wagner Mainardes et al. (2019) consumer confidence in e-commerce has a strong influence on purchase intention.

H₆: The higher the trust, the higher the purchase intention.

The effect of trust on purchase decision

Trust is built from the beginning of interaction in e-commerce and grows when consumers and sellers communicate, so it will generate trust from by the time until consumers decide to buy (Sari & Prasetyo 2018). According to research conducted by Anggraeni and Madiawati 2016) and Wibowo et al. (2015), it is suggested that there is a strong relationship between trust in purchasing decisions. Furthermore, Prasad et al. (2017) argue that trust has a positive effect on purchasing decisions.

H₇: The higher the trust, the higher the purchase decision.

The Effect of Perceived Risk on Purchase Intention

The research conducted by Ahmed and Akhlaq (2015) states that perceived risk has a negative relationship with purchase intention. The greater the consumer's loss expectations, the higher the risk that will be felt. This results in consumers' online purchase intention being suppressed when consumers find that the transaction is risky. Furthermore, according to Mohseni et al. (2018) and Zhao et al. (2017) it is suggested that perceived risk had a negative influence on purchase intention.

H₈: The higher the perceived risk, the lower the purchase intention.

The effect of purchase intention on purchase decision

Decision making in purchases made by consumers is very dependent on the value given for certain products. According to the research conducted by Jamshida and Rajeswari (2019), it is suggested that there is a positive relationship between purchase intention and purchase decisions. Meanwhile, according to Wang et al. (2016) and Al-Adwan (2019) there is a positive relationship between purchase intention and purchase decisions.

H₉: The higher the purchase intention, the higher the purchase decision.

The effect of transaction security on purchase decision

A research conducted by Alfanur and Kadono (2019) states that there is a positive relationship between transaction security and purchasing decisions in e-commerce websites. Security in online transactions is related to consumers' perception that sellers on e-commerce sites will properly conceal information about financial transactions and personal information. Moreover, according to the study by (Riantini et al., 2019), security transactions have a positive relationship to purchasing decisions.

H₁₀: The higher the security of the transaction, the higher the purchase decision.

Based on identified problems and literature review, the study illustrates the influence of trust, purchase intention and transaction security to improve purchasing decisions.

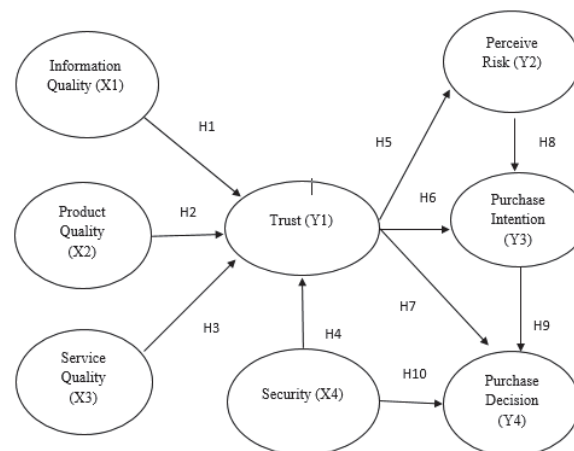


Fig. 1. The proposed study (Ingham & Cadieux, 2016; Shao et al., 2019; Mohseni et al., 2018; Al-Adwan, 2019; Schena, 2016)

3. Research method

3.1 Research Variable

Independent variable is a free variable that could affect dependent variable either positively or negatively. The independent variables in this research are information quality (X1), product quality (X2), service quality (X3) and transaction security (X4). However, the dependent variable is what measured and being affected by independent variables. The dependent variable in this research is purchase decision (Y4). Moreover, the intervening variable is a moderator variable that connects between independent variables and dependent variable. Intervening variables in this research are trust (Y1), perceived risk (Y2) and purchase intention (Y3).

Table 3

Variable and Research Indicator

Variable	Indicator	Reference
Purchase Decision (Y4)	Purchase Decision Indicator: 1. Constancy Decision 2. Quickly Decision 3. Confident the right decision.	(Katawetawaraks & Wang, 2011; Widiyanto & Prasilowati, 2015)
Purchase Intention (Y3)	Purchase Intention Indicator: 1. Transactional Intention 2. Referential Intention 3. Preferential Intention 4. Exploratory Intention	(Ferdinand, 2002; Pourkhani et al., 2019)
Perceive Risk (Y2)	Perceive Risk Indicator: 1. Performance Risk 2. Financial Risk 3. Time Risk 4. Psychological Risk 5. Social Risk 6. Privacy Risk 7. System Risk	(Sharma & Kurien 2017)
Trust (Y1)	Trust Indicator: 1. Competence 2. Integrity 3. Virtue	(Oliveira et al., 2017)
Transaction Security (X4)	Transaction Security Indicator: 1. Authentication 2. Authorization 3. Encryption	(Kumar & Goyal 2016).
Service Quality (X3)	Service Quality Indicator: 1. Efficiency 2. System Availability 3. Fulfillment 4. Privacy	(Ghosh, 2018)
Product Quality (X2)	Product Quality Indicator: 1. Performance 2. Features 3. Conformance 4. Durability	(Rimawan 2017; Sukma, 2019)
Information Quality (X1)	Information Quality Indicator: 1. Provides benefits Information 2. Accurate information 3. Information is easy to understand 4. Information relating to products and services	(Bao & Huang 2018)

Population is defined as a combination of element and event, objects or people who have the same characteristics that because the center of attention researchers. Populations in this research are consumers e-commerce consumer-to-consumer (C2C) who made purchases at least once during the year of 2019 in Central Java. The samples in this research are 160 respondents. The method sampling is non probability sampling taken from the online and offline questionnaire. Analysis technique which is used in this research is Structural Equation Model (SEM) that operated by AMOS 23.0 program. Structural Equation Model (SEM) is a group of statistical technique that can use a measurement series of complicated relationships.

4. Results and discussion

The model testing used Structural Equation Modelling (SEM) in full model. It aimed to analyze the fit of model and hypotheses which are developed in this research. The model testing of SEM is conducted step by step. Based on the SEM full model testing

can be observed some outputs that become the main benchmark whether the model is fit or not in SEM full model. Through analysis process concluded that model has fulfilled the criteria. Table 4 presents the results of full model testing.

Table 4
Result of Full Model Testing

<i>Goodness of Fit Index</i>	<i>Cut off Value</i>	Analysis Result	Model Evaluation
<i>Chi-Square (df=436)</i>	(<485.68)	450,961	Fit
<i>Probabilities</i>	>0.05	0,300	Fit
RMSEA	≤0.08	0,015	Fit
GFI	≥0.90	0,854	Marginal
AGFI	≥0.90	0,823	Marginal
CMIN/DF	≤2.00	1,034	Fit
TLI	≥0.95	0,996	Fit
CFI	≥0.95	0,996	Fit

Source: Primary data, 2020

Table 4 shows the output result of full model SEM. The results show that the model is statistically has significant results. The Chi-Square values 450.961 is smaller than the cut of value. The probability results also have confirmed that the model is accepted, that can be showed from the output values greater than 0.05 that is amounted 0.300. Furthermore, the CMIN/DF values show that the result is smaller than 2.00 that is amounted 0.015. Moreover, the values of RMSEA, GFI, CFI, AGFI, and TLI also show that the model is accepted based on the criteria.

Table 5
Regression Weight Structural Equational

Endogen Variable	Direct	Exogen Variable	Estimate
Trust	←	Information Quality	-1.371
Trust	←	Product Quality	1.169
Trust	←	Service Quality	.523
Trust	←	Transaction Security	.453
Perceive Risk	←	Trust	-.191
Purchase Intention	←	Trust	.758
Purchase Intention	←	Perceive Risk	-.152
Purchase Decision	←	Trust	.198
Purchase Decision	←	Purchase Intention	.700
Purchase Decision	←	Transaction Security	.119

Source: Primary data, 2020.

Table 6
Direct Effect

Variable Affected	Influential Variable	C.R	P(Sig)	Explanation
Trust	← Information Quality	-2.165	0.030	Significant
Trust	← Product Quality	2.053	0.040	Significant
Trust	← Service Quality	2.005	0.045	Significant
Trust	← Transaction Security	2.342	0.019	Significant
Perceive Risk	← Trust	-2.226	0.026	Significant
Purchase Intention	← Trust	8.213	0.000	Significant
Purchase Intention	← Perceive Risk	-2.448	0.014	Significant
Purchase Decision	← Trust	2.037	0.042	Significant
Purchase Decision	← Purchase Intention	6.994	0.000	Significant
Purchase Decision	← Transaction Security	2.051	0.040	Significant

Source: Primary data, 2020.

The next step is hypothesis testing. Hypothesis testing is conducted by data tabulation and used SEM analysis based on Critical Ratio (CR) value and probability (P) value from data processed. CR value which is required greater than 1.645 and probability value smaller than 0.05. The hypothesis testing can be seen in Table 6. Table 6 shows that hypotheses 2,3,4,5,6,7,8,9,10 are accepted and significant. Hypothesis 1 is not accepted but is significant. That's because they have a CR greater than 1.645.

5. Conclusion and research limitations

The result of research can be analyzed as follows.

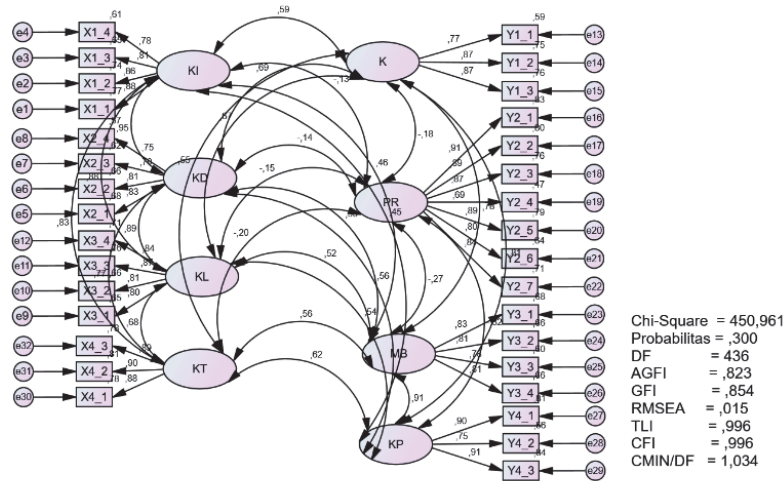


Fig. 2. The results of testing the hypotheses of the survey

Source: primary data, 2020

This research has 10 hypotheses. The hypotheses are mostly accepted and significant, but only 1 hypothesis is not accepted, namely the quality of the product against trust with a CR value greater than 1.645.

- Hypothesis 1 explains that higher quality of information leads to higher level of trust in online shopping. This hypothesis is not suitable with the results of the hypothesis test since the data collected failed to prove the relationship between the quality of information with trust. This is supported by the answers of respondents' open questions and research (Bao & Huang 2018), namely the presence of other variables that play a role in the relationship of info quality with trust, namely flow experience.
- Hypothesis 2 explains that higher quality of the product leads to higher level of trust in online shopping. This result is supported by previous research conducted by Ziaullah et al. (2015) and Suhaily and Darmoyo (2017) which states there is a positive relationship between product quality and trust.
- Hypothesis 3 explains that higher quality of services could lead to higher level of trust in online shopping. This result is supported by previous research by Kundu and Datta (2015) and Chek and Ho (2016) which states that there is a relationship between service quality and trust.
- Hypothesis 4 explains that higher quality of services provided may lead to higher level of trust in online shopping. This result is supported by previous research by Sharma et al. (2019) and Wibowo and Dirgantara (2017) who state that there is a positive relationship between the security of transactions and trust.
- Hypothesis 5 explains that there is a negative impact between trust and perceived risk. This result is consistent with previous research by Rouibah et al. (2016) and Shao et al. (2019) who state that risk perception is a negative factor that influences consumer confidence in online transactions.
- Hypothesis 6 explains that the higher the consumer's trust, the higher the level of purchase intention in online shopping. This result is based on previous research from Liu et al. (2019), Al-Adwan (2019) and Wagner Mainardese et al. (2019) which suggest that consumer trust has a positive effect on purchase intention.
- Hypothesis 7 explains that the higher the consumer's trust, the higher the level of purchasing decisions on online shopping. This result is supported by previous research by Anggraeni and Madiawati (2016) and Wibowo et al. (2015) and Prasad et al. (2017), who suggest that there is a strong relationship between trust and purchasing decisions.
- Hypothesis 8 explains that there is a negative impact between perceived risk and purchase intention. These results are consistent with previous research by Ahmed and Akhlaq (2015), Mohseni et al. (2018), and Zhao et al. (2017) which state that risk perception has a negative relationship with purchase intention.
- Hypothesis 9 explains that the higher the purchase intention by consumers, the higher the level of purchasing decisions in online shopping. This result is supported by previous research by Jamshida and Rajeswari (2019), Wang et al. (2016), and Al-Adwan (2019) which suggest that there is a positive relationship between purchase intention and purchasing decisions.
- Hypothesis 10 explains that the higher the transaction security perceived by consumers, the higher the level of purchasing decisions on online shopping. This result is supported by previous research from Alfatur and Kadono (2019) and Riantini et al. (2019), who state that there was a positive relationship between transaction security and purchasing decisions on using e-commerce websites.

This research results 6 steps or processes which can be used to increase the purchase decision. The best step is chosen to increase the purchase decision of e-commerce C2C site in Central Java.

1. C2C e-commerce must provide features on product information, such as stating that the product is classified as original or fake, the product must be the same as the picture and description, and further information can be seen from the testimony. If the testimony shows negative several times and could possibly harm consumers, the e-commerce can blacklist the seller in order to fix it.
2. Improve the security of e-commerce application using encryption, notification via e-mail and registered contacts, and provide full service if the goods do not arrive at the buyer or are not appropriate, such as serving refund or negotiation feature.
3. Give rewards or points to sellers who are honest on quality assurance so that it will have an impact on other sellers to follow it.

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