How C2C Communication in Online Communities Influence Customer Purchase Decision?

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Abstract

One of the factors that influence purchase decisions is information about buying experiences and products that obtained from customer-to-customer (C2C) communication in online communities. Advances in information technology have had a major influence on customer-to-customer communication. Today, consumers are free to communicate with others who have the same interests in an online community, where the form of information produced is persuasive. Based on the information adoption model, this study aims to analyze the effect of C2C communication on purchase decisions in the online community. Variables such as Argument Quality, Source Credibility, and Tie Strength influence purchasing decisions through Product Usefulness Evaluation. Data processing was performed using 100 respondent data with Partial Least Square (PLS) processing techniques. The results of this study indicate that the Argument Quality and Tie Strength respectively positively influence the Product Usefulness Evaluation of 58.8% and 26.2%, while the Product Usefulness Evaluation positively influences the Purchase Decision of 72.9%. Important practical managerial implications for both customer and seller are further discussed.

Keywords

Purchase Decision, Online Community, C2C Communication

1. Introductions

Industry 4.0 gives a lot of influence on the use of technology, especially digital technology. The rapid development of technology today can be seen from the many innovations, especially in utilizing internet facilities. The need for internet causes an increase in users every year. One example of a country with increasing internet users is Indonesia (Hadining, Sari, & Kusnadi, 2019). Online trading transactions or so-called e-commerce are business transactions conducted through telecommunications networks, especially the internet (Leonard, 2016). The existence of online trade transaction activities certainly cannot be separated from the interaction and communication between users. One type of communication that is often carried out in online trading activities is customer-to-customer communication or commonly called C2C communication (Zhu, Chang, & Luo, 2016).

C2C communication is communication that refers to the transfer of information from one customer to another (Zhu et al., 2016). Along with the advancement of information technology today has made major changes to C2C communication, where consumers can freely communicate only through mobile phones anytime anywhere (John & De'Villiers, 2020). The application of the C2C communication concept is widely used in online community sites(Zhu et al., 2016). Grupta and Kim (2004) in Zhu, et al. (2015) states that the online community is a place on the website where people can interact and communicate electronically with others who have the same interests. The existence of an online community allows consumers to freely communicate with their distant acquaintances or foreigners who have the same interests without any restrictions on territory, space and time. One reason many consumers use online communication is to gather information and help make decisions before making a product purchase.

Previous research revealed that persuasive encouragement is needed to make consumers make purchasing decisions in C2C communication. There are various kinds of persuasive factors that can influence consumer purchasing decisions in C2C communication. This study utilizes the information adoption model to determine persuasive factors that influence consumer purchasing decisions in C2C communication (Zhu et al., 2016). Persuasive factors used in the model are Argument Quality, Source Credibility, and Tie Strength which influence Purchase Decisions through Product Usefulens Evaluation (Zhu et al., 2016). The results of this study are expected to provide additional recommendations to ecommerce service providers to be able to control consumer purchasing decisions through C2C communication.

2. Research Model and Hypotheses

This study utilize research model developed by Zhu et al. (Zhu et al., 2016) to determine the effect of product evaluation on purchasing decitions, especially those that occure in C2C communication. The model has variables consisting of Argument Quality (AQ), Source Credibility (SC), Tie Strength (TS), Product Usefulness Evaluation (PUE), and Purchase Decision (PD), which can be seen in Figure 1.

Purchase Decision is the consumer's decision to purchase a product and service. In this study the purchase decision made by consumers is an online purchase through a website. Online purchase decisions are made through an interface on a website, so consumers must feel comfortable before making a purchase (Ye & Zhang, 2014). There are various factors that can influence consumers to be able to make purchases through the website. Zhu et al (Zhu et al., 2016) revealed that so consumers can make purchases requires an accurate evaluation of the product. Therefore in this research, Product Usefulness Evaluation is important to be able to achieve purchase intention by consumers. Product evaluation can be obtained from information about the product as well as reviews given by consumers who have previously bought the product.

Quality argument is defined as the persuasive power of the argument embedded in the message information. It also means the extent to which the recipient of the message considers convincing arguments in maintaining their attitude (Teng, Goh, & Khong, 2014). The strength of an argument is very important to convince others to change their behavior to the desired behavior (John & De'Villiers, 2020). In this research, Quality Argument is information about products and purchase advice from consumers who have bought products and services. This is in accordance with research by Zhu et.al (Zhu et al., 2016) that Argument Quality is considered important to be able to convince someone in evaluating the usefulness of the product.

Source Credibility is defined as the identification of a source of information to be considered credible by the reader (Metzger & Flanagin, 2013). Source credibility explains that information sources should be trusted, competent, reliable, and have high integrity (John & De'Villiers, 2020). Clarity of information sources about the product will determine the consumer's assessment of the product. The better the credibility of the information source for the product, the more convincing the product evaluation will be (Zhu et al., 2016). Therefore, in this study Source Credibility is one of the factors that influence Product Usefulness Evaluation.

Tie strength is a bond that arises when consumers communicate with each other online through a commerce website. The stronger this bond, the greater the influence of consumer opinion on the evaluation of a product (Zhu et al., 2016). Therefore in this study tie strength is a variable that can affect product usefulens evaluation. The hypotheses used in this study, which can be seen in Figure 1, is as follows:

H1: Product Usefulness Evaluation positively and significantly affects Purchase Decision.
H2: Argument Quality positively and significantly affects Product Usefulness Evaluation
H3: Source Credibility positively and significantly affects Product Usefulness Evaluation
H4: Tie Strength positively and significantly affects Product Usefulness Evaluation
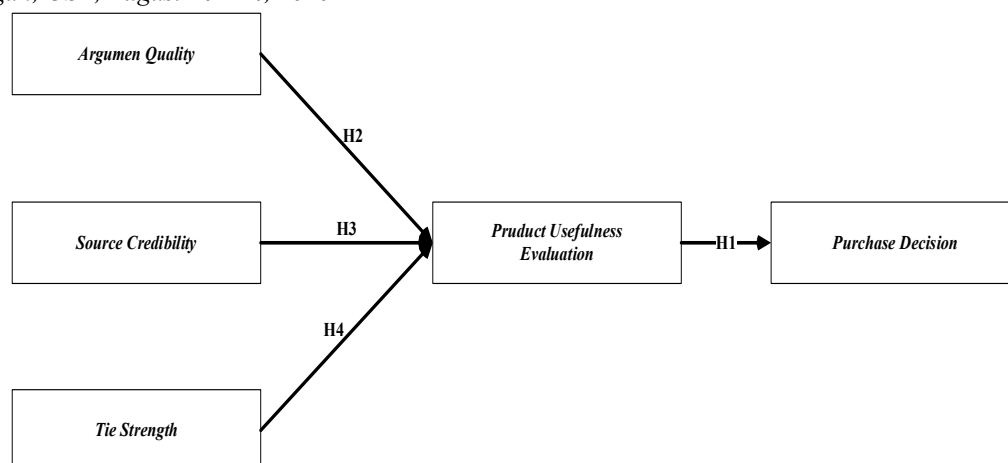
Figure 1. Research Model (Zhu et al., 2016)

3. Method
3.1 Data Collection
This study uses a questionnaire in data collection. The questionnaire was measured using a Likert scale of 5 where 1 "Strongly Disagree", 2 "Disagree", 3 "Neutral", 4 "Agree", and 5 "Strongly Agree" (Hair, Risher, Sarstedt, & Ringle, 2019). The sample in this study measured using purposive sampling technique. A total of 100 samples were used in this study and 100 questionnaires were distributed to all respondents who were students in Karawang Regency, Indonesia. This is done because students have a high enough intensity in using the internet.

3.2 Measurement
Data processing and data analysis were performed using the Partial Least Square method using the help of SmartPLS 3.0 software. The data processing stage using PLS is divided into 2 stages, namely the evaluation of the measurement model and the structural model evaluation (Hair, Hult, Ringle, & Sarstedt, 2017). Evaluation of the measurement model is used to assess the validity and reliability of a construct. In conducting validity testing, PLS has 2 types, namely convergent validity test and discriminant validity test. The next step is to evaluate the structural model. Evaluation of structural models can be measured by looking at the value of the determinant coefficient (R2), blindfolding-based cross-validated redundancy measure (Q2), and path coefficient.

4. Results
4.1 Measurement Model
Evaluation of the measurement model is a measurement used to assess the relationship of indicators to latent variables. Evaluation of the measurement model is seen based on the value of the validity and reliability of a construct. Validity in PLS can be divided into 2 types namely convergent validity and discriminant validity (Hair et al., 2017). Convergent validity is measured by looking at the loading value of each indicator (see Table 1). An indicator can be said to be valid if it has a value of more than 0.7 but for a range of values above 0.4 and below 0.7 can still be considered to be maintained and not excluded in the model (Hair et al., 2017). Furthermore, in measuring convergent validity it can be seen by the Average Variance Extracted (AVE) value. Average Variance Extracted (AVE) assesses the extent to which a construct can explain the variant of the indicator with the applicable threshold value above 0.5 (Hair et al., 2017). Table 2 shows that all research variables have AVE values above 0.5. After seeing the results of the measurement of convergent validity that has passed all thresholds, it can be concluded that the convergent validity has been fulfilled.

Discriminant validity is an important requirement for assessing the relationship between latent variables (Henseler, Ringle, & Sarstedt, 2015). Current discriminant validity is seen based on the value of Heterotrait-Monotrait (HTMT). The relationship between variables must be below the 0.9 value in order to meet the discriminant validity requirements (Henseler et al., 2015). Table 3 shows that the value of the relationship between variables in this study has been below 0.9, this means that the discriminant validity has been fulfilled.

Reliability on a construct in PLS, measured based on the value of Composite Reliability. A construct can be said to be reliable if its value is above 0.7(Hair et al., 2019). Table 2 shows that all Composite Reliability values on variables are above 0.7, this means that reliability has been fulfilled. The measurement model test that has been done, can be seen in Table 1, Table 2, and Table 3 that the convergent validity, discriminant validity, and reliability have been fulfilled based on the existing treshold values.

Table 1. Loading Values

	AQ	SC	TS	PUE	PD
AQ1	0.773				
AQ2	0.816				
AQ3	0.580				
AQ4	0.888				
SC1		0.643			
SC2		0.716			
SC3		0.862			
TS1			0.817		
TS2			0.866		
TS3			0.769		
TS4			0.830		
PUE1				0.877	
PUE2				0.872	
PUE3				0.871	
PUE4				0.866	
PD1					0.885
PD2					0.888
PD3					0.832

Table 2. Average Variance Extracted (AVE) & Composite Reliability

Variables	AVE	Composite Reliability
Argument Quality (AQ)	0.597	0.853
Source Credibility (SC)	0.556	0.788
Tie Strength (TS)	0.697	0.902
Product Usefulness Evaluation (PUE)	0.760	0.927
Purchase Decision (PD)	0.755	0.902

Table 3. Heterotrait-Monotrait (HTMT)

Variables	Argument Quality	Source Credibility	Tie Strength	Product Usefulness Evaluation	Purchase Decision
Argument Quality (AQ)					
Source Credibility (SC)	0.618				
Tie Strength (TS)	0.181	0.428			
Product Usefulness Evaluation (PUE)	0.697	0.469	0.287		
Purchase Decision (PD)	0.778	0.416	0.222	0.839	

4.2 Structural Model

When all measurement models have met the threshold and show satisfactory values, the next step is to assess the structural model. Basically, structural model measurements are based on model fit, determinant coefficient (R2), blindfolding-based cross-validated redundancy measure (Q2), and path coefficient (Hair et al., 2017).

Model fit can measure how well the structural model fits in with empirical data (Hair et al. 2017). In this study, the type of fit model used is d_G. A model can be said to be good if d_G value below the quartile value 95% (Benitez, Henseler, Castillo, & Schuberth, 2020). In this study it was found that the value of d_G is 0.524, where the value is below the 95% quartile, which is worth 0.575.

The R^2 value in Table 4 shows that the PUE variable has a value of 0.464, this means that the AQ, SC, and TS variables can explain the PUE variable of 46.4%. Variable PD has R^2 value of 0.532, this

means PUE affects PD by 53.2% and the rest is influenced by other factors outside the study. The value of Q^2 must be more than 0 to meet predictive relevance (Hair et al., 2019). Based on Table 4 it can be seen that Q^2 values of all variables are above 0, this means that these variables have fulfilled the predictive relevance. Next, the evaluation of the measurement model is seen from the path coefficient. The path coefficient results can be seen in Figure 2.

Table 4. R^2 and Q^2 Values

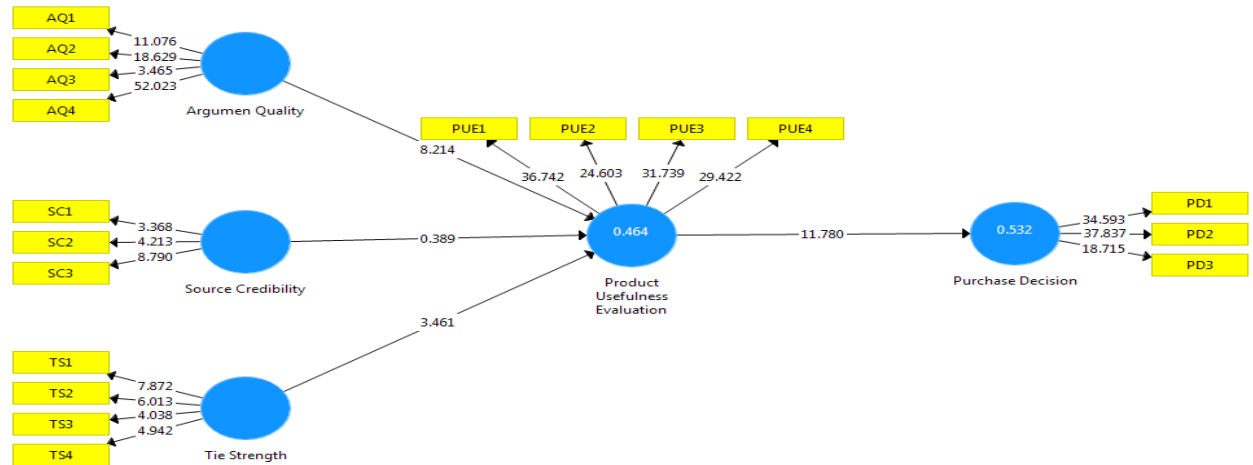| Variables	R^2	Q^2
Product Usefulness Evaluation (PUE)	0.464	0.335
Purchase Decision (PD)	0.532	0.391

Figure 2. Path Coefficient

Research hypotheses testing can be seen by evaluating the path coefficient by using two-way t test and p value. A hypothesis can be accepted if the t-values> 1.96 and p-values <0.05 with a significance level of 5% (Hair et al., 2017). Table 5 shows the results of hypotheses testing from this study. Based on Table 5, it can be seen that from the 4 hypotheses proposed, only Hypothesis 3 (H3) rejected.

Table 5. Hypothesis Testing Result

Hypotheses	Relation	Original Sample	T Statistics	P Values	Supported
H1	Product Usefulness Evaluation → Purchase Decision	0.729	11.780	0.000	Yes
H2	Argument Quality → Product Usefulness Evaluation	0.588	8.214	0.000	Yes
H3	Source Credibility → Product Usefulness Evaluation	0.038	0.389	0.697	No
H4	Tie Strength → Product Usefulness Evaluation	0.262	3.461	0.001	Yes

5. Discussion and Implications

The purpose of this study is to determine the factors that influence purchase decisions on C2C communication. Based on the results of hypothesis testing that has been done, of the 4 hypotheses proposed there are 3 accepted hypotheses.

Hypothesis 1 states that Product Usefulness Evaluation positively and significantly affects Purchase Decisions. Table 5 shows that H1 is accepted (t = 11.780 > 1.96 and p = 0.000 < 0.005). The results of this hypothesis are in accordance with the research of Zhu et al. (2015), which states that evaluating product usability or product review has a positive influence on consumer purchasing decisions. The main purpose of consumers spending time in C2C communication activities on online community sites before making a purchase is to collect effective information to help them evaluate the usefulness of a product. Product usefulness evaluation is the result of information processing from more detailed

communication apart from virtual communication (Zhu et al. 2015). In accordance with the results of data processing of respondents' perceptions, it shows that Product Useful Evaluation affects the Decision Making by 72.9%. Shopping online makes buyers unable to see the product directly, so it has a high probability of fraud in buying and selling transactions. This results in the need for complete information retrieval activities about the desired product before making a purchase. Respondents will be more confident with products that have lots of purchase testimonials. The more testimonials or reviews from other people about a product the respondent will be more willing to make a purchase. This can be a recommendation for e commerce to be able to provide an evaluation of the products they sell to consumers.

Hypothesis 2 states that Argument Quality positively and significantly affects Product Usefulness Evaluation. Table 5 shows that the H2 is accepted (t = 8.214 > 1.96 and p = 0.000 < 0.005). In accordance with previous studies by Zhu et al. (2015), that the argument quality or information quality has a positive influence on the evaluation of product usefulness. Respondents need to describe cognitive information that comes from C2C communication on online community sites, to help them make purchase decisions. As previously explained that online shopping has a fairly high level of fraud, so that respondents tend to require information about product use through the judgments of others. In the context of online communities, online community members do not know each other but can provide any comments about a product. Respondents need accurate quality of information. The more qualified information about the usefulness of the product provided on the online community site, the more respondents will trust the product, so that it can influence the final decision before making a purchase. This can be used as a recommendation for ecommerce to be able to present good quality products and provide opportunities for consumers to be able to provide their comments about the products they have purchased.

Hypothesis 3 states that Source Credibility positively and significantly affects Product Usefulness Evaluation. Table 5 shows that the H3 is rejected (t = 0.389 < 1.96 and p = 0.0697 > 0.005). Contrary to the initial hypothesis and previous research by Zhu et al. (2015), source credibility does not have a positive and significant effect on Product usefulness evaluation. The credibility of the source here illustrates how respondents trust any information sent by others through an online community site. In fact respondents did not pay much attention to where the source of information come from. Respondents tend to accept information related to the use of a product without seeing who is giving a comment. It can be concluded that the number of reviews about the product and the quality of information is enough to influence the purchase decision. Therefore, the credibility of the source does not affect consumers in searching for product usability evaluations online.

Hypothesis 4 states that Tie Strength positively and significantly affects Product Usefulness Evaluation. Table 5 shows that the H4 is accepted (t = 3.461 > 1.96 and p = 0.001 < 0.005). This is in accordance with previous research by Zhu et al. (2015) that the strength of a relationship has a significant impact on evaluating product usefulness. One possibility is that a group of internet ghostwriters who are paid to post comments online with certain content attempt to convince others about a particular product. This ghostwriter usually provides information that doesn't match the facts. Given that members usually don't know each other personally in the online community, respondents may worry about interference information from the group of ghostwriters. The strength of a relationship can help consumers recognize the communicator's identity when they communicate online, and thus the strength of a relationship can influence purchasing decisions through evaluating the usefulness of the product. This can be a good recommendation for ecommerce service providers. Ecommerce can provide a forum for consumers to get to know each other and can exchange information about the products they will buy.

6. Conclutions

Based on the results of research that has been done, it can be concluded that the factor that directly affects Purhase Decision is Product Usefulness Evaluation of 72.9%. Other factors that positively and significantly influence Product Usefulness Evaluation are Argument Quality and Tie Strength respectively of 58.8% and 26.2%.

This study provides several recommendations for ecommerce companies to have an online community site by considering the Argument Quality and Tie Strength factors, because these factors are useful for knowing the quality of information produced by reviewers and the strength of the relationship between users of online communities. This is done so that the information generated about the use of a product is in accordance with the facts.

Although these findings have meaningful implications, future research must address several limitations. Further study is expected to add other indicators that influence C2C communication in the online community to purchasing decisions. Because the respondents of this study were students in Karawang regency, perhaps the behavior was not the same when participants came from other regions. Respondents outside of tertiary institutions and in other countries must be considered in future research. In addition, future research can compare the effect of C2C communication on consumer purchasing decisions between online and offline communities.

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