Why Is Social Commerce so Special for SMEs?

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Abstract. This paper examines several factors that stimulate the implementation of social commerce (SC) in Indonesian small and medium enterprises (SMEs). We empirically analyzed the effect of SC implementation on cognitive ability, customer loyalty, information quality, completeness of feature, and fraud incidence. In the analysis process, we utilize a multiple linear regression model with a sample of 413 SMEs separated into two test models. The entire sample was tested with Model 1 and the Model 2 test was divided into three years of observation (2019–2021). In testing the two models, the cognitive capacities of SMEs and customer loyalty consistently have a significant influence on the adoption of SC. In the meantime, feature completeness and low fraud risk have a significant influence on the adoption of SC in 2021. This result is corroborated by our observations, which indicate that the development of online purchasing and selling features on social media platforms has stimulated the growth of SMEs utilizing SC. Academically, this study could assist university officials with new E-Commerce course development projects. Practically, the findings of this study can motivate the government to reduce unemployment by encouraging unemployed individuals to become entrepreneurs using SC. More detailed explanation in the discussion section.

Keywords: Social commerce · Small and medium enterprises · Cognitive · Customers · Fraud

1 Introduction

Globally, online marketing of goods and services has permeated numerous business sectors [1]. Electronic commerce (EC) media, which provides a two-way communication platform between sellers and buyers in transactions, is frequently used in online meetings between vendors and buyers [2–5]. In practice, many business actors implement EC by utilizing social media in their transactions. According to previous research, the use of social media for purchasing and selling transactions is frequently referred to as social commerce (SC) [6]. Social media that are often used include Facebook, Youtube, Instagram, and Whatsapp.

The discussion on SC becomes more interesting in the case in Indonesia. Many small and medium enterprises (SMEs) in this country have succeeded in expanding their

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businesses by utilizing SC during and following the Covid-19 outbreak. According to Indonesian statistics data, 54.66% of the 2.4 million SMEs used social media in their purchasing and selling operations [7–9]. SME actors prefer social media channels over official website platforms due to social media's extensive network and rapid information dissemination. On the other hand, there are numerous SMEs that are handicapped in the marketplace because they do not employ SC in their transactions and product marketing. Therefore, a study on the implementation of social commerce is essential based on these facts since it can be used as a reference for SMEs business actors to develop their business using social media. As a result, the purpose of this study is to examine the factors that affect the deployment of SC by SMEs.

Basically, the use of information technology in transactions by SMEs actors in Indonesia is still relatively low. Janita and Chong [10] explained that Indonesia has the largest number of SMESs in Southeast Asia, but the number of e-business participation in Indonesia is still very low. In fact, the adoption of e-business in transactions is predicted to extend supply chains globally [2]. Meanwhile, Chen et al. [11] shows that the use of social media "Facebook" in running a business is proven to impulsively encourage consumers to buy. Zhao et al. [12] explains that the honesty of the seller in transacting using social commerce encourages customers to repurchase and increases their trust in the seller. In addition, online buying and selling transactions have been proven to accelerate the delivery of product information to customers [13, 14]. Based on the exploration results of several previous literatures, we can see that the use of information technology makes it easy for consumers to transact without being hindered by distance and time, and consumers can quickly obtain product information from sellers.

Broccardo and Zicari [15] prove that the sustainability of SMEs in Italy is strongly influenced by innovations that can create value from these businesses. This shows that the speed of product information and the variety of products offered through social commerce (SC) can increase the value of SMEs and increase business visibility. Thus, the use of information technology in running the SMEs business supports business sustainability.

Based on the explanation that has been described previously, we will analyze in more depth about the practice of social commerce (SC) by SMEs actors in Indonesia. More specifically, this study focuses on several factors that motivate SME actors to use SC in their transactions, including cognitive capacity, customer loyalty, information quality, feature completeness, and fraud incidents. In addition, learning about SC for undergraduate graduates in Indonesia tends to be more practical. They do not get knowledge of concepts and strategies in marketing goods and services online in college. Therefore, this study also provides scientific knowledge to scholars regarding the SC concept as it is implemented in SMESs, allowing them to obtain a better understanding.

2 Literature Review and Hypotheses

2.1 Cognitive Ability and Social Commerce

Technological innovations that continue to develop at this time have brought changes in the pattern of buying and selling transactions at local and international levels. One of the most visible changes is the increase in the cognitive abilities of young people

in operating information technology, especially using social commerce (SC). Previous research has reported that the technological advances strongly support the increase in the usefulness of SC in the buying and selling transactions. The results of a survey of 181 SMEs in Saudi Arabia show that technological innovation strongly supports the increase in the use of SC by SMEs actors [16]. Meanwhile, Sohn and Kim [17] explained that the use of SC increases the number of customers. Another study showed that the use of SC allows direct interaction between sellers and buyers, thereby, increasing mutuality between sellers and buyers [18]. Based on the three studies, we argue that the ability of SMES actors to adapt to the technological innovation encourages the implementation of SC in the buying and selling transactions. This means, the use of SC in the buying and selling transactions is supported by the cognitive ability of SMEs actors in following the latest technological development. We proxy the cognitive abilities of SMEs actors with their level of education. Based on this explanation, the hypothesis (H1) is formulated as follows.

H1: There is a positive and significant influence of the level of education of SME actors on the use of social commerce in the buying and selling transactions.

2.2 Customer Loyalty and Social Commerce

One of the important factors in the buying and selling transactions using SC is customer loyalty. Chen and Yang [19] revealed that customer loyalty in the buying and selling transactions using SC is determined by their experience in shopping online. Meanwhile, Osatuyi et al. [20] has proven that the usability of goods offered through SC that is in accordance with consumer tastes have a significant effect on customer loyalty. Nadeem et al. [21] added that the guarantee of privacy security will stimulate customer loyalty which is manifested in increasing the use of SC. Thus, the implementation of SC leads to an increase in the number of customers who are loyal to the products produced by SMEs. In this study, we proxy customer loyalty by the number of customers who are loyal to SME products. Based on this explanation, the hypothesis (H2) in this study is formulated as follows.

H2: There is a positive and significant influence of the number of customers who are loyal to SMEs products on the use of social commerce in the buying and selling transactions.

2.3 Quality of Information and Social Commerce

Bugshan and Attar [22] explained that completeness of information is an important factor in implementing social commerce (SC). Tajvidi et al. [23] revealed that the quality of information in SC can be measured by the level of value creation for the product brands offered. Meanwhile, Meilatinova [24] also revealed that the success of SMEs businesses using SC in Southeast Asian countries including Indonesia is strongly influenced by the quality of information generated from the buying and selling transactions. Both studies imply that the suitability between the products offered in SC and consumer tastes represents the level of information quality. Therefore, the quality of information in the buying

and selling transactions using SC can reduce the number of customer complaints about products sold by SMEs. In this study, we proxy the quality of information by the number of complaints about the products offered by customers. Based on this explanation, the hypothesis (H3) in this study is formulated as follows.

H3: There is a negative and significant effect of the number of product complaints by SMEs customers on the number of uses of social commerce in the buying and selling transactions.

2.4 Completeness of Features in Social Commerce

Shen et al. [25] have proven that entrepreneurs' interest in technology strongly supports the increase in the use of SC in the buying and selling transactions. Interest in using SC is strongly influenced by the richness of features presented in SC [26, 27]. Meanwhile, Salvatori and Marcantoni [28] mention that the interesting features in SC include: customer rating, product review, transaction rating, discussion board (forum), customer wish list for the products offered (social wish-list), content tags, and chat room. Thus, the completeness of features in SC makes it easier for customers to participate in determining the design and shape of goods produced by SMEs. In this study, we proxy the completeness of features in SC by increasing or decreasing the number of customer participation in determining SME products. Based on this explanation, the hypothesis (H4) in this study is formulated as follows.

H4: There is a positive and significant influence on the number of customers who participate in determining the design and shape of SMEs products on the use of social commerce in buying and selling transactions.

2.5 Fraud and Social Commerce Incidents

The existence of the current social commerce (SC) model has changed the business patterns of a small number of SME actors in Indonesia. Uniquely, many customers choose the online to offline (O2O) pattern in the buying and selling transaction process using SC. O2O is implemented by marketing goods online, while payment transactions, picking up goods, and returning goods are carried out offline [29, 30]. The main factor that drives the use of O2O in buying and selling transactions is the anticipation of personal data security incidents [31]. Thus, the O2O model is a strategy used to anticipate fraud incidents in the online buying and selling transaction process. Intravia et al. [32] suggested that social media consumption significantly affects the fear of crime.

Fraud incidents that often occur are falsification of account data/privacy data in payment transactions [33, 34]. Counterfeiting often manifests itself in credit card fraud in the online buying and selling transactions [35]. Keshri et al. [36] shows the threat of personal data theft is also often carried out by malware attacks. In addition, online buying and selling fraud can also be identified by the uncertainty of product information and discrepancies between the products offered and the products sent to customers [37]. This means, buying and selling transactions using SC can minimize the incidence of

Table 1. Sample Technique

Criteria	Years			Total
	2019	2020	2021	
Population (SMEs ready and willing to share data and information via social media)	236	339	396	971
(−) Incomplete data and information	(129)	(203)	(226)	(558)
Total SMEs Sample used	107	136	170	413

account fraud because it allows buyers to do O2O. Based on the explanation that has been described, the hypothesis (H5) in this study is formulated as follows.

H5: There is a positive and significant influence of the number of customers who make online to offline buying and selling transactions on the use of social commerce.

3 Research Design

3.1 Data and Data Sources

The acquisition of data in this research is using a quantitative approach. This study involves 1 dependent variable, namely the use of social commerce and 5 independent variables, including: cognitive ability, customer loyalty, information quality, completeness of features, and fraud incidents. Meanwhile, we use secondary data sourced from social media published by the SMEs studied, the Central Bureau of Statistics of the Republic of Indonesia (www.bps.go.id), and online mass media.

3.2 Sampling Technique

This study uses SMESs from various sectors as samples for analysis. Samples were collected from the Indonesian Central Bureau of Statistics in 2019 and 2021, and the Ministry of Cooperatives and Small and Medium Enterprises of the Republic of Indonesia in 2019 and 2021. We implement a purposive sampling technique, namely sampling based on certain criteria [38]. We took samples with the following criteria: 1) SMEs willing to submit detailed information about their business activities using social media platforms such as Facebook, Instagram, and WhatsApp; 2) Easy access to online data and information needed in the study. In the end, we obtained 413 SMEs to apply to this study. The sample technique used in this study is shown in Table 1.

3.3 Variable Measurement

The dependent variable in this study is the number of buying and selling transactions using social commerce (SC) in logarithmic form. Meanwhile, the independent variables include: the cognitive ability of SMES actors (CC), customer loyalty (LP), information

quality (IQ), completeness of features (CF), and fraud incidents (FI). The CC variable is measured by the education level of the SMEs owner in a dummy manner, notation 1 (Elementary School), notation 2 (Secondary School), notation 3 (Bachelor); The LP variable is calculated using the logarithm of the number of customers who purchase SME products more than twice per year (2019–2021); The IQ variable is measured by the number of complaints by customers against the products produced by SMEs in the form of logarithms; The CF variable is measured by the number of customers who participate in determining the design and shape of SMEs products in logarithmic form; The FI variable is measured by the number of customers who make online to offline (O2O) transactions in logarithmic form.

3.4 Analysis Design

In this study, the researcher tested the hypothesis using the multiple linear regression method to identify causality between the independent variable (X) and the dependent variable (Y) [39–42]. To operationalize this method, the researcher has designed it into four stages of analysis, including: 1) perform the classical assumption test; 2) calculate the statistical value – F through simultaneous regression test; 3) perform a partial regression test to determine the effect between the independent and dependent variables individually; 4) calculate the value of R-square (R2) through the coefficient of determination test.

3.4.1 Classical Assumption Test

Classical assumption test is a statistical requirement that must be met in multiple linear regression analysis based on ordinary least squares (OLS) [43]. This model is used to determine whether the model used is deviant or not, and representative or not. The tests carried out are in the form of normality test, multicollinearity test and heteroscedasticity test. Ghozali [38] explained that the data normality test is carried out with the aim of testing whether in the regression model there are confounding variables or residuals that cause the data to be not normally distributed. The multicollinearity test aims to test whether the regression model find a correlation between the independent variables. Furthermore, the heteroscedasticity test aims to see whether in the regression model there is an inequality of variance from the residuals of one observation to another observation.

3.4.2 Simultaneous Regression Testing

Simultaneous regression test aims to find the value of the F-statistic which is the basic or fundamental statistic that describes all the relationships between objects collectively [44]. The value of the F-statistic is also a parameter to determine the appropriateness of the accuracy of the regression model used for hypothesis testing in research [43]. If the calculation produces a probability value of <0.05, then the results indicate that all independent variables can explain significantly the dependent variable. In other words, the regression model used is appropriate for hypothesis testing.

3.4.3 Partial Regression Testing

This study explores the effect of several variables, including Cognitive Ability (CA), Customer Loyalty (CL), Information Quality (IQ), Completeness of Feature (CF), and Fraud Incidence (FI), on the deployment of SC in order to identify several factors that motivate SMEs to implement SC. Using data for three years (2018–2020), this study divides the aiming procedure into two steps that are examined annually and as a whole. With the premise that the other independent variables are constant, partial regression testing is performed to identify the effect of individual independent variables on the dependent variable [43]. In this work, the Multiple linear regression models for hypothesis testing are separated into two models.

Model 1. All the Data Testing

$$\text{Log SC} = \alpha + \beta 1\,\text{CC} + \beta 2\,\text{Log LP} + \beta 3\,\text{Log IQ} + \beta 4\,\text{Log CF} + \beta 5\,\text{Log FI} + \mu$$

Model 2. Annually Testing

$$\text{Log SC}_t = \alpha + \beta 1\ \text{CC}_t + \beta 2\,\text{Log LP}_t + \beta 3\,\text{Log IQ}_t + \beta 4\,\text{Log CF}_t + \beta 5\,\text{Log FI}_t + \mu$$

Notes:

SC: The logarithm of the number of buying and selling transactions using social commerce.
CC: Dummy variable of the education level of SME actors.
LP: The logarithm of the number of loyal customers who purchase products from a SMEs more than twice annually.
IQ: Logarithm of the number of customers who complain about SME products.
CF: Logarithm of the number of customers who participate in determining the design and shape of SME products.
FI: Logarithm of the number of customers who make online to offline transactions.
t: Years of – t (2019–2021).
α: Constant.
β: Coeficient.
μ: Error term.

4 Results and Discussion

4.1 Normality Test

Table 2 shows that the value of Asymptotic significance 2-tailed is 0.200 above 0.100. In accordance with the decision-making basis of the Kolmogorov-Smirnov test, these results indicate that the data are normally distributed. Thus, the data of this study have met the normality test in the regression model.

Table 2. Normal probability test results

One-Sample Kolmogorov-Smirnov Test		Unstandardized Residual
N		413
Normal Parameters[a,b]	Mean	0.000
	Std. Deviation	0.491
Most Extreme Differences	Absolute	0.036
	Positive	0.027
	Negative	−0.036
Test Statistic		0.036
Asymp. Sig. (2-tailed)		0.200[c,d]

Note(s)
a. Test distribution is Normal; b. Calculated from data; c. Lilliefors Significance Correction; d. This is a lower bound of the true significance

Table 3. Multicollinearity test results

Model 1	Unstandardized Coefficients		Standardized Coefficients	t	Prob.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	3.396	0.150		22.695	0.000		
CC	0.015	0.002	0.329	7.323	0.000	0.977	1.023
LP	0.048	0.009	0.246	5.172	0.000	0.873	1.145
IQ	0.046	0.038	0.054	1.207	0.228	0.980	1.021
CF	0.089	0.042	0.095	2.111	0.035	0.980	1.020
FI	0.038	0.015	0.121	2.544	0.011	0.874	1.145

Note(s): Dependent Variable is SC

4.2 Multicollinearity Test

The basis for the decision making of the multicollinearity test is the value of tolerance (TOL) and variance inflating factor (VIF). Based on the output table, it is known that the tolerance value of each variable is greater than 0.1. Meanwhile, the VIF value for each variable is less than 10. Then, according to the decision-making basis for the multicollinearity test, we can conclude that there is no multicollinearity symptom in the regression model. Table 3 shows the results of the multicollinearity test.

4.3 Heteroskedasticity Test

Figure 1 shows that data dots are distributed above and below or around the number 0. Then we can observe that the dots are not concentrated only on the top or bottom.

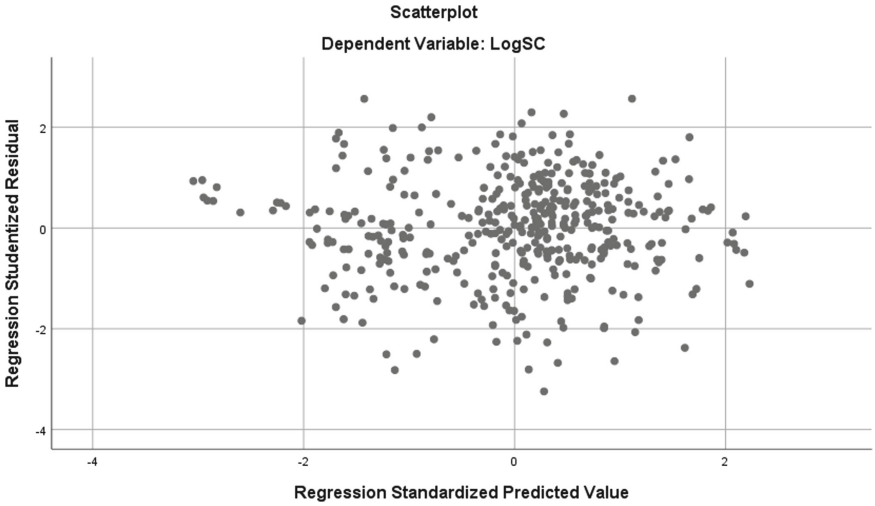

Fig. 1. Heteroskedasticity test results

The distribution of data points does not resemble a wavy pattern that has been widened, narrowed, and widened again. According from the analyses, we can conclude that there is no heteroscedasticity issue, allowing for the creation of an excellent and ideal regression model.

4.4 Hypothesis Test

Table 4 summarizes the results of the Model 1 and Model 2 tests. The Model 1 test results indicate that the probability value (p-value) for the CC, LP, CF, and FI variables is less than the 5% significance level. These findings suggest that SME actors' cognitive ability, customer loyalty, consumer involvement in product design, and security against fraud are the predictors of SC deployment. The R-Square (R2) value is 0.198, implying that the four variables affect the SC variable by 19.8%. The hypotheses H1, H2, H4, and H5 are accepted based on these findings. In contrast, the Log IQ variable has a probability value greater than 0.1, indicating that it has no effect on the SC variable. These findings suggest that information quality is not a decisive factor for SC implementation. On the basis of these observations, the H3 hypothesis is refuted.

During the three years of testing, the CC and LP variables consistently had p-values below the 10% significance level, according to the Model 2 test results (2019–2021). These findings suggest that the cognitive capacities of SME actors, as well as customer loyalty, are the primary motivators for using social media in purchasing and selling transactions. Meanwhile, the variables IQ, CF, and FI have p-values above the 10% significance level in 2019 and 2020, indicating that these three factors have no effect on the SC variable. These findings imply that the quality of information, consumer input in product creation, and the risk of deception have little bearing on the adoption of SC by SME actors. The test findings in 2021, on the other hand, demonstrate that the CF and FI variables have p-values below the 10% significance level, implying that these

Table 4. Regression test results

Dependent Variable: Log SC	Predicted Sign	Model 1	Model 2		
		All	2019	2020	2021
CC	+	0.015* (0.002)	0.016* (0.004)	0.027* (0.003)	0.005*** (0.003)
LP	+	0.048* (0.009)	0.044* (0.016)	0.045* (0.015)	0.033** (0.016)
IQ	−	0.046 (0.038)	0.079 (0.099)	0.031 (0.064)	0.003 (0.058)
CF	+	0.089** (0.042)	−0.045 (0.096)	0.025 (0.052)	0.248* (0.078)
FI	+	0.038* (0.015)	0.064 (0.061)	0.017 (0.045)	0.033*** (0.019)
Constant		3.396* (0.150)	3.484* (0.004)	3.618* (0.003)	3.289* (0.262)
R^2		0.198	0.232	0.443	0.106
Prob. F-Stat		0.000*	0.000*	0.000*	0.002*
N		413	107	136	170

Note(s):
This table displays the correlation coefficient number (β), while the number between parentheses is the standard error. The signs *, **, *** indicate significance at the levels of 1%, 5%, and 10%, respectively

two variables are the driving factors for the growth in the number of SC users following the Covid-19 pandemic. Our observations reveal that the growth of online buying and selling capabilities exhibited on social media, such as the emergence of the Whatsapp for business application and the marketplace feature on the Facebook application, is supporting the growth of SC users in Indonesia.

Overall, the test results of the two models suggest that SMEs' cognitive capacity, customer loyalty, feature completeness, and low risk of fraud have a significant impact on the deployment of SC in buying and selling transactions. These findings show that customer convenience in transactions are the primary drivers of SC implementation in online buying and selling operations. Previous research has demonstrated that consumer pleasure with items contributes to customer retention when employing social commerce [45]. Academically, this study has the potential to spark new E-Commerce subject initiatives at the university. Practically, the findings of this study can be used as a reference for the government to reduce Indonesia's 14.2-million-person unemployment rate [8], by encouraging them to become entrepreneurs utilizing SC.

5 Conclusion

This paper examines some of the advantages gained by SMEs in Indonesia when performing transactions utilizing SC during the Covid-19 pandemic. According to the findings of this study, the cognitive abilities associated with the level of education increase the desire of SME actors to transact via SC. Other findings indicate that the benefits of applying SC in SMESs include increased customer loyalty, increased user participation in product design and shape, and increased security from fraud incidences in purchasing and selling activities. This means that SC makes it simple for clients to deal with the seller directly. According to the findings, the features of online buying and selling transactions using SC include: encouraging SMEs' cognitive abilities toward information technology, transaction convenience that leads to customer loyalty, allowing customer involvement in product design, and minimizing fraud in online buying and selling transactions. As a result, we conclude that SC provides a better mechanism for SME purchasing and selling transactions than online buying and selling models through intermediaries.

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