Comparative analysis of e-commerce and social media based trading in Indonesia

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Abstract. The growth of social media and e-commerce recently has caused the unique phenomenon in Indonesia. That phenomenon is online trading using social media like Facebook, Blackberry messenger, Whatsapp, etc. This phenomenon attracts the researcher to know how to use social media to trade, not using e-commerce marketplace like Lazada, Tokopedia, Bukalapak. The aim of the research is to know the profiling of product and buyer in e-commerce and social media and to do the comparison of that 2 channels based on eight purchase decision factors. Research conducted by taking surveys involving 306 respondents. For product and buyer profiling, this study identifies profile base on sex, education, area, jobs and online trading channel. For e-commerce & social media comparison, this study use 8 factors made based on previous related studies. Finding related purchase decision comparisons are: online trust and usability are the factors influencing people to buy the product via e-commerce. While, marketing mix, and interactivity are the factors why people buy the product via social media.

1. Introduction

The growth of the Internet in Indonesia, coupled with the rapid development of the number of users of e-commerce. The internet also affect to the rapid growth of social media in Indonesia. The growth of e-commerce and social media, led to the phenomenon of buying and selling through internet technology.

In recent years, e-commerce sites have sprung up recently as Lazada.co.id, Olx.co.id, Tokopedia.com, Elevenia.com, Blibli.com, Traveloka.com, Bhineka.com, Pegipegi.com, Qoo10.com, Kaskus.com, Mataharimall.com and others. In fact, based on the rating agency website, Alexa.com, 5 of the 20 best-selling sites in Indonesia is an e-commerce site, namely: Lazada.co.id, Bukalapak.com, Onclickads.net, Tokopedia.com, Olx.co.id.

That social media are: Facebook, Twitter, Instagram and also chatting group (Blackberry group, WhatsApp group). The sellers and buyers trade with semi-manual system. There is no "buy button", so communication and transactions are not supported by the system. Payments are made without going through the payment gateway. Buyers could not check stock directly. Surprisingly seems many people are comfortable with this trade models. Even, often encountered sellers take advantage of e-commerce marketplace only as a means of advertising. The stock availability is not updated, buyers and sellers communicate through the chat group or other social media. This is a unique thing that is rarely found in other countries.

Thus the first research objective are knowing the customer and product profiling for buying and selling through social media and e-commerce in Indonesia. The second objective is analysing the factors that distinguish buying decision between e-commerce and social media.

2. Basic Theoretical

Social media is a tool/technology that allows us to communicate with others in a more effective, such as Blog, Twitter, Facebook, Linkedin, YouTube, Instagram, etc [1] [2]. Facebook, Instagram, and Twitter are some of the more popular social media in Indonesia.

Whereas, E-Commerce is use of ICT technology to support the exchange and transactions both in internal and external organizations [3]. External organizations include customers, suppliers, partners, shareholders and other stakeholders. There are many models of e-commerce in foreign countries, but in Indonesia, there are several popular e-commerce: Bukalapak, Tokopedia, Lazada, etc. The access rank of e-commerce in Indonesia is described in table 1.

Table 1 Top E-Commerce in Indonesia   (Source: http://www.alexa.com/siteinfo)

E-commerce	Category	Alexa Rank - Indonesia
Bukalapak.com	C2C	10
Tokopedia.com	C2C	12
Lazada.co.id	B2C, C2C	22
Olx.co.id	C2C, Classifieds	28
Elevenia.co.id	C2C	29
Mataharimall .com	B2C,C2C	105
Blibli.com	C2C	114
Qoo10.co.id	C2C	214

3. Research Methodology

This study has 306 respondents from all around Indonesia consist of 167 male respondents and 139 female respondents. Judging from the level of education, respondents with undergraduate education is the highest respondents, which is 232 people. The number is difference significantly compared to the number of respondents with another education level. Then respondents with education level Master upwards are 60 people. High schools are 14 people. Most respondents are private employees that are 180 people. The second largest number is Housewife, 41 people. Then followed by civil servants/military/police/other Government Employees 36, entrepreneur/self-employed 29 people, others are 17 people, and students only 3.

3.1 Research Model
Those eight factors are used to build research model as showed in figure 1.
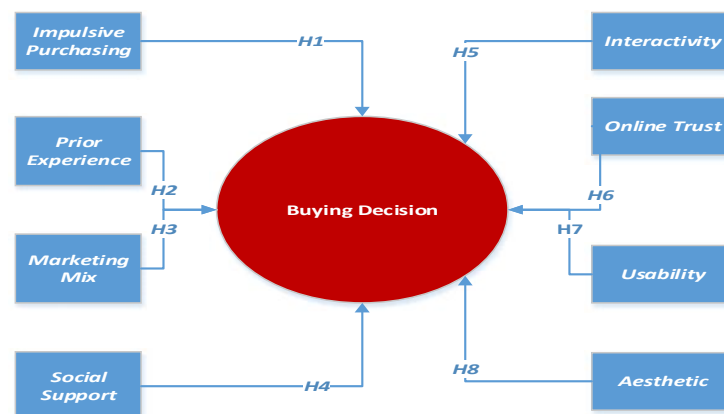

Figure 1. Research Model

Factors that influence of buying online are the impulse purchase, prior experience, and online trust [4] [5] [6]. Impulse purchasing factor has a positive correlation to shop online [4]. Prior experience factor has a positive correlation to the decision to shop online [5]. Another consideration factor is the online trust of e-commerce, and social media [6].

Factors that influence of online purchasing are interactivity, aesthetic, usability, and marketing mix [7] [8] [9]. Interactivity factor is adopted for buying decisions variable in social media because of one benefit in selling through social media is the interactivity between buyers, sellers and between fellow shoppers [7] [8]. Aesthetic factor has a positive correlation to shop commerce and social media [9]. Usability factor has the highest influence in the virtual buying behaviour [7] [8]. Marketing mix factor has the 2nd position in virtual buying behaviour influence [8].

Social support factor has a significant effect on intention to trade via social commerce [10] [11]. The factor is used in this study because people in Indonesia known as a socialize community that emphasizes on social factors, solidarity, mutual help, mutual aid. Scientific research also shows the influence of social support in the development and selling through social media [12] [13].

3.2 Hypothesis

There are 8 hypothesis made in this study. The number of hypothesis is the same with the number of purchase intention factors discussed above. Each hypothesis is comparing each factors in social media and e-commerce. The hypotheses are (1) H1: Impulse purchasing factor in e-commerce is more influence than in social media; (2) H2: Prior experience factor in social media is more influence than in e-commerce; (3) H3: Marketing mix factor in social media is more influence than in e-commerce; (4) H4: Social Support factor in social media is more influence than in e-commerce; (5) H5: Interactivity factor in social media is more influence than in e-commerce; (6) H6: Online trust factor in e-commerce is more influence than in social media; (7) H7: Usability factor in e-commerce is more influence than in social media; (8) H8: Aesthetic factor in e-commerce is more influence than in social media.

4. Results

4.1 Validity Test

Validity test is done with the help of SPSS Software. The correlation method used for validity test is Pearson Correlation. For e-commerce & social media data, with the number of 306 responses (N = 306), and a significant level of 5%, a score r table 0,113. All results obtained count r value over 0,113. Because of that, the data from questionnaires for all indicators are passed the test of validity. The comprehensive validity test result is listed in table 2.

Table 2. Validity test result

E-Commerce		Social Media	
Indicator	r Calculation	Indicator	r Calculation
EIP1	,443**	SIP1	,481**
EIP2	,472**	SIP2	,531**
EPE1	,717**	SPE1	,723**
EPE2	,699**	SPE2	,682**
EMM1	,677**	SMM1	,627**
EMM2	,513**	SMM2	,392**
EMM3	,550**	SMM3	,482**
EMM4	,740**	SMM4	,715**

ESS1	,601**	SSS1	,587**
ESS2	,407**	SSS2	,522**
EIT1	,690**	SIT1	,717**
EIT2	,623**	SIT2	,663**
EOT1	,694**	SOT1	,630**
EOT2	,516**	SOT2	,582**
EUS1	,699**	SUS1	,684**
EUS2	,655**	SUS2	,724**
EUS3	,741**	SUS3	,718**
EAS1	,539**	SAS1	,590**
EAS2	,683**	SAS2	,721**

4.2. Reliability Test

There are 2 factors that have Cronbach's Alpha values below 0,7. That unreliable data are from factor Aesthetic & Social Support. For the rest of chapter, that factors are excluded from analysis.

Table 3. Reliability test for each factor.

Factor	Channel	Cronbach's Alpha	N of Items
Impulse Purchasing	E-Commerce	0,786	2
	Social Media	0,762	2
Prior Experience	E-Commerce	0,741	2
	Social Media	0,785	2
Marketing Mix	E-Commerce	0,742	4
	Social Media	0,711	4
Social Support	E-Commerce	0,59	2
	Social Media	0,626	2
Interactivity	E-Commerce	0,839	2
	Social Media	0,885	2
Online Trust	E-Commerce	0,71	2
	Social Media	0,738	2
Usability	E-Commerce	0,859	3
	Social Media	0,826	3
Aesthetic	E-Commerce	0,525	2
	Social Media	0,632	2

4.3 Multi Linier Regression Test

With multi linier regression analysis, measured the relationship between each factor on purchase decisions in social media and e-commerce. The p-value (sig value) margin is set to 0.05 or 5%. The factor which has sig value lower than 0, 05 indicating the influence in online buying decision for related shopping channel (e-commerce or social media).

Table 4. Multi linier regression test.

Factor	Sig Value	
	E-Commerce	Social Media
Impulsive Purchase	0,32	0,908
Prior Experience	0,18	0,188
Marketing Mix	0,369	0,041
Interactivity	0,048	0,001
Online Trust	0,022	0,343
Usability	0,002	0,59

Table 4, described that in e-commerce, the buying decision influencing factors are Interactivity, Online Trust, and Usability. Then for social media, the influencing factors are marketing mix and interactivity.

4.4 Hypothesis Test

Based on result of multi linier regression test, this study compare it with the hypothesis. The comparison result is in table 5.

Table 5. Hypothesis test.

| Hypothesis | Buying Decision Result | | Hypothesis Test |
	E-Commerce	Social Media	
H1	Not Influenced	Not Influenced	Not Supported
H2	Not Influenced	Not Influenced	Not Supported
H3	Not Influenced	Influenced (sig = 0,041)	Supported
H4	*Not Applicable*	*Not Applicable*	*Not Applicable*
H5	Influenced (sig = 0,048)	Influenced (sig = 0,001)	Supported
H6	Influenced (sig = 0,022)	Not Influenced	Supported
H7	Influenced (sig = 0,002)	Not Influenced	Supported
H8	*Not Applicable*	*Not Applicable*	*Not Applicable*

H1: *Impulse purchasing factor in e-commerce is more influence than in social media*. Impulse factor does not influence the decision to buy in e-commerce and social media. Therefore, this study cannot compare the impulse purchasing factors influent in the decision to buy in e-commerce and social media. So the hypothesis is not supported. This is a contrast in [4], which states impulse purchasing influence in purchase intention. One possible reason for this difference is related to credit card usage in [4], which reach 53.72%. Contrary with this study, respondents who use a credit card reached 12%. By paying in cash, will make people think longer to make buy decision.

H2: *Prior experience factor in social media is more influence than in e-commerce*. These factors were not affected in the decision to buy. Both decision to buy in e-commerce and social media. Therefore, this study cannot compare the prior experience factors influent in the decision to buy in e-commerce and social media. So the hypothesis is not supported. This is a contrast with research in [4], which states prior experience affects purchase intention. The difference is probably because of this study did not distinguish between new and existing online shoppers respondent. And also did not aware about how often they do online shopping.

H3: *Marketing mix factor in social media is more influence than in e-commerce*. The marketing mix factors influence the buying decisions in social media, whereas in e-commerce is not very influential. So the hypothesis is accepted. For social media, this is in line with research in [4] [9] that conclude the marketing mix influence on buying decisions online. This factor gets second ranks in buying decision influence, after usability factor. Marketing mix has four components commonly called 4P (product, price, promotion, and place). In this study, three of the four components was taken as indicators. Product components were not included because this study focuses on store/channel, not products. Actually, if only the price indicators are used, e-commerce is more attractive than social media, because, during research time, there were many discounted price from e-commerce marketplace new players. But since this indicator merged with other indicators, the results are different. The directions for future research, it is advised to use a more specific factor.

H5: *Interactivity factor in social media is more influence than in e-commerce*. Interactivity factor is more prominently found in social media. So the hypothesis is accepted the results are

consistent with the hypothesis baseline in [5] [6] that interactivity influence the buying decisions online. But it is a contrast to the final results of that research. It could be due to time differences is far enough, t study the study conducted in 2004 at which time social media has not been as popular as now. And also to e-commerce, communications facilities have not been as good as today.

H6: Online trust factor in e-commerce is more influence than in social media. This factor has a sig value 0.022 in E-Commerce and 0.343 in social media. So the greater value of Online Trust found in E-Commerce. So the hypothesis is accepted. The results are consistent with research Kwek (2010) [4] [6], that state online trust factor is influential in the decision to buy in the online shop.

H7: *Usability factor in e-commerce is more influence than in social media.* Usability factor is found in E-Commerce. So the hypothesis is accepted. This study is consistent with research by Constantinides (2004) [5] [6], this state usability is the most influential factor on purchase decisions online.

5. Conclusion

Based on the research result, this study can have several conclusions. First, the factors that influence to purchase decision in e-commerce are usability and online trust. Buyer buys a product in e-commerce due to its easiness, like easy to search, easy to pay, easy to be delivered, etc. E-commerce is trusted channel, since it's can detect the historical record of buyers, using the secure line for transaction etc. Second, the factors that influence to purchase in social media are interactivity and marketing mix. Using social media, the buyer can chat intensively with the seller. This condition makes buyer feel comfortable. In Indonesia, social media based trading is older than e-commerce, for some product are only able to be found in social media. But in the future, this condition might be changing. Third, top 3 social media channel used for trading are facebook, Instagram, Whatsapp group. Fourth, top 3 e-commerce used for trading in Indonesia are lazada, tokopedia, bukalapak. Fifth, usage of the credit card for a transaction is low that is 12%. This number is very low compared to other countries.

Recommendation for future research, in modelling the decision to buy online, for the marketing mix factors should be broken down into factors more specific. Factors such as price, promotion, place. Related to social support factor in a decision to buy online, should be broken down into more specific factors, for example as informational support and emotional support. And also during the date gathering via questionnaire, respondent should also express how log & how often they do online shopping.

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