

# THE EFFECTIVENESS OF O2O STRATEGY ON E-COMMERCE TRANSACTIONS

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## ABSTRACT

*This research wanted to show the development of e-commerce transaction brought something new to organizations to accelerate their business through online sales. The presence of online marketplace also gave positive impacts for organizations to run online sales. It was undeniable that e-commerce positively contributes to people's lives, besides the negative side that most people are still reluctant to use it. Online-to-offline (O2O) was a strategy to direct online users to do offline activities in physical stores. With O2O, customers could buy products from the store after researching online, paying online, and picking up product from the store. The research aimed to find out more about factors that influence consumer trust level to do a transaction in online media, as well as to measure the effectiveness of O2O strategy on e-commerce. Furthermore, this research used a quantitative correlation data analysis method on critical factors that influence customer decision in doing e-commerce transaction, with non-experimental research. The research outcome is the overview of the effectiveness feature and O2O strategy that is provided by the online shopping provider in giving a positive influence for consumers to make purchases in e-commerce. This research also reflects how the people respond to the existence of a marketplace that complements its place with O2O service.*

**Keywords:** O2O, online marketplace, e-commerce, online transaction

## INTRODUCTION

In the modern lifestyle, people need practicality in their life, and online-based trading transaction or e-commerce begins to be widely used. It is undeniable that e-commerce positively contributes to people's lives, besides the negative side that most people are still reluctant to use it (Hansen, 2008). However, over time, people begin to use e-commerce in their daily life. It is reflected from the increasing growth of Indonesia e-commerce each year (Bloomberg, 2016). Currently, Indonesia becomes the biggest e-commerce market in ASEAN (DBS Group Research, 2015a).

Electronic commerce (e-commerce) is a dynamic set of technology, application, and business process that connect specific company, consumer, and community through an electronic transaction, and electronic trade of goods, services, and information (Purbo & Wahyudi, 2001). Moreover, e-commerce changes the normal interaction between consumers and companies, as well as companies and suppliers (O'Brien & Marakas, 2010). In successfully implementing the e-commerce system, a company must think carefully about the implementation of business strategy (Fruhling & Digman, 2000). Many factors play roles in achieving objectives and implementation of business strategy for the company (Baltzan, 2012).

Factors from consumers also influence their choice in transactions, such as several perceptions that affect a product more often purchased through the physical market because of the product category and the consumers' natural 'character'. This condition is closely related to consumer demographic characteristics (Chu, Chintagunta, & Cebollada, 2008) and products' market levels (Venkatesan, Mehta, & Bapna, 2007). Consumers' age and education are the determining factors in demography characteristic. Besides, the product type and price level become a determinant of consumer choice in buying the product offline or online. The cost to be paid must also be considered besides the price of the product. There are other costs related to the transaction, such as travel costs that depend on the geographical location between the buyer and the seller (Forman, Ghose, & Goldfarb, 2007). Moreover, trust factor affects consumers in the acceptance of e-commerce systems (Al-Abdallah, 2013; Behjati & Othaman, 2012; Sahney, 2008; Chen, 2009), including contributions in the implementation of O2O strategy in e-commerce transactions (Zhao, Xue, & Yang, 2015).

Online Marketplace (B2B2C) is an e-commerce portal that bridges organizations as sellers to display and market their products and then in the same portal buyers can choose products to buy and make payments (Zhou, 2006). In this case, B2B2C becomes a bridge between suppliers or distributors as sellers with consumers as buyers (Zhao & Guo, 2012). Wu, Zheng, and Zhen (2010) have suggested that B2B2C can be a potential medium for organizations to take part in e-commerce. Online-to-offline (O2O) is a strategy to direct online users to do offline activities in physical stores. With O2O, customers can buy products from the store after researching online, paying online, and picking up product from the store to save shipping costs, and checking product stocks that may not be displayed or marketed in physical stores (DBS Group Research, 2015a).

Currently, not many organizations are marketing and selling their products online because of the slow adoption of e-commerce systems in organizations (Simpson & Docherty, 2004). The main obstacles are the lack of capital and IT knowledge (Rangone, 1999; Tambunan, 2009). If it is analyzed further, factors influencing the adoption of information technology (IT) are the same as those factors affecting the adoption of e-commerce in organizations (Van Akkeren & Cavaye, 1999). The presence of the O2O e-commerce strategy model adds a new potential for organizations to enter the e-commerce world because O2O strategy answers to traditional e-commerce models through the synergy of offline and online media in marketing and doing online transactions (Xing & Junxuan, 2014).

The factor of low price (Štefko, Dorčák, & Pollák, 2011) and popular brand name (Balamurugan, Sathish, & Sathyanarayanan, 2013) also contribute to the consumer's decision to make an online purchase. The types of products purchased through online also depend on the public character (Sakarya & Soyer, 2013), such as demography and economic factor (Chu, Chintagunta, & Cebollada, 2008; Khan et al., 2014). This demographic factor also contributes to the improvement of online-to-offline (O2O) based e-commerce transactions, where sellers encourage offline transactions with online marketing strategies (DBS Group Research, 2015b). With O2O, customers can buy products from the store after researching online, paying online, and picking up the product from the store. With this strategy, people who are unfamiliar with e-commerce will feel safer when making transactions. There are so many online marketplaces in Indonesia. The average online marketplace runs the system with a conventional e-commerce model where products are purchased online, and the product is sent through an expedition service. MatahariMall is the only online marketplace with O2O service in Indonesia (Olavia, 2015). MatahariMall runs the O2O feature where buyers can physically pick-up and pay after making an online order.

The development of Indonesia e-commerce transaction brings something new to organizations to accelerate their business through online sales. The presence of online marketplace also gives positive impacts for organizations to run online sales. The rapid growth of the online marketplace is shown by a survey that stated Tokopedia marketplace as one of the largest online retailers in Indonesia (DBS Group Research, 2015b). The purpose of this research is to find out more about critical factors that influence consumer's trust to do the transaction in online media, as well as to measure the effectiveness of O2O

strategy on e-commerce in Indonesia. This research will reflect how the people respond to the existence of a marketplace that complements its place with O2O service in the midst of competition with other marketplaces that run their marketplace conventionally or without the O2O service. The results of this research will help the business actors and industries to be able to determine the right strategy to compete in the world of e-commerce. State of the art of this research can be seen in Table 1.

Table 1 State of the Art

<b>Sources</b>			
Significance of research	Al-Abdallah Ghaith Mustafa (2013)	Sangeeta Sahney (2008)	Mr. Saeed Behjati Dr. Siti Norezam Othaman (2012)
	The Effect of Customer-Company Relationship on Internet Adoption in Jordanian Small and Medium Enterprises	Critical Success Factors in Online Retail – An Application of Quality Function Deployment And Interpretive Structural Modeling	What Drives Consumers' Online Shopping? Conceptual Review Of Online Shopping Attributes Investigated In Previous Studies
Research Exploration	The effect of consumer-company relation in the adoption of Internet	The identification of critical success factor in online selling	Convergence factors from 35 previous research about the characteristic of online shopping
Analysis Method	Literature review (cumulative)	QFD	Literature review (cumulative)
Population	Jordan	India	Literature review (cumulative)
Research Results	Trust is influenced by consumer-company relation	Design and feature are the driver in e-commerce	The content and feature of website must be considered in the e-commerce because it will attract consumer to shop

## METHODS

Critical factors that influence the trust level of consumer choice to do transactions through online media from the previous research are (1) Presence; it means the existence of sellers outside online media, (2) Features and services of online media; interactive features, as well as service, to facilitate the consumer in doing transactions through online media. Related to critical factors that influence the level of trust in consumer choice to do online transaction, the researchers have formulated three hypotheses. They are;

- H1: There is a relation between sellers outside the online media and the consumer purchase decisions.
- H2: There is a relation between factor of O2O-based features and services in online media on consumer purchase decisions
- H3: There is a relation between the factors of the seller's presence outside online media, O2O-based features and services in online media on consumer purchase decisions.

This research uses the quantitative method, and the nature of research is non-experimental. Two independent variables in this research are independent variable 1 (X1) that represents the presence factor, and independent variable 2 (X2) that represents feature and service factor. Therefore the

dependent variable is the variable Y representing the purchase decision. Variables determination is based on previous research regarding factors that influence the acceptance of e-commerce transactions (Yulius, 2013). This research discusses the relationship between purchasing decisions with the presence of online sellers and O2O features and services provided by the online marketplace. So, it is expected that research concludes the effectiveness of O2O strategy in e-commerce transactions. Study design of this research is presented in Figure 1.

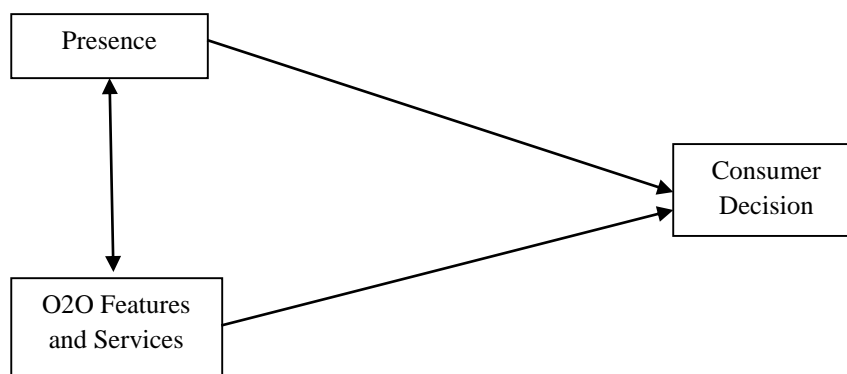


Figure 1 Study Design

The research population is all Indonesia citizen whom the possibility to access the internet to the online marketplace. Furthermore, the research sample is BINUS University undergraduate students aged between 18-25 years old. The sampling technique is simple random sampling. The research place is in Anggrek Campus of BINUS University. The selection of university student samples is based on the behavior of students who tend to shop online for reasons of practicality but also still choose to shop directly in stores for products that need to be seen first (Arnaudovska et al., 2010; Diao, 2015). This research uses a questionnaire instrument that covers two parts, that is related to presence factor, and features and service of O2O in the online marketplace. There are six scales of the answer choice that is the value from 1 to 6 with 1 is Strongly Disagree, and 6 is Strongly Agree.

Validity measures the valid or invalid of a questionnaire. The questionnaire is valid if the question can reveal something that will be measured by the questionnaire. The validity level measurement can be done by correlates the score of each question and the total score of the variable with the hypothesis (Sunyoto, 2011):

Ho: The score of question positively correlates with the total score of variables

Ha: The score of question negatively correlates with the total score of variables

The test to determine the significant and insignificant is by comparing the value of r count and the value of r table for the degree of freedom = n-k. If r count for r of each question has a positive value and greater than r table, the question is valid.

Reliability is a tool to measure a questionnaire that is an indicator of the variable. The question items are said to be reliable when a person's answer is consistent. If the answer is random, it means not reliable (Sunyoto, 2011). The reliability measurement in this research uses one-shot way. The questionnaire is distributed only once to the respondent, and then the score result is measured its correlation between answer scores in the same question item.

Correlation analysis is a statistical analysis that measures the association level or relation between two variables, which is the independent variable and dependent variable. Thus, the relation

between those two variables is called a bivariate correlation (Sunyoto, 2011). Correlation analysis is conducted to find out the relationship between independent variables and bound to measure the effectiveness level of O2O strategy in the e-commerce transaction.

$$r = \frac{N(\Sigma XY) - (\Sigma X \Sigma Y)}{\sqrt{(N\Sigma X^2 - (\Sigma X)^2)(N\Sigma Y^2 - (\Sigma Y)^2)}}$$

Description :

r	The correlation coefficient of item score that being calculate its validity (x) and total score (y)	N	The number of individual in sample
$\Sigma XY$	The total multiplication of X and Y	$\Sigma X^2$	The sum of square of each X score
$\Sigma Y^2$	The sum of square of each Y score	$\Sigma X$	The total score of X distribution
$\Sigma Y$	The total score of Y distribution		

## RESULTS AND DISCUSSIONS

Related with three hypotheses in this research, the researchers design a questionnaire that contains ten questions related to the two variables that will be tested on the research sample where each variable is represented by five questions. The two variables are the presence variable that represents the existence of seller outside the online media and feature and service variable that represents the interactive features/services provided to facilitate the consumer in doing transactions through online media.

The distribution of the questionnaire has been done by simple random sampling in Anggrek Campus BINUS University with the number of the respondent is 100 undergraduate students aged between 18-25 years. Of the 100 respondents, male respondents are 79 people or 79%, and female respondents are 21 people or 21%. Based on the age, there are 3 respondents (3%) who are 18 years old, 22 respondents (22%) who are 19 years old, aged 20 years is 39 respondents (39%), aged 21 years is 17 respondents (17%), aged 22 years is 8 respondents (8%), 23 years old is 2 respondents (2%), aged 24 is 0 respondent (0%), and 25 years old is 9 respondents (9%). Respondents chart is presented in Figure 2.

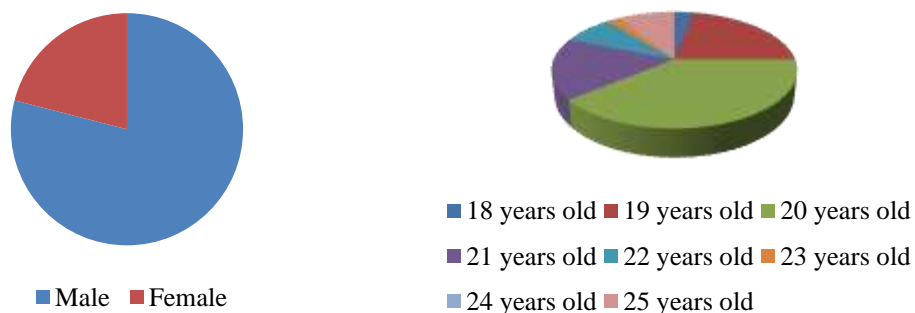


Figure 2 Respondents Chart

Data from the questionnaire are divided into two parts according to factor (variable) that is represented. These two parts are; (1) variable representing the presence is question number 1 to 4, and (2) variable representing O2O features and services is question number 5 to 8.

Table 2 Validity Test Result

		<b>r count</b>	<b>r critical</b>	<b>Result</b>
The Variable of Presence	P1	0,547	0,197	Valid
	P2	0,521	0,197	Valid
	P3	0,381	0,197	Valid
	P4	0,640	0,197	Valid
The Variable of O2O Features and Service	P5	0,575	0,197	Valid
	P6	0,615	0,197	Valid
	P7	0,446	0,197	Valid
	P8	0,392	0,197	Valid

Validity test (Table 2) is done by including all eight statements in the questionnaire. From the test result, it is concluded that all items (statements) are declared valid because the value is greater than r critical (0,197) with a significant level of 5 %.

Table 3 Reliability Test Result

	<b>Cronbach's Alpha</b>
P1-P8	0,802

The reliability test (Table 3) is done by including the valid statement from the validity test. From the test result, it is concluded that all items (statements) are declared reliable because the value of Cronbach Alpha is more than 0,7.

Table 4 shows the test of hypothesis 1 where is the relation between the presence of seller outside online media and the consumer purchase decision.

Table 4 Correlation Test Result of Hypothesis 1

		<b>Correlation Coefficient</b>	<b>p value</b>
<u>Kendall Tau</u>	Presence-Decision	0,313	< 0,05
<u>Spearman</u>		0,385	< 0,05

Because p-value < 0,05 in correlation test of hypothesis 1 (Table 4), it is concluded that there is influence between the factor of seller's presence outside the online media and the consumer purchase decision or H1 is accepted, although the influence is low (correlation coefficient 0,313 and 0,385). The test of hypothesis 2 where there is a relation between O2O-based features and services on online media and the consumer purchase decision.

Table 5 Correlation Test Result of Hypothesis 2

		<b>Correlation Coefficient</b>	<b>p-value</b>
<u>Kendall Tau</u>	O2O Feature and Service-Decision	0,308	< 0,05
<u>Spearman</u>		0,383	< 0,05

Because of  $p\text{-value} < 0,05$  in correlation test of hypothesis 2 (Table 5), it is concluded that there is influence between the factor of O2O-based feature and service on online media and the consumer purchase decision or H2 is accepted, although the influence is low (correlation coefficient 0,308 and 0,383). The test of hypothesis 3 where there is a relation between the existence of the seller outside the online media, O2O-based features and services on online media and the consumer purchase decision.

Table 6 Correlation Test Result of Hypothesis 3

Independent Variable	Dependent Variable	Collinearity Statistics VIF
Presence	Decision	1,446
O2O Feature and Service		1,446

Because VIF on the two independent variables (presence, services, and features of O2O) is less than 10 ( $1,446; 1,446 < 10$ ) in correlation test of hypothesis 3 (Table 6), it is concluded that there are no multicollinearity symptoms. It means there is no relation between the factor of presence, O2O services, and feature as an independent variable on the consumer decision to make purchases as a dependent variable or H3 is rejected.

## CONCLUSIONS

Based on three hypotheses formulated by the researchers, it can be concluded that the factor of seller's presence outside online media and the factor of O2O-based feature and service on online media influence the consumer decision in online purchasing, although the influence is not significant. It means the first and second hypotheses are accepted. Likewise, it can be said that there is no relationship between the two factors tested, namely the presence, as well as O2O features and services on consumer decision in online purchasing.

From the research result, consumers choose to purchase goods by online because the online media that performs its function on the Internet has the advantage regarding the flexibility accessing, both time and place, as long as it is connecting to the Internet network. O2O features and services provided by online media provider also influence the consumer to do online purchasing through online media that have such service and feature. This condition shows the availability of O2O features and services can provide a positive impact on consumers to do online shopping transactions. This research illustrates how O2O can bridge the problems that have occurred so far in the e-commerce world where there is no physical involvement of the products to be purchased. The results of the research also provide input for business actors or industries to be able to consider the right strategy for using O2O-based features that have positive potential in supporting the increase in e-commerce transactions.

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