

The Determination of Customer Purchasing Decision through E-Business Model in Online Marketplaces

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Keywords: Customer Purchasing Decision, E-Business Model, Online Marketplace

Abstract: The objective of this research is to analyze factors that influence customer purchasing decision through e-business model in some online market places in Indonesia. The e-Business model includes four aspects: product innovation, infrastructure management, customer relationship, and financial aspects. Each aspect consists of some critical element. Product innovation consists of value proposition target customer, and capabilities. Infrastructure management consists of activity configuration, networking link among partners, and any resources to produce the product or services. While customer relationship includes information strategy, trust, and loyalty. Financial aspect consist of the revenue model, and cost structure. In this study, the authors used the data obtained from questionnaires, and quantitative approach was used. A questionnaire distributed to 100 customers of the online marketplace in Indonesia such as Shopee, Tokopedia, and Bukalapak. The results found that product innovation, infrastructure management, and customer relationship have significantly and positively influence customer purchasing decision in the online marketplace. While the financial aspect does not contribute to the customer purchasing decision in the online marketplace.

1 INTRODUCTION

From the definition, a business model is a conceptual tool that contained a set of objects, includes concepts and their relationships to express the business logic of a specific firm. The concept and relationships are critical provided by the firm to represent the value for customers include through products or services provided along with a financial consequence (Osterwalder A. & Yves P., 2005). Therefore, it is important to set a business model for any business activities for companies because the business model not only consists of business logic but also consist set of activities which a firm performs. The performance of a firm can be determined on how they perform it and when they perform it in order to offer their customers benefits with main objective to earn a profit.

Analyzing the business models of digital marketplaces further requires an understanding of the business model as a unit of analysis. A business model itself does not only consist of the social system but also actors, relations and processes. Instead, it describes the logic of a "business system" for creating value, that lies behind the actual processes (Petrovic et al., 2001).

Description of the value of the company that provides several segments of customers that include designing, selling, and delivering the value in order to generate profit is set of a business model that is needed to be created by the company. Therefore, a business model is critical for a business process because it is a conceptual and architectural implementation of a business strategy. While E-business model is a new method that provided by the organization that used information technology to sustain in the market, particularly the Internet. The e-business model is the same concept as existing business model canvas, the different only in its innovation. The value proposition for partners and customers as well as its revenue streams are a critical element established by e-business model (Strauss and Frost, 2014; Baltzan, 2014). Therefore, the e-business model is essential in today's competitive business environment. E-business model itself can define and understand the relevant elements in a specific domain and the relationships between them, and to help managers easily communicate and share their understanding of e-business among other stakeholders (Osterwalder 2002).

We were adopting a definition which emphasizes the issues that a business model has to address: (1)

Product innovation. It is more about what the company in, consist of product innovation and the value proposition offered on the market, (2) Customer relationship. In this pillar, firm need to set target customers and how they deliver them the products, and also the after-sales services on how to maintain a good relationship between sellers and customers (3) Infrastructure management. Consist of how the firm able to answer to any challenge on logistics and infrastructure as part of delivering product to customers (4) Financials. Consist of any revenue that the firm get from any business activities. It may include the transaction of selling, advertising, membership, commission, and also any cost that might occurred in business activities that include the cost of goods sold, or any operating expenses.

As one of the media in digital business, the online market place has to become popular. The most famous player of the online market place in Indonesia such as Shopee, Tokopedia, Bukalapak, Lazada, and Berrybenka, contribute to the national economy. As the number of user in online marketplaces is increased significantly in a few years back, many start-ups have entered the market to gain profit and use the business opportunity. As the most significant online market place, Shopee started their business activities as consumer-to-consumer (C2C) marketplace but after the increasing of users in a few years back, shopee expand the business activities to both a C2C and business-to-consumer (B2C) hybrid model. The additional advantage of shopee for both sellers and buyer, they do not charge sellers fees/commissions and listing fees but provide a free postal fee to attract many buyers and sellers getting experience shop through Shopee.

By the existing of online marketplaces, its answer to the customer’s expectations. Therefore, the number of Online marketplaces have proliferated over the past decade, that increase business competitiveness that never happened before (Luca Michael 2016). Online marketplaces can reduce transaction costs and facilitate transactions to become more accessible and efficient. As the market becomes more competitive, the adjustment of business model is necessary to sustain in the market, since a business model is set of implementation for business strategy and as the foundation for the implementation of business processes. As shown in Figure 1.1, the business logic triangle consist of strategy, business model, and business processes. In business models, there might occur the opportunities

and change that causes by the changing of customer's expectation.

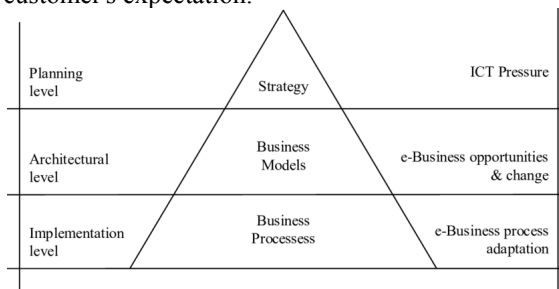


Figure 1

2 METHODOLOGY

2.1 E-Business Model

There are several methodologies to describe the business models of the company. The term business model identification includes many aspects of the business activities of a firm. Business activity includes goal or objective of the firm, a business process that was converting raw materials to set off good that delivered to customers, target customer, business strategies in selling, infrastructure, trading practice process and also operational processes that include culture of the firm (George,G and Bock AJ, 2011). A business model able to identify the logic on how durable designs product, delivers products, and gain value from custome, in economic, social, cultural or other contexts (Alexander Osterwalder, Yves Pigneur, Alan Smith 2010).

Each industry might have different business model depends on the organization and the development of the technology trend. E-business model is a dimension taken by the company to make a profit on the Internet. The primary function of e-business model is to identify the business processes and business strategies of a company that includes positioning of suppliers and customers, identify the business environment that becomes more competitive, understand the customers value proposition, and forecast the cost structure and potential revenue and profit through it (Sudrajat Darjat 2016). Figure 2.1 shows the e-business model pillars that consist of four elements: product innovation, infrastructure management, customer relationship, and financial aspects.

2.2 Customer Purchasing Decision

Customers' satisfaction can be seen by how the company provides their customized product and how the product delivers benefit to them (Kotler, Keller, Koshy, and Jha (2008). Customer behavior studies individuals and groups before making decision on how they select, purchase, use, and dispose of products, ideas, services, or experiences. There are stages of buying decision; problem recognition, looking for alternatives, purchase, and post-purchase behavior.

The product offered through digital platform affecting the consumer buying decision. It is because of some information given by customers as feedback or sellers as communication contribute to a customer buying decision. For example; post-purchase behavior will become more critical after online purchase. Feedback after-sales will encourage or discourage others from buying the product since online purchase based on trust that can be seen through customer feedback.

2.3 Online Marketplace

The online marketplace is where sellers and buyers are met, and they seek for a different purpose to provide or to get product needed through Internet and the information provided by third parties. Online marketplaces are the primary type of multichannel e-commerce and can be a way to streamline the production process.

Central decision taken by online marketplaces is necessary. One of the critical factors is what we called system identification to review that allow buyers and sellers to review each other that product or service being transacted. In this case, any information is published to show others about the sellers' and buyer's experience. Other factor is the supply of information about buyers and sellers in deciding to make transaction by exploring each parties' information about the product or services offered.

Business based e-commerce not only rely on the strength of the product but also excellent service to customers, good organizational structure, infrastructure and security networks, and attractive website design. Thus, the business model has to adjust to the need of customers in the online marketplace.

Indonesia's e-commerce participants have been the top numbers for years as many businesses are interested in its enormous potential. A large number of population and along with the digital exploration,

Indonesia become the most wanted country that might offer a business potential return. Many local and foreign companies, including investors, have come to launch their business, especially business that runs through e-commerce websites, applications, and marketplaces. Some of them have become very successful, with millions of visitors every month, and the number keep increasing as the digital world become more popular. The top three online marketplaces include Bukalapak, Shopee, and Tokopedia.

2.4 Requirement Analysis Methodology

The approach used in this study is quantitative. This method is called quantitative because of the research data in the form of figures and statistical analysis used (Sugiyono, 2013). The quantitative approach itself is data that can be presented numerically or classified by some numerical value. A quantitative approach is always present in the form of numbers. This method also analyzed data using basic statistical techniques to test validity and reliability. When comparing to the qualitative approach, quantitative becomes the most scientific and objective result since it used numerical data to analyze.

The quantitative approach used in this study to identify the relationship between four aspects: product innovation, infrastructure management, customer relationship, and financial aspects. Each aspect consists of some of the critical element. Product innovation consists of value proposition target customer, and capabilities. Infrastructure management consists of activity configuration, partner network, and resources and assets, while customer relationship includes information strategy, trust, and loyalty — financial aspect consist of the revenue model, and cost structure.

Data obtained in this study used by spreading questionnaires through the Internet by using Google Form to any customers that have experience shop through at least one online market places in Indonesia. There is a five-point Likert Scale range by one as "strongly disagree" to 5 as "strongly agree" in every question. Thus, to make this research more reliable and valid, the respondents only allowed choosing the given options (scale 1 to 5). In this study, the author used the Statistical Package for Social Sciences (SPSS) to run the data.

This research contains five variables, which are product innovation, infrastructure management, customer relationship, financial aspect, and customer purchasing decision. Product innovation,

infrastructure management, customer relationship, financial aspect are independent variables that

denoted by X, and its presence is not affected by the other variables. While customer purchasing decision is a dependent variable that denoted by Y and its presence is affected by other variables. Furthermore, based on the research framework, the five variables have its indicators, as stated below:

a. Product Innovation (X₁)

Product innovation is the first pillar of the framework, which has the central and significant product-related aspect. The value proposition is the critical factor in product innovation pillar since the firm has to identify the target customer segments and also to understand the firm capabilities to deliver the products or services offered. (Osterwalder 2002).

b. Infrastructure Management (X₂)

The infrastructure management element is the second pillar of the framework, identify the value

configuration to deliver products or services offered (Gordijn et al., 2000). Infrastructure management id essential to assure that firm deliver an appropriate value proposition. The configuration might include establishing the process from selling, delivering, and after-sales services to customers.

c. Customer Relationship (X₃)

The experience becomes the next critical element hat firm has to consider in providing goods or services. To make customers having a good experience, the firm has to established customer relationship through the use of the online marketplace. Identifying customer's information is the first important in customer relationship. The information can be a taste of customer based on actual purchase. Second is on how to deliver value in effective and efficient. Last is maintaining customer's trust is very critical in any business world (Osterwalder, 2002).

Table 2.1 Variables and Indicators

Variable	Indicators	Questionnaire Items
Product Innovation	<ol style="list-style-type: none"> 1. Customized Offering 2. Competitive Price 3. Customer Service Level 4. Design Product 5. Brand/ Status 	<ol style="list-style-type: none"> 1. I can quickly recall the online marketplace for the product need 2. I know that the online marketplace is the answer for any need of a product 3. I prefer to shop in the online marketplace than other platform e-commerce business 4. The price of the product is the reason to shop through an online marketplace
Infrastructure Management	<ol style="list-style-type: none"> 1. Personal Assistance 2. User-Friendly of the Platform 3. Automated Service 4. After Sales Service 5. Communication 	<ol style="list-style-type: none"> 1. The easiness of the online marketplace makes me shop more 2. I can give honest feedback to sellers through the online marketplace 3. The communication between seller, buyer, and online marketplace as the third party is important 4. I am satisfied shopping through an online marketplace with the services given by the seller
Customer Relationship	<ol style="list-style-type: none"> 1. Information Strategy Given 2. Delivering Value 3. Trust and Loyalty 4. Delivery Time 	<ol style="list-style-type: none"> 1. I always shop through online marketplace because the detail of the information given 2. I can give honest feedback to sellers through the online marketplace 3. The time required to deliver a product is the main reason to shop 4. I trust to shop through online marketplace because of the honest reviews from other buyers
Financial Aspect	<ol style="list-style-type: none"> 1. Seller's Value 2. Online Advertisement 3. Quantity Sold 	<ol style="list-style-type: none"> 1. I shop through online marketplace because of online advertisement 2. I shop because I saw that products sold in massive through the online marketplace 3. I shop through online marketplace because of the seller's reputation

d. Financial Aspect

The financial aspect is the fourth pillar of our framework that consist of any revenue and cost structure occurred in a firm. The firm seeks to have the lowest cost structure and higher revenue to sustain in the business environment. Thus, grabbing potential customers is critical to increasing the number of revenue.

3 RESULT

In this study, validity and reliability are being tested using SPSS. Variable Y in this study is customer purchasing decision, and variable X1, X2, X3, and X4 include product innovation, infrastructure management, customer relationship, and financial aspects. Based on table 3.1 below the validity test measurement on all questions are declared valid because as shown in the table, the value of r count is higher than r table, which is 0.195. The significance level fr validity test is lower than 0.01 so that there is no need to do a re-test of validity, variables used in the study can be used for further research activity.

Table 3.1 Output of Validity

Variable	R Table ($\alpha=5\%$)	Pearson Correlation	Sig.	Result
Product Innovation (X1.1)	.195	.546	.00	Valid
Product Innovation (X1.2)	.195	.612	.00	Valid
Product Innovation (X1.3)	.195	.846	.00	Valid
Product Innovation (X1.4)	.195	.481	.00	Valid
Infrastrusture Management (X2.1)	.195	.718	.00	Valid
Infrastrusture Management (X2.2)	.195	.618	.00	Valid
Infrastrusture Management (X2.3)	.195	.512	.00	Valid
Infrastrusture Management (X2.4)	.195	.729	.00	Valid
Customer Relationship (X3.1)	.195	.412	.00	Valid
Customer Relationship (X3.2)	.195	.543	.00	Valid
Customer Relationship (X3.3)	.195	.512	.00	Valid
Financial Aspect (X4.1)	.195	.654	.00	Valid
Financial Aspect (X4.2)	.195	.623	.00	Valid
Financial Aspect (X4.3)	.195	.713	.00	Valid

Result of reliability test from above table, it shows that product innovation, infratructure management, customer relationship, and financial aspect are reliable. The result of Cronbach's Alpha for each variable is .836, .823, .816, .845, and .803 respectively. Test result of all variables presented that all variables Cronbach's Alpha values more than (>) 0.60. It indicates that questions asked in the questionnaire is reliable for further research analysis.

Table 3.2 Output Reliability

Variable	Number of Questions	Cronbach's Alpha	Result
Product Innovation (X1)	5	.836	Reliable
Infrastructure Management (X2)	5	.823	Reliable
Customer Relationship (X3)	4	.816	Reliable
Financial Aspect (X4)	4	.845	Reliable
Customer Purchasing Decision (Y)	5	.803	Reliable

The result of hypothesis test shown in table 3.3, product innovation, infrastructure management, customer relationship, partially give positive effects to a customer purchasing decision, and only financial aspect that not give significant relationship to a customer purchasing decision. As shown form the table that variable product innovation and customer relationship have the most significant influence on customer purchasing decision customer where T count > T table (4.762 > 1.983) and (4.918 > 1.983).

Table 3.3 Test of Hypothesis

Model	Unstandardized Coefficients		Standardized Coefficient Beta	T	Sig.
	B	Std. Error			
(Constant)	-.172	.211		-.627	.413
Product Innovation	.367	.083	.347	4.762	.000
Infrastructure Management	.256	.072	.267	3.781	.000
Customer Relationship	.382	.051	.467	4.918	.000
Financial Aspect	.218	.621	.219	1.672	.000

4 CONCLUSION

The results showed that the e-business model influences the customer purchasing decision. Product Innovation as answering customer need, giving the most satisfactory service to the customers through e-commerce. The second factor is customer relationship that contributes significantly and positively be an as significant variable that influences the customer purchasing decision. The target segmentation should be clearly defined to answer customers need. As the development of technology, it creates a new market demand due to ease and efficiencies. Infrastructure management is designed to communicate between companies as a seller with customers Through e-commerce as media. A financial aspect that sets the appropriate price for customers has to suit the customer segment. Based on this study, the financial aspect does not significantly affect the customer purchasing decision.

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