CONSUMER SELECTION OF E-MARKETPLACE TYPE BASED ON DEMOGRAPHIC AND BEHAVIORAL SEGMENTATION

Ina Indartoyo
Management Department, BINUS Business School Undergraduate Program,
Bina Nusantara University, Jakarta, Indonesia 11480
imelati@binus.edu

Abstract

The increase of internet user penetration in Indonesia are seen by e-commerce players as a huge opportunity to expand their businesses. Internet nowadays are not only used as communication media, but also business transaction platform. The rising of e-commerce industry is followed by the development of new e-commerce marketplaces, which means that consumer has more choices of shopping places. Even though it is beneficial for consumers, but it has become a challenge for current as well as future marketplaces. With many choices available, it will become easier for consumer to switch from one brand to another when they are not able to find what they're looking for in a brand. Marketers are looking for answers as how to not make brand switching happen by knowing their potential customers' characteristics. This way, companies can figure what their customers needs and wants are, resulting in the best treatments for each segment. Segmentation in this research is done through the grouping of 455 respondents in Jakarta that have similar aspects in both demographics and behaviors. The method of segmentation used are cluster analysis and cross tabulation. The results of this research indicated the existence of three different segmentation: novice shopper, simple shopper and dedicated shopper, with each has its own demographic and behaviour characteristics that are very interesting to be studied.

INTRODUCTION

E-commerce is any form of commercial activity conducted through electronic connection or networks (Wigand, 1999). E-commerce has become highly popular in Indonesia because of the continuous increase of e-commerce activities in the country. The survey results conducted in 2016 found that 132.7 million Indonesians have been connected to the internet. From the total population of Indonesians which has reached up to 256.2 million people, it indicates the increase of internet users up to 51.8%, compared to the number of internet users in 2014.

This high digital adaptation has led to the changes in most of Indonesian's daily routines. Approximately of 4.3 million people in 2013 who are accustomed to online shopping, the current number is increasing up to 7.4

million people and will continue to grow in the upcoming years, by 2016 there will be 8.4 million buyers through e-commerce Indonesia, with sales that could possibly reach $ 4.5 billion or about Rp 61 trillion (techinasia.com, 2015). The development of Internet users in doing online shopping, has led to an increasing in e-commerce business players. On 2016, it showed that, the total number of e-commerce business players in Indonesia has reached up to 26.2 million, within 10 years, the number of e-commerce in Indonesia will be increased around 17% (Liputan6.com, 2016).

In the era of "e-commerce" as it is today, there are so many distribution channels that a company's marketers can use to distribute their products / services to consumers (Prashar, Vijay & Parsad, 2016). The product / service distribution channel will boil down to a meeting place of buyers and sellers called marketplace (Rosenbloom, 2010). The current marketplace is not limited to traditional marketplaces, such as wholesalers or retail stores, but also includes modern marketplaces, such as e-marketplace and e-retailers. In the e-marketplace, buyers and sellers use the Internet to transact and exchange information about the product.

Online consumer behavior includes consumer responses to the website characteristics, and the benefits of the website features. Online Shopping experience that is felt by consumers when shopping, and the products characteristics offered when shopping online (Taullud, 2014). The most influential factor in online consumer behavior is website characteristic, but there are several factors that influence online consumer behavior (shopping online), among others:

a. Website Characteristic: includes easily accessible sites and time saving, convenience in online shopping, provides website information

b. Online Shopping Experience: includes transactions, returns, misuse of credit cards and customer contact service.

c. Product Characteristic: includes product quality, product variety, product availability, product specifications, and product price comparators (Tallud, 2014).

Switching behavior occurs in a homogenous market that is composed by many sellers with different brand, selling almost identical products, which will increase the chances of consumers doing brand switching. Brand switching behavior is unfavorable for companies, as it will lead to the loss of customers, even those who are loyal to the brand. Customers will continuously seek the best bargain with the maximum benefit for themselves.

In a vast market with many characteristics of consumer (Fenech & O'Cass, 2001) it is very important for seller to know what kind of unique qualities that are possessed by the consumer (Reid & Brown, 1996), so that companies can give the best deal for each characteristic. That is why, segmentation of customers are very necessary to be done, especially when an industry does not have one. Segmentation also needs to be executed when the segment are not clear and deliver insignificant insight to the industry. Through segmentation, a company will be able to determine its targets, positions, and profits on a competitive basis (Cravens & Piercy, 2012). The difference of characteristics between each customer will create a different perception in what kind of service they desired (Myers, 1996).

The approach taken in this research is segmentation based on demographic and behavior on e-commerce consumers in Jakarta. Demographic

segmentation is chosen, because it could describe a person's characteristics from demographic aspects, such as age, occupation, expenditure, income, and so on. Linked to the brand switching behavior phenomenon, some researches on demographic segmentation and its relationship to brand switching yield an exciting finding where in female and millennial segmentation, satisfaction and good job ownership usually leads to brand switching. So it can be said that based on demographics and certain behaviors aspects, it could affect their shopping behavior, including the emergence of brand switching behavior.

Some research on brand switching has been done by some researchers, which explains how the behavior of each segmentation is different in doing online shopping, and because of the difference in behavior, consumers have their preferences - in choosing an e-marketplace.

Specifically, the problem identified in this research is: brand switching behavior arise when customers have many opportunities of choosing their product/service suitable to their own characteristics, when in the meantime, current sellers of e-commerce has little to no knowledge concerning consumer segmentation, which means they are not able to give the appropriate offering for the customers.

For this reason, this research needs to conducted with its main purposes: 1). Create market segmentation using (Tallud, 2014) segmentation as the foundation for behavioral segmenting, and research by (Meghana, 2016) as the foundation of demographic segmentation, 2). Proposing answers for e-commerce players and future sellers that are trying to create Indonesian consumer profiles based on demographic and behavioral segmentation.

Due to the formation of consumer segmentation e-marketplace based on demographic and behavioral, the e-marketplace company that exists already in Indonesia would therefore have a base to choose their target consumers which are more appropriate with the characteristic of its e-marketplace. As for the new entrepreneurs who are building an e-marketplace company, they can make this segmentation mapping as a foundation to select the target consumer that best suits the characteristics of its e-marketplace company.

LITERATURE REVIEW
Market Segmentation

Segmentation is a process of dividing a market into some groups based on different consumer's characteristics. These groups consist of consumers who have similarities in responding marketing strategies, and also have some similar properties such as similarity in interests, needs, and location (Kotler & Armstrong, 2012). Through segmentation, a company will be able to determine its targets, positions, and profits on a competitive basis.

According to Etzel, Walker, and Stanton (2001), the central focus of the concept of market segmentation is based on the issue of identifying and clustering heterogeneous consumers into a group of one or more meaningful, viable and accessible homogeneous consumers. Middleton and Clarke (2008) stated that, the more an organization knows about its customers, including their prospect, needs and desires, the better marketing strategy that will be designed and implemented, resulted the better marketing efforts to stimulate their consumer purchasing decisions. Moreover, the aim of market segmentation is to meet the needs of subgroups, protect the firm's offerings

from competition on price, and improve the customer loyalty and company returns.

Several existing segmentation theories can be used as the foundation of segmentation. (Kotler & Armstrong, 2012) divides segmentation based on 4 different aspects, namely: 1). Geographic, 2). Demographics, 3). Psychographics and 4). Behavioral. In the meantime, Sweeney & Soutar (2001) identified 4 dimensions of customers value (social, emotional, quality/performance price/value for money) that significantly affect customer's purchase behavior and attitude. Segmentation then begin to be characterized into separate industries in order to generate segmentations that suit each characteristics of the customers that are different from one another (Etzel et al., 2001).

The segmentation approach in this research are behavioral and demographics. Segmentation market behavior is classified in groups that are differentiated based on knowledge, attitude, usage or response to a product. Behavioral segmentation is based on a customer's attitude toward, usage, or response to a product. Many marketers believe that behavioral variables such as opportunity, benefit, user status, usage level, buyer-readiness stage, loyalty status and attitude are the best starting point for building market segments, with detailed explanation as follows:

1). Occasions, is when the customer is divided into segments based on the time of day, week, month and year. People are therefore grouped according to the time (opportunity) where they get the idea to buy, make purchases or use purchased goods, 2). Benefit, segmented benefits divide customers according to the different benefits that they are looking for from a product. Benefit segmentation seeks to discover the benefits that people are looking for in a particular product, the type of person looking for every benefit and the brands that provides benefit. 3). User status, with segmentation by non-users, former users, potential users, first-time users and regular users of the company's products can customize marketing for each group, where ordinary users of a particular product demand one type of marketing approach, potential users can request another type from a marketing approach, and thus it is necessary to divide the customers into different segments and target them in different ways, 4). Level of usage, the segmentation of the level of use divides the customer according to how much they use the product, they are divided into non-user groups, light, medium and heavy product users and companies often try to target one heavier user than some light users, the fact that heavy users constitute a fraction of the market but accounts for a high percentage of total purchases, thus companies should strive to adapt their marketing strategies according to that customer, 5). Buyer Readiness Stage, the buyer readiness phase refers to the awareness and interest of the community product. Some people are unaware of the product, some realize, some information, some are interested, some want a product and some intend to buy, therefore, companies should strive to design their marketing strategies according to these factors. For example, people from the United States may have limited knowledge about a product from the UK. So in order for a product to be successful in the United States, companies must adapt their marketing strategies according to the limited knowledge an American may have, 6). Status of loyalty, the market can also be divided according to customer loyalty. It is assumed that the customer is always faithful by

purchasing the same product. These customers are called hard-core loyals. others who are loyal to two or three brands and buy these are randomly referred to as divided loyals. The third group of people are those who switch from one brand to another and stay with that brand for a period of time until they switch to another brand. This customer is referred to as a loyals shift. The fourth and final group of loyals are those who do not show loyalty or preference to a particular brand, but buy a product or brand that is sold or available at the time of the occasion. This customer is referred to as a switch, 7). Attitude, as the final variable for behavior segmentation is attitude toward a product. People can be divided into segments based on whether they have an enthusiastic, positive, indifferent, negative or hostile attitude to the product, taking into account the customer's attitude towards a company's brand or product will gain a broad view of the market and segments (Kotler and Keller, 2016).

Behavioral is selected because of consumers have a different responses about e-commerce feature and service given by each e-commerce (Laudon, 2014), and demographics used because each dimension of demographics can reflect a certain characteristic and behavioral. Behavioral segmentation's foundation for this research is based on: products characteristics, website characteristics and online shopping experience (Tallud, 2014). On the other hand, this research also used 6 dimensions of demographic segmentation from (Meghana, 2016), as follows: gender, age, human life stages, social economic status, job and level of education.

The difference of characteristics between each customer will create a different perception in what kind of service they desired (Myers, 1996). In the absence of segmentation, the industry does not have a clear map on how to provide the most suitable services that match the characteristics of different consumers.

Switching Behavior

Recent findings regarding customer switching behavior, stated 8 main factors, namely: price, inconvenience, core service failures, service encounter failures, competitive issues, ethical problems, and involuntary factors (Athanassopoulos, 2000).

Switching behavior would also produce a consumers who are not loyal to a brand, in this case will happen namely brand switching. Brand switching is a process whereby consumers shift the use of a product with a particular brand to another brand in the same product category (Kumar & Chaarlas, 2011). Consumer switching behavior would also limit both parties to make long-term relationships and can also destroy long-term relationships which has been developed previously.

The level of brand switching also shows how far is the satisfaction level of a brand. The higher the level of Brand Switching, means the consumer is not satisfied with the service that the company provides and they will look for other alternatives. That means the brand we manage will have a higher risk because it can easily and quickly lose customers.

Brand switching or known as brand jumping is the process of choosing to switch from regular use of one product or brand to firmly use a different but similar product. As consumers move from one brand to another, building up a picture of the possibility of brand switching behavior takes place. Brand

switching usually happens because of several indicators of customer satisfaction, service pricing and service quality.

Factors that influence the customer's decision to switch include: 1). Price issues such as matters that are related to price increases of a product or service, unsuitable prices, taxes, fees, etc. 2). Inconvenience where the consumer waits too long, the unsuitable timetable of the organization, the hard-to-reach location that sell its goods and services, 3). Core Service Value is an incident where there is an error or technical issue when selling goods or services, or mistakes in transactions, 4). Dissatisfactory Quality is the quality of goods or services that cannot be accepted by consumers, 5). Service encounter failures happens when there is a problem between the seller and the buyer, the unpleasant behavior of the salesperson, 6). Variety seeking is a natural activity when consumers want to see or find out about alternatives of a good, 7). Responses to service failure is how to respond to negative, non-responding, or coerced responses, 8). Change of Service Personnel is the change of service personnel that can affect the behavior of customer switchover, especially if the service personnel (depending on the nature of product/service) is closely related to the customer or develops a close relationship with them, 9). Refusal to modify service / product (if it's technologically possible) or to provide an exceptional service is rejection towards modification of product/service or improvement of certain services or failure to provide added value will motivate customers to find alternative solutions to this problem, 10). New value is an entirely new product or service appearance on the market that is able to offer added value to customers that can encourage them to switch over to other products / service providers.

MATERIALS AND METHODS

Table 1. *Research Design*

Research Objective	Research Method	Type of Research	Type of Data	Unit Analysis	Time Horizon	Data Analysis
RQ1: Determine Segmentati-on based on Demographic Factors	Survey	Descrip-tive	Quanti-tative	Individuals who lived in Jakarta, and ever made an online purchase through e-marketplace.	Cross Sectional	Cross Tabulati-on
RQ2: Determine Segmentati-on based on	Survey	Descrip-tive	Quanti-tative	Individuals who lived in Jakarta, and ever made an online purchase	Cross Sectional	Cluster Analysis

Behavio
ral
Factors

through   e-
marketplace.

This is a quantitative research that uses descriptive method, with the data collected via survey, involving 455 respondents living in Jakarta. Sampling is calculated using Slovin's formula and the survey was distributed using Google Docs in Jakarta area. Likert scale are used with 4 range which are: 1 for "Strongly disagree", 2 for "disagree", 3 for "agree" and 4 for "strongly agree" for the measurement.

RESULTS AND DISCUSSIONS

Cluster testing was done by K Means Cluster on SPSS program. The purpose of this cluster test is to get segmentation from the online consumer in Jakarta area. This cluster test is done only on segmentation based on consumer behavioral aspects, referring to previous research. Here is the result of the cluster test obtained:

Table 2. *Distance Cluster*

Distances between Final *Cluster* Centers			
Cluster	1	2	3
1		3.076	3.053
2	3.076		2.786
3	3.053	2.786	

Source: Author

From the table above, it is known that from total 455 respondents, it is divided into 3 clusters. In this cluster division the highest number of respondents is in cluster 3 with 180 respondents, and the smallest number of respondents is in cluster 1 with 111 respondents. These three clusters are then filled with characteristics based on demographics and behavior.

Demographic Segmentation using Cross Tabulation

Demographic segmentation was formed by using cross tabulation, by choosing the most-selected indicator (the majority) to determine the demographics of the characteristics of each segmentation. All of the dimensions in this demographics variable have a chi-square < alpha (0.05) which means there is a relationship between dimension and the cluster, expect human life stages and social economic status dimensions, which means that these 2 dimensions will not be included as the base of this segmentation, and the results as followed:

Table 3. *Demographic Segmentation*

Cluster	Dimension	Number Majority of Respondents	Result Demographic	Chi-square
Novice Shopper	Age	43 respondents	17-22 years old (Gen Z)	.002
	Job	63 respondents	Students	.004
	Last Education	45 respondents	Last education : Senior High School	.002
			17-22 years old (Gen Z)	
Simple Shopper	Age	61 respondents		.002
	Job	77 respondents	Students	.004
	Last Education	54 respondents	Last education : Senior High School	.002
Dedicated Shopper	Age	71 respondents	23-30 years old (Gen Y)	.002 .
	Job	70 respondents	*Professional*	.004
	Last Education	59 respondents	Last Education : S1	.002

Behavioral segmentation using Cluster Analysis

Based on the results of K-Means Cluster analysis 3 (three) consumer clusters has successfully formed with their respective behavior in doing online shopping on e-marketplace in Jakarta. Clustering is based on the highest average value of the answers, the results are followed:

Table 4. *Clusters based on Consumer Behavior of Online Shopping in E-Marketplace*

Cluster 1	Cluster 2	Cluster 3
Organized Website	Product Information on Website	Saving Time
Easy Navigation	Organized Website	Product Information on Website
	Easy Navigation	Customer Access
	Product Quality	Organized Website
	Price Comparison	Easy Navigation
	Product Review	Frequency
	Stock Availability	Transaction Security
	Variety Product	Shopping Procedure
		Customer Satisfaction
		Product Quality

Price Comparison
Product Review
Stock Availability
Variety Product

CONCLUSIONS

This research produced three segmentations namely: Novice Shopper, Simple Shopper, and Dedicated Shopper.

Novice Shopper

This segmentation consist of demographic characteristics, namely: average age of 17-22 years old, part of Generation Z, average education levels are high school and higher, students,

There are two interesting aspects from this segmentation that can be used as an opportunity for e-commerce business to create e-marketplace, namely: 1). Looking from online market and e-commerce businesses aspects, it seems that this segmentation has quite a potential, as there no other market that especially target students, whereas the market share of young generation is rather large, and their needs for school supplies are high. 2). From e-marketplace aspect, if a company wants to target this segment, then they will need to create a simplified version of website/mobile application by using listing settings. This will make the search of product/service easier, such as doing scroll-up or scroll-down, or swipe left and swipe right on the interface.

Simple Shopper

Simple shopper segmentation has characteristics that is more or less the same with novice shopper segmentation in terms of age: As seen on the table, this segmentation consist of demographic characteristics, namely: average age of 17-22 years old, part of Generation Z, average education levels are high school and higher, students. An interesting finding here is, this kind of students are students who studies in different city than the one their parents are live at, which makes them have a very limited budget for shopping, that is why they have to make sure that the products that they purchased meet their expectations , as it will continuously affect their online buying behaviors, namely: 1). As price becomes an important factor for them, it makes simple shopper likes to compare prices, 2). They highly care about the product/service knowledge that they want to purchase, 3). They care about the reviews of other buyers.

These findings can become an opportunity for e-commerce companies that are looking to create an e-marketplace, such as: 1). Examining from online market and e-commerce business aspects it seems that this segmentation has quite a potential, as there no other market that especially target students, whereas the market share of young generation is rather large, and their needs for school supplies are high. 2). In terms of implementation of website/mobile application design, it also needs to be simple with a few additional features, namely: a). Price, b). Product/service reviews, and c). commenting option for testimonies of product/service from other customers.

Dedicated Shopper

Dedicated shopper segmentation has the most unique characteristics in terms of both demographic and behavioral segmentations. For age, however:

the average are 23-30 years old, included in Generation Y, with average education levels of bachelor degree, and hold jobs as professionals. Because customers from this segment make their own money, price is very important from them. Another aspect is also the quality of product/service that they purchased, and therefore affect their behaviors in online shopping, such as: 1). Dedicated shopper appreciate time, so they are looking for e-marketplace that has short amount of time in the buying process, and for this reason, they are looking for e-marketplace that is organized with easy access for all the features, 2) They like to compare prices, 3). They are always looking for detailed information of the product, 4). Because of the limited time that they are willing to spend, they prefer to do all the activities of online buying in just one transaction. They will make sure the e-marketplace that they are using have all the products that they are looking for, 5). Quality causes them to be selective toward products. They want an e-marketplace that provides many variations of the quality of products which is related to their behavior of comparing prices. They are always looking for product and quality variations that are suitable with their own shopping budget.

From the findings mentioned above, it can be concluded that each segmentation has their own demographic and behavioral characteristics that will affect their decisions in doing online shopping. Companies can see the segmentations from this research as a way to determine their target customers. Companies can also formulate the best ways to treat their customers according to the uniqueness of each segment.

REFERENCES

Athanassopoulos, A. D. (2000). Customer Satisfaction Cues To Support Market Segmentation and Explain Switching Behavior. *Journal of Business Research, 47*, 191–207. Elsevier Science Inc.

Cravens, D.W., & Piercy, N.F. (2012). *Strategic Marketing 10th edition.* English: Richard D. Irwin, Inc.

Etzel, M.J., Walker, B. J., & Stanton, W.J. (2001). *Marketing.* McGraw-Hill.

Fenech, T., & O'Cass, A. (2001). Internet users' adoption of Web retailing: user and product dimensions. *Journal of Product & Brand Management, 10*(6), 361-381.

Kotler, P. & Amstrong, G. (2012). *Principle of Marketing 14thEd.* New Jersey, USA: Pearson Prentice Hall.

Kotler, P. & Keller, K.L. (2016). *Marketing Management,* 15th Edition,. Pearson Education,Inc.

Kumar, R.R. and Chaarlas, D.L. (2011). Brand Switching in Cellular Phone Service Industry Because of Bill-Related Issues Faced by Clients. *International Journal of Event Management Research*, *1*(15).

Laudon. (2014). E-*commerce: business, technology, society* (12th Ed.). England: Pearson Education Limited.

Liputan6.com. (2016, September 15). BPS: Jumlah e-Commerce di Indonesia Capai 26.2 Juta. Retrieved from https://www.liputan6.com/bisnis/read/2602680/bps-jumlah-e-commerce-di-indonesia-capai-262-juta

Meghana, N. M. (2016). Demographic Strategy of Market Segmentation. *India Journal of Applied Research, 6*(5).

Middleton, V.T.J. & Clarke, J. (2008). Marketing in travel and tourism, 3rd edition.

Myers, J. H. (1996). *Segmentation and positioning for strategic marketing decisions*. Chicago: American Marketing Association.

Prashar, S., Vijay, T.S. & Parsad, C. (2016). Segmenting Online Shoppers: A Study of Consumers' Web Portal Selection Motivations For E-Shopping. *Asian Academy of Management Journal, 21*(1), 27–46.

Reid, R. & Brown, S. (1996). I hate shopping! An introspective perspective. *International Journal of Retail & Distribution Management, 24*(4), 4-16.

Rosenbloom. (2010). Marketing Channels: Management View. USA: Cengage Learning

Tallud, F. F. (2014). Online Buying Behaviour of SMEs". *Journal of Global Business, 3*(1).

Techinasia.com. (2015). Transaksi E-commerce Indonesia Tahun Depan Diprediksi Capai $4.5 Miliar. Retrieved from https://id.techinasia.com/transaksi-ecommerce-indonesia.

Wigand, R. T. (1997). Electronic commerce: Definition, theory, and context. *The Information Society, 13*(1), 1–16.