Upgrade Product Purchase Decision

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Abstract

Innovation has been a key to every company's success, so has been upgrading company's existing products. However, market reaction to upgrade product could be unpredictable. This paper tries to explain consumer's tendency in purchasing upgrade product. Specifically, this paper tries to investigate consumer's tendency in purchasing upgrade product when it is similar vs. dissimilar with existing product and also when it is alignable vs. non alignable with existing product. Product review of previous version of upgrade product (positive vs. negative) is used to show that upgrade product evaluation is affected by performance of previous version. Experimental design is used with 299 participants of undergraduate students. The results show that when consumers have purchased a product, a dissimilar upgrade product will more likely be purchased than a similar upgrade product, while when consumers have purchased a product, a nonalignable product will more likely be purchased than alignable upgrade product. Product reviews play an important role in this particular purchase decision i.e. when consumers have purchased a product and receive a positive review on the previous version of dissimilar product, dissimilar upgrade product will be more likely purchased than similar upgrade product and when consumers have purchased a product and receive a positive review on the previous version of nonalignable product, nonalignable product will be more likely purchased than alignable product.

Keywords: *upgrade product; product review; purchase*

1. INTRODUCTION

With the rapid advancement of technology, new product development process is getting easier and easier. Market leader companies have always been highly innovative companies in terms of product development, such as 3M, Apple, and Samsung. Moreover, in some industries, such as the electronics industry, sustainable product development is the key to success in the competition in the market. Okada (2006) found that company's increase in sales and business development is not only determined by the number of new consumers buying the products, but also today's consumers who already had the product product and decided to buy the latest version of the product that they have today before the product become obsolete. iPhone 6 provides example for this when the launch attracted the attention not only of consumers who have never had an iPhone, but also iPhone owners wanted to replace the previous version with the latest version. As high-tech product is multiple generations product, it is necessary to study factors influencing consumers in adopting the upgrade product.

Volckner and Sattler (2006) state that consumer experience with previous product versions can be a determinant of the success of the new version of the product. This happens because the ideas and impressions relating to a previous version will be transferred to the latest version (Keller, 2003; Situmeang, Leenders, and Wijnberg, 2013) and also because of the popularity of the previous version will build anticipation and excitement to the latest version (Dhar, Sun and Weinberg, 2012; Ho, Dhar, and Weinberg, 2009; Karniouchina, 2011). Thus, the latest version can benefit from previous versions, but it is possible the market performance of the latest version is not as good as the previous version. Anticipation and excitement built by the previous version can cause too high expectations for the latest version, which can easily create customer low satisfaction levels (Grewal, 2004) and will ultimately result in lower level of sales than the previous version (Basuroy and Chatterjee 2008). Okada (2006) also found that consumers prefer upgrade product that is different from the products that they have already possessed. It is because consumers will find it useless to purchase upgrade product similar to the product they have already had. Consumers will only be willing to buy the latest version of the product when they feel that the latest version has features or attributes that are different from current product (nonalignable). But Okada (2006) does not take into account that when customers decide to purchase an upgrade product that is considered different or nonalignable, consumers actually face the same situation as new product purchase. Therefore consumers will search informations in order to reduce the uncertainties. One of information used by consumers to assess the performance of the new product is a product review. Review the product may influence consumer purchase decisions (Ghose and Ipeirotis, 2011; Zhu and Zhang, 2010).

Situmeang, Leenders, and Wijnberg (2014) further found in the context of sequel product that not only the reviews related to the latest product may affect the response of consumers, but also the review of the product from the previous version. This is called peripheral signal which means that consumers using signals from the review of the product prior to evaluating new products. Peripheral signal could be in form of a product review or the sales performance of the previous version. Given the nature of the review, a positive product review on earlier products will generate positive consumer response to the new product, and vice versa (Situmeang, Leenders, and Wijnberg, 2014).

Hence, this study investigate consumers' trend in purchasing upgrade product based on the level of similarity with the previous version and the interaction with product review of an earlier version.

2. REVIEW LITERATURE AND HYPOTHESIS DEVELOPMENT

2.1 Upgrade Product Purchasing

Bayus (1991) states that demographic factors, attitudes, perceptions, and information search activities will affect consumers in determining the time to purchase replacement product. Kim et al. (2001) found on his model on consumers' repurchase probability that the following factors significantly affected consumers' decision: the history of consumer purchases, consumer expectations for the latest version, and preferences for available other options.

One of the factors that shape consumer expectations for the latest version and preferences for other available options is product review. Signaling theory states that product review reflects the quality of the product (Kirmani and Rao, 2000; Connelly et al.,

2011) and can be used to reduce uncertainty faced by consumers with regard to the purchase of new products. This theory assumes that product reviews in consideration is the one that directly related to the product. However, in the case of multiple generations of products, consumers' assessment on the latest version will be strongly influenced by product review of the previous version. Thus the signals used by consumers to evaluate the latest version of a product derived from product review of the previous version. This is called peripheral signal which means that the signal consumers use to evaluate products is not the one that directly related to the products. Peripheral signal could be in form of a product review or sales performance of the previous version. Therefore, a positive product review of the previous version will produce a positive consumer evaluation for the latest version, and vice versa (Situmeang, Leenders, and Wijnberg, 2014).

2.2 Similar vs. Dissimilar Upgrade Product Purchasing

When the consumer decides to purchase upgrade product, they do mental accounting through the process of categorization (Thaler, 1985) where consumers will conduct mental accounting separately for products that are similar and dissimilar (Henderson and Peterson, 1992) and current purchase decision will be affected by past purchase of products in the similar category (Heath and Soll, 1996). For example, consumers will categorize tablet and laptop more similar than a set of dining table. Thus, consumers will not buy a tablet in the near future after buying a laptop because he would feel spending money too much on electronics category. But they will not mind buying a set of dining table with a price that is not too much different from the laptop in adjacent time. Thus, the purchase of a tablet would be greatly influenced by the purchase of a laptop because the two are similar, while the purchase of a dining table is not too affected by the purchase of a laptop because the two are not identical.

Hypothesis 1: When consumers have purchased a product, a dissimilar upgrade product will more likely be purchased than a similar upgrade product

2.3 Alignable vs. Nonalignable Upgrade Product Purchasing

Tversky (1977) stated that the two products will be considered similar if they both have same attributes and not similar if some attributes can only be found in one product and not in other products. The same attributes found in two or more of the products referred to as alignable attributes, while attributes only found in single product are called nonalignable attributes (Markman and Medin, 1995). Products with alignable attributes that tend to be in the same category (Markman and Gentner, 1993). Referring to the Okada's research (2006), alignable upgrades product is a product with improvements on existing attributes, while nonalignable upgrade product is an upgrade product with addition of new attributes. Based on Tversky's research (1977) about similarity, nonalignable upgrade product will make previous versions considered more similar than the newest version alignable upgrade product.

Hypothesis 1 posits that consumers will be more likely to buy dissimilar upgrade product than similar one. As nonalignable attributes make the latest version of the product becomes increasingly similar to previous versions, then consumers will have a more positive response to the nonalignable upgrade product than alignable one.

Hypothesis 2: When consumers have purchased a product, a nonalignable product will more likely be purchased than alignable upgrade product

2.4 Product Review in Purchasing Upgrade Product

For consumers who will purchase dissimilar products, their situation will resemble the purchase of new products. Therefore it requires information about the product. With the availability of product reviews on previous version, consumer will be able to reflect on the conditions of the latest version of the product available in the market as peripheral signals theory explained. The more positive reviews it receives, the more likely consumers will adopt the latest version of the product, and vice versa (Dellarocas, Zhang, and Awad, 2007). Thus, it is expected that consumers will be more interested in purchasing the latest version of dissimilar product when they are exposed to a positive product review, but negative product review will make them think twice to purchase dissimilar products. Same case for nonalignable upgrade product purchase situation when consumers face a similar situation as purchasing new products as consumers assume that the products are not similar to the previous version of the product. Thus, for nonalignable upgrade product, consumers will search information about it and product review on previous version of nonalignable product will give a signal about the quality of the latest version.

Hypothesis 3a: When consumers have purchased a product and receive a positive (negative) review on the previous version of dissimilar product, dissimilar upgrade product will be more likely (unlikely) purchased than similar upgrade product

Hypothesis 3b: When consumers have purchased a product and receive a positive (negative) review on the previous version of nonalignable product, nonalignable product will be more likely (unlikely) purchased than alignable product

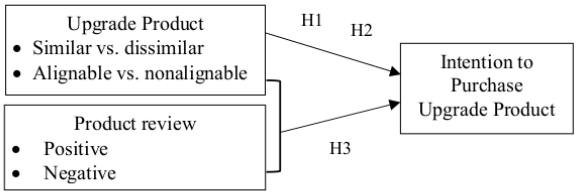

Figure 1
Research Model

3. RESEARCH METHOD

Participants in this study were students of a business school in Surabaya who get extra credit for their participation in the experiment. There are 299 participants. Data were analyzed using independent sample t-test.

Variables used in this study are similar vs. dissimilar upgrade product and alignable vs. nonalignable product upgrade and positive vs. negative product reviews. Dependent variable is intention to purchase an upgrade product. For similar product, tablet vs. laptop are used. As for dissimilar product, laptop vs. camera is used. For nonalignable and alignable upgrade product, cell phone is used. For positive (negative) product review, a review from an electronic magazine on previous version of the cell phone is shown to

participants. To measure purchase intention, participants are asked about the possibility they will purchase the product in the future.

Study 1

To test hypothesis 1 and 3a, a total of 150 participants are given scenario where they recently bought a laptop. Of the 150 participants, 77 participants are conditioned to the situation of purchasing similar upgrade product. Participants are told that a leading electronics store is opening new store and first 100 buyers will be given an opportunity to purchase a tablet in a very cheap price. While to the 73 participants who are in a group of dissimilar upgrade products are told that the electronic shop provides the opportunity to purchase a DSLR camera with a very cheap price.

In the next stage, 73 participants in group of similar upgrade product are divided into two groups. Thirty-six participants will receive a positive product review regarding a DSLR camera, while 37 other participants will receive a negative product review on the DSLR camera. After reading the review, participants will be asked to state how likely they would purchase the product upgrade on a scale of 1-5 (1 = Very Unlikely - 5 = Very probably).

Study 2

To test Hypothesis 2 and 3b, a total of 149 participants are given scenario where they already have the latest version of iPhone mobile phone. Seventy-five participants are exposed to the conditions of purchasing alignable upgrade product in the form of the latest version of iPhone with improvements in screen resolution and battery life. While 74 other participants are exposed to the condition of purchasing nonalignable upgrade product in the form of the latest version of the iPhone with the added feature of hologram that are capable of displaying three-dimensional images. Participants then asked about their intention to purchase the upgrade product.

In the next stage, 74 participants in the group of nonalignable upgrade product are divied into 2 groups. Thirty-seven participants will receive a positive review about their exisiting iPhone while 37 other participants will receive a negative review about their existing iPhone. After reading the review, participants are asked to state how likely they would purchase the product upgrade on a scale of 1-5 (1 = Very Unlikely - 5 = Very probably).

4. RESULT and DISCUSSION

4.1 Pre Test

To ensure that participants consider laptop vs. tablet as similar products and laptops vs. camera as dissimilar products, questionnaires are distributed to 40 respondents to ask their opinion on the degree of similarity/dissimilarity of those products. The results are as follows:

Table 1 Pre Test Result

Item	Respondents' Answer
Laptop vs. Tablet	Very Similar = 38 (95%)
	Similar = 2 (5%)
Laptop vs. Camera	Very Dissimilar = 40 (100%)

4.2 Study 1

After the participants were exposed to the conditions of purchasing upgrade product according to the scenario, the results are then analyzed using t-test independent sample. The results show that contrast to participants in the similar upgrade product groups, participants in dissimilar upgrade product groups have different level intention to purchase ($t = -14.8$; $p = 0.000$), where the intention to purchase of participants in the group of similar products is lower ($M = 2.87$) than participants in groups of dissimilar upgrade product ($M = 4.42$). These results support Hypothesis 1.

In the next stage, of the 73 participants who are in similar upgrade product group, 36 participants receive a positive product review about new upgrade product (DSLR camera), while 37 other participants receive a negative product review. The analysis showed that contrast to participants in dissimilar upgrade product, participants in similar upgrade product group and receive positive review have different level of intention to purchase ($t = -12.6$; $p = 0.000$), where the intention to purchase of participants in the similar upgrade products is lower ($M = 2.87$) than participants in group of dissimilar product upgrades ($M = 4.39$) that receive positive review about the upgrade product.

While the analysis of participants in similar upgradeprouct group who receive negative reviews about upgrade products show that their intention to purchase of upgrade product is different from the group of participants in dissimilar upgrade product ($t = -2.6$; $p = 0.001$), where the intention to purchase of participants in the group similar upgrade product ($M = 2.87$) is lower than the participants in group of dissimilar upgrade product ($M = 3.24$) with negative product review.

4.3 Study 2

The analysis of Study 2 show that 75 participants in alignable upgrade product group alignable have different level of purchase intention than 74 participants in nonalignable upgrade product group ($t = -9.3$; $p = 0.000$), where the intention to purchase of participants in the group of alignable upgrade product is lower ($M = 3.13$) than participants in nonalignable upgrade product group ($M = 3.96$). These results support the Hypothesis 2.

Out of 74 participants who are in the group of nonalignable upgrade product, 37 participants receive positive product review about the new upgrade product, while the other 37 participants receive a negative review about the product. The analysis show that contrast to participants in nonalignable upgrade product, participants in alignable upgrade group and receive positive reviews have different level of intention to purchase ($t = -6.9$; $p = 0.000$), where the purchase intention of participants in the group of alignable upgrade product is lower ($M = 3.13$) than participants in the group of nonalignable upgrades product ($M = 3.95$) and receive positive reviews about the product upgrades.

While the analysis of participants on nonalignable upgrade product group who receive negative reviews regarding the upgrade product shows that their purchase intention is different than participants in alignable upgrade product group ($t = -9.1$; $p = 0.000$), where the purchase intention of participants in the group of alignable upgrade product is lower ($M = 3.13$) than the participants' in the group of nonalignable upgrade product who receive negative reviews ($M = 3.97$).

5. CONCLUSION and IMPLICATION

It is important for the marketer to understand how consumers come into purchase decision. High involevement product like technology-based product which usually come with higher price need a deeper thought before consumers finally decide to purchase it. As in upgrade product, consumers may face different purchase situation, namely when the upgrade product is similar vs. dissimilar and when it is alignable vs. nonalignable. This study finds that consumers have different purchase intention toward them. Consumers consider similar and alignable upgrade product are the same as product they already had in the present. That is why their purchase intention is low as they think it is useless to purchase new product that is not different from their current product. Meanwhile, the dissimilar and nonalignable upgrade product are considered different. That is why consumers have higer purchase intention toward them. When consumers decide to purchase dissimilar and nonalignable upgrade product, they actually face the same condition as purchasing new product. Therefore, they need information to ensure that they make the right decision. Here, product review plays an important role. In the situation of buying dissimilar or nonalignable upgrade product, consumer will seek information both about current and previous version. Hence, marketers need to ensure that their new upgrade product are considered good and different by consumers. Various promotional tools could help the marketers to reach that goal.

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