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HIGH AND LOW INVOLVEMENT PRODUCTS: FROM THE PERSPECTIVE OF THE MULTI-STAGE PROCESS MODEL

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Abstract: *The low-involvement products concept suggests that consumers who want to buy particular products do not need much time, consideration and efforts to make a choice. The likely spontaneous decision is in opposite of the high-involvement products concept, which needs a longer way. While the concepts are widely held among scientists, the memory based concept arises new paradigm, ignoring the short or long attempt to make a decision. The purpose of the study is to examine whether in a multi-stage process model the both concepts are still relevant. The study is carried out through experimental design, particularly within subject. Data are analyzed by percentage analysis, dummy regression and logit model. The results show that whatever the product should follow particular steps in accordance with the multi-stage process model.*

Keywords: *multi-stage process, high-involvement, low-involvement.*

INTRODUCTION

It is commonly understood that a purchasing decision do not occur at once, but through the process of three basic psychological states—cognitive, affective, and conative (Lavidge & Steiner, in Robertson, 1974; Schiffman & Kanuk, 2000; Peter & Olson, 2002). The cognitive dimension is the realm of thoughts, the affective dimension is the realm of emotions, and the conative dimension is the realm of motives. The process creates the hierarchy of effects scheme, which contains awareness, knowledge, liking, preference, conviction, and purchase.

The role of attributes such as price, design, quality and/or others inevitably affects the consumer's consideration. While an evaluation takes place, the consideration likely produces particular brand that convinced as the best. The process might have a long phase, although possibly resulted shortly but not accidentally.

Although normally such consideration always occurs in making a decision, in some extent a product might be purchased beyond. A customer might buy a product

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as an impact of in-store stimuli, a sale, or novelty (Assael, 1995; Solomon, 2002). In such cases the decision to purchase is spontaneous that likely depends on his/her personality. It is truly hard to be predicted. However, scientists believe that majority a purchasing decision is carefully planned, particularly concerning with expensive, high-risk, and complicated products (Howard, 1989; Peter & Olson, 2002).

Such purchasing behavior that looks like no consideration might impress as an impulse buying, but actually not. A consumer might buy a particular brand in a moment, but it is likely a repurchase in which he/she has already bought the same brand beforehand. The particular brand is seemingly very familiar to him/her, which possibly satisfactorily. In other words, a brand loyalty might drive customers to repurchase a particular brand at a glance as if it does not need consideration at all (Assael, 1995; Dharmmesta, 1999; Hawkins *et al.*, 2007).

A habit behavior almost works in a similar way. A customer continuously buys the same brand, as he/she does not need evaluating the brand. It may happen because the customer meets satisfaction. As a result information about other brands is not urgent (Assael, 1995; Kotler, 2000; Hawkins *et al.*, 2007).

While whether a brand loyalty or a habit behavior is still in accordance with consideration, the purchasing behavior is clarified further, which depends on the type and character of products. As a consequence, for particular type and character, a customer meets several phases that need a large amount of efforts. On the contrary, for other particular type and character, the phase is not long and the effort is little.

The consumer is likely highly involved in purchasing decision when the product is important to him/her, is continually of interest, entails significant risks, has emotional appeal, and is identified with the norms of a group. In contrast, a low involvement is needed when the product is the most familiar brand, is used the last time, and is the least expensive (Assael, 1995; Howard, 1989; Peter & Olson, 2002; Hawkins *et al.*, 2007).

While the phase in purchasing decision is variety justifiably, not only psychologically based but also memory based, Howard & Sheth (in Howard, 1989) introduce an evoked set concept. The concept is focused on memory based, which proclaims that choice suffers a squeeze when surpassing consideration stage into a small number of brands. Following the particular stream, some researches find out that at least consumers use two-stage process when make a choice (Alba & Chattopadhyay, 1985; Johnson & Payne, 1985; Alba & Hutchinson, 1987; Hauser & Wernerfelt, 1990; Robert & Lattin, 1991).

While others do not explain clearly what criteria used in screening products, particularly from stage 1 to stage 2, Johnson & Payne (1985) clarify that available alternatives are first screened on the basis of a simple non-compensatory rule (stage 1), and the remaining alternatives are analyzed more carefully using a compensatory rule (stage 2). Likewise, Hauser & Wernerfelt (1990) employ cost evaluation as a standard, and Robert & Lattin (1991) operate a trade off between consideration cost and value.

Nedungadi (1990), Shocker *et al.* (1991), and Kardes *et al.* (1993) develop the idea that stages in the memory based likely more than two stages. Shocker *et al.* (1991), particularly expanded by Kardes *et al.* (1993) later on, introduce a multi-stage model. A choice should be produced from a process of a sequence starting from a universal set, to retrieval set, consideration set, and terminated on choice.

Santosa (2006a, 2006b, 2009) elaborates the model in which he scrutinizes effects influencing the consideration set. The finding indicates that brands will be considered depending on particular position, such as dominating, compromise, assimilated, dominating assimilated, compromise assimilated, and dominating assimilated on the combination. Likewise, the next study later on, in which the multi-stage model is comprehensively examined, illuminates the process of choice beginning from retrieval set, to consideration set, and terminated on choice, utilizing the six product position on the consideration set.

While the existing theory proclaims that particular type and characteristic of product determine the level of consumer's involvement (Assael, 1995; Howard, 1989; Peter & Olson, 2002), the purpose of the study is to examine the validity of the existing theory from the viewpoint of memory based. In other words, whether the concise steps of the low-involvement or the extended steps of the high-involvement products is still applicable from the viewpoint of the multi-stage process.

Enlightenment of the multi-stage model and the Santosa's studies are reported. The finding suggests that both products whether categorized as high-involvement products or low-involvement products suffer from multi-stage model. The implications of this finding to consumer decision research are discussed.

LITERATURE REVIEW

(a) Multi-stage Model

The multi-stage model initially proclaimed by Shocker *et al*. (1991). While it is encouraged by the stream of memory based decision making, it accordingly consists of universal set, retrieval set, consideration set, and choice. The concept of memory based decision making itself denotes to decision making which deduced from information saved on memory (Lynch & Srull in Kardes, 2002).

The universal set refers to all brands that are available in the market place. The retrieval set consists of the subset of brands in the universal set that the consumer can access from memory. Not all brands that exposed to consumers might be encoded and saved to memory, as a consequence the retrieval set is much smaller than the universal set (Alba & Chattopadhyay, 1985; 1986). The consideration set consists of the subset of brands in the retrieval set that scrutinized carefully on a particular choice occasion. Because consumers may not consider all brands retrieved, the consideration set is often smaller than the retrieval set. Finally, one brand is selected from the consideration set (Figure 1).

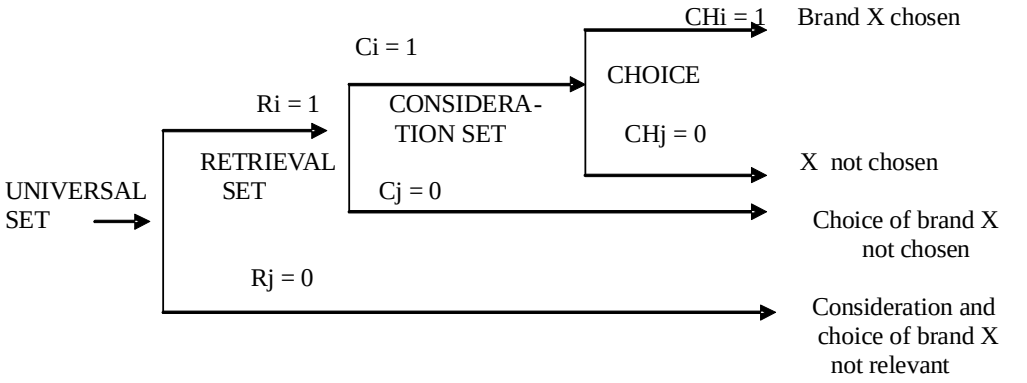

Figure 1: Multi-stage Model

Source: Kardes *et al.* (1993). "Brand Retrieval, Consideration Set, Composition, Consumer Choice, and the Pioneering Advantage". *Journal of Consumer Research*. 20. June. p. 64

As shown in Figure 1, not all products available in the market captured and stored in consumers' memory, in which only few successfully retrieved. If particular product were not appeared in the retrieval set, it would not be emerged in the consideration set. That means it is impossible to be a choice. In other word, a particular product that is not successfully retrieved is irrelevant with consideration and choice. On the other hand, a particular product that appeared in the retrieval set does not assure be considered, likewise be chosen. As a consequence, a choice is a particular product that is successfully retrieved and considered.

(b) Brand Retrieval

Consumers obtain product information from many sources, such as advertisements, packages, point of purchase displays, word of mouth communication, and magazines (Kardes *et al.,* 1993). Basically information can be classified into three types *i.e.* item information, associative information, and serial order information (Li & Lewandowsky, 1995). The item information records the occurrence of events. The associative information is required to remember the relationships between separate events. The serial order information records the temporal sequence of a string of events. Such information must be stored and readable whenever needed, otherwise invaluable. It includes three stages *i.e.* encoding, storage, and retrieval (Restle, 1975).

While any information stored likely to be recalled, it suffers from problem, which one should be prioritized, the first one or the last one. Li & Lewandowsky (1995) proclaim that retrieval involves two directions, forward and backward recall. When the process of recall is in forward direction, it is instructed to recall a list from beginning to end. The data show extensive primacy (advantage for early list items) and little recency (advantage for late list items). On the contrary, the backward direction means primacy is minimal and recency tends to be much steeper.

The primacy effect implies to the higher possibility for item that initially stored to be recalled following forward direction. The recency effect is the opposite, the higher possibility for lastly stored following backward direction (Li & Lewandowsky, 1995). Whether forward recall or backward recall each generates of search set (Shiffrin in Glenberg & Swanson, 1986). The greater the number of representation included in a search set, the less likely any one of them is to be recalled (Glenberg & Swanson, 1986).

The concept of primacy-recency is still in dispute. Some researches prefer to the concept of primacy (Murdock, 1983; Lewandowsky & Murdock, 1989; Johnson, 1991; Kardes *et al.*, 1993; McElree & Dosher, 1993). While others refer to the concept of recency (Bjork & Whitten, 1974; Collins & Loftus, 1975; Glenberg *et al.*, 1983; 1980; Glenberg & Swanson, 1986).

The contradiction triggers many other researches resulting finding that the process of recall likely pursued both forward and backward recall (Rudel & Denckla, 1974; Geiselman & Callot, 1990; Lewandowsky & Li, 1994; Li & Lewandowsky, 1995). While Alba & Chattopadhyay (1985; 1986) and Alba & Hutchinson (1987) focus their study on factors influencing the retention, Nedungadi (1990) investigates factors easing the recall. Although starting from different view, in some extent they support the finding of Sujan & Bettman (1989) that distinctive product becomes easier to be recalled. In addition, Nedungadi (1990) clarifies that bearing a particular product in mind will spontaneously remember other products, which serve as competitors. The enlightenment is very simple, when an ad gives information, which aids consumers to recall particular brands, other brands that are similar spontaneously arise. If the specific competitor leads to be more favorable, the initial brand that explicitly informed through ads becomes obsolete.

First moving products, according to Nedungadi (1990), also get advantage of easily brought in mind. Based on the idea, further, Kardes *et al.* (1993) provide evidence that pioneer products get higher probability in the retrieval set. Kahnemann & Miller (1986) introduce an idea of flexible process that makes use of internally generated and external retrieval cues to activate information stored in long term memory and incorporate it into the particular concept constructed in working memory. The idea actually is in accordance with the finding of Collins & Loftus (1975) that accessibility of brand depends on three factors. First, the strength of activation of the brand node, *i.e.* frequency, recency, and salience of brand instantiation and of brand evaluation. Second, the strength of association between the brand node and other active nodes. Third, the availability of retrieval cues, *i.e.* category, brand, and attribute.

(c) Consideration Set

The consideration set is defined as the set of brands brought to mind on a particular choice occasion (Nedungadi, 1990). Sequences of decision making indicate that consumers only consider a few out of available products which is potential to be a

good choice (Campbel in Nedungadi, 1990). It means that under such judgment consumers initially select the available products resulting fewer. It is likely in accordance with the concept of the evoked set *i.e.* brands the consumer has in his/her memory, that he/she considers acceptable and that he/she will consider when contemplating a purchase of the category (Howard, 1989).

While it is commonly mistaken perception that choice sets are relatively static (Hauser & Wernerfelt, 1990), Nedungadi (1990) recommends choice sets are not fixed but can change across choice occasions. It essentially means that the influence of memory will not be confined to the informational inputs used for brand evaluation but will extend to the retrieval and consideration of the brands themselves. Consequently, the retrieval and consideration will likely produce different outcome.

Some other studies follow the stream. Hauser & Wernerfelt (1989, 1990), Simonson & Tversky (1992), Assael (1995) scrutinize the consideration set and confirm that choice sets vary depending on choice occasions. Roberts & Lattin (1991), Brown & Wildt (1992), Kardes *et al.* (1993), Lehmann & Pan (1994) explore the consideration sets as a construct. The finding shows that the product composition shrunken. There are some products supposedly superior because of specific positions such as dominating, compromise, assimilated, and the combination (Santosa, 2006a; 2006b,2009). The following will discuss each at a glance.

(d) Dominating Position

Huber, Payne, & Puto (1982) and Huber & Puto (1983) are researches that initially proclaim the finding, which is called attraction effect. The finding afterwards is further investigated by Ratneshwar, Shocker, & Stewart (1987). Respondents showed two different brands (A and B) that each has two attributes. They have to choose one of the two. Two weeks later they have to chose the same two products but with one new brand (C). The new product is dominated by one of the original alternatives (B) but not by the other (A). Respondents tend to alter their choice. The addition of brand C increases the attractiveness and choice probability of the now asymmetrically dominating alternative (brand B). Huber and Puto (1983) extend this finding to include the addition of nondominated alternatives that are relatively inferior compared to one of the two alternatives in the core set.

The finding alters the regularity that says a new alternative will not draw more shares from originals. In other words, one could not increase the choice probability of product by adding another product in the set (Simonson, 1989). This finding also runs counter to the similarity effect, that is, the intuition that a new alternative will draw more from the similar alternatives than from the dissimilar alternatives (Pan & Lehman, 1993). Further, Huber & Puto (1983) explore more studies of attraction effect. On their experiment the new alternative is only relatively inferior compared to one of the two alternatives in the core set. The finding also shows the alteration of choice.

The term of asymmetrical dominating product, relatively inferior product, and dominated product will be defined as follows. An asymmetrical dominating product is a product that in perceptual space of two given attributes has superiority, whether on one particular attributes or both, compared to other products. A relatively inferior product is a product that in perceptual space of two given attributes has inferiority on only one attributes compared to a particular product. A dominated product is a product that in perceptual space of two given attributes has inferiority on one attribute or both compared to a particular product.

(e) Compromise Position

Simonson (1989) who introduces the compromise effect inspired by the study of Huber & Puto (1983), in which the attraction effect still works when a relatively inferior alternative comes closer to one existing product. The becoming relatively superior of the one existing product is likely supposed as weak justification because it is not clearly true that one alternative is superior to the other. Interestingly, Huber & Puto (1983) also report that the relatively superior is called as 'safe', 'compromise' alternative.

When a new alternative C is added to a set containing of brand A and B, in which C is relatively inferior to B, increases the attractiveness of B (attraction effect). A decision to choose which falls to B could be justified in two ways. First, the choice is based on the relative superiority relationship. Second, it is based on the fact that following the addition of the relatively inferior alternative (C), the superior brand (B) can be seen as compromise choice in terms of its attribute values between brand A and the new inferior alternative, brand C. If the decision maker is uncertain which of the two attributes is more important, a selection of a compromise alternative that can be seen as combining both attributes might be easiest to justify (Stein & Miller in Simonson, 1989).

The strength of relative superiority versus compromise as a justification is likely to depend on the particular position of the inferior alternative. The closer and more inferior the added alternative is relative to the superior alternative, the more powerful the relative superiority argument would be relative to the compromise argument, and vice versa (Simonson, 1989). Equivalently, when an alternative becomes a compromise or middle option, no matter there is no superiority relationship, the choice probability of the compromise or middle option increases.

(f) Assimilated Position

How to make a new inferior alternative in some way similar to existing brands could be accomplished by assigning the new alternative close to the existing brands in which they have likely similar specifications. Basically, two basic processes that describe how individuals cope with new information are assimilation and accommodation (Rumelhart & Norman, 1972). Assimilation occurs when a new concept is integrated into the present mental schema. Accommodation occurs when a new mental schema

is created or the present schema undergoes substantial modification to interpret the new concept.

Schemas are cognitive structures representing one's expectation about a domain (Bettman, 1979). Overtime, an individual is likely to develop a schema or set of expectations about a product category. These expectations might include hypotheses about what are the usual values on attributes, importance weights of attributes, and how much variability there is across brands on attributes (Sujan and Bettman, 1989). By grouping similar objects, information-processing efficiency as well as cognitive stability is enhanced (Lingle, Altom, and Medin, 1984; Cohen & Basu, 1987). The process of assimilation is likely to occur when new information is slightly to moderately discrepant from the category schema, but not when it is strongly discrepant (Sujan & Bettman, 1989).

While a lone alternative is less likely to be chosen (Glazer, Kahn, & Moore, 1991), a brand that is positioned close to another brand supposed as more similar to each other (Pan & Lehmann, 1993), and regarded as an assimilated brand (Lehmann & Pan, 1994). In addition, that being assimilated alternative will increase the brand's probability in choice (Lehmann & Pan, 1994).

(g) Choice

Choice decision normally based on particular criteria, such as attitude-based and attribute-based (Kardes, 2002). While attitude towards brand formed by belief and evaluation, the decision then follows the formula of $A_0 = \Sigma\, b_i\, e_i$ (Fazio & Roskos-Ewoldsen, 1994). Choice based on attribute distinguishes three types of judgment, compensatory, non-compensatory, and combination process (Peter & Olson, 2002). The compensatory process combines all the salient beliefs about the consequences of the choice alternatives to form an overall evaluation or attitude toward each behavioral alternative. The non-compensatory process refers to the imbalance of the positive and negative consequences of the choice alternatives. The combination process is a mix of both.

HYPOTHESIS

A brand that likely selected to be a choice is a brand that carefully sorted out on retrieval and consideration. Although Santosa (2006b, 2009) do not focus his study on high and low involvement products, he successfully provides an illumination of the choice process. Therefore, the hypotheses are still in accordance with this study and replicated as follows:

H1: The existing brands which are salient have likely higher probability to be included in the retrieval set

H2: The new products which are closed or seemingly similar to the existing brands have likely higher probability to be included in the retrieval set

H3: The entry of a number of new products, whether inferior or superior to one existing product, will make a product that becomes dominant, getting easier to be considered

H4: If a number of new products entry to a set, in which both the existing and new products simultaneously creates a compromise set, the most compromise option accordingly gets higher possibility of choice.

H5: If a number of new products entry to a set, in which some that are nearly similar to particular existing brands, create a subtype group with the existing brands, increase their probability of choice.

H6: When a number of new products entry to a set, create simultaneously among the existing and new alternatives, dominating, compromise, and assimilated position, the products that pose dominating and assimilated position have greater probability in choice.

Appropriate with the purpose of this study, new hypotheses could be formulated as follows:

H7: The process of purchase decision making for products that belong to group which need consumer high involvement is relevant to multi-stage process model

H8: The process of purchase decision making for products that belong to group which need consumer low involvement is relevant to multi-stage process model

RESEARCH DESIGN

The study is inspired by Santosa's studies (2005a, 2005b, 2006a, 2006b, 2009). Particularly, it takes advantage from the process of retrieval, consideration and choice selection. Two phases are carried out, preliminary study and experimental study. The preliminary study principally is aimed to find out a set of brands dominating market, a set of brands supposed as new brands, and which products categorized to high involvement and low involvement products in accordance with respondent justification. The experimental study denotes to a within subject design. It is defined as: "... the study that only employs one group and the same group is treated differently in different experimental conditions" (Singh, 1986: 446). The employment of the within subject design is common in the field of learning, memory, and psychophysics (Singh, 1986).

METHOD

With the intention of getting non-bias data, samples employed whether on the preliminary study or on the experimental study should be statistically similar. Therefore, variables affecting the accuracy of data such as age, sex, location, and life style, must be controlled. While the age variable is controlled by a consistency of mean,

the sex variable is controlled by a consistency of sex ratio. In addition, non-bias data of location is facilitated by a consistency of similar colleges, *i.e.* size and number of students. Furthermore, the lifestyle variable is controlled by a consistency of means that its indicators referred to Wells and Tigert formulation as quoted by Assael (1995), which based on perceived activities, interests, and opinions.

Data are submitted by questionnaire. An arrangement of product sequence in any question is needed that aimed to describe the most relatively dominating position, compromise, assimilated, dominating and assimilated, and compromise and assimilated position, and neutral on other side. Answers are available on ten scales, from 0 to 10 (Jaccard, Brinberg & Ackerman, 1986).

The preliminary study carries out ten product categories. In which respondents classify them into two categories, products which need high-involvement and products which need low-involvement. Two products category would be selected whether from category one or two, and operated on the experimental study.

A hundred seventy respondents are used. All of them are college students, included those whose status are employees. Data are analyzed by three kinds of methods. Firstly, analyzing probability by employing a logit model which estimated by maximum-likelihood (Greene, 2000; Gujarati, 1995, 1999; Pindyck and Rubinfeld, 1998). The dependent variable is the retrieval probability; p = 1 if retrieved, p = 0 if not retrieved. The independent variables are brand attributes.

Secondly, analyzing a statistical significance of consumer preference score in form of respondent's percentage. Its purpose is to find out evidence to support particular positions as hypothesized on consideration set. Thirdly, employing regression analysis with dummy variables to observe a statistical significant coefficient of products that posed particular positions as hypothesized (Gujarati, 1995; 1999). The dependent variable is all products that considered by respondents. The independent variables are dummy variables which assigned as follows (1) all brands or types before entry are encoded 0, (2) a product, whether the existing product or the entrant that poses a dominating, or compromise, assimilated, or dominating and assimilated, or compromise and assimilated position is encoded 1, otherwise 0.

RESULT AND ANALYSIS

(a) Preliminary Study

The preliminary study operates ten product categories, *i.e.* motorbike, TV, freezer, compo, hand phone (HP), gas stove, rice cooker, bath soap, toothpaste, and detergent. Six products categorized as high involvement products, *i.e.* motorbike, HP, TV, freezer, compo, and gas stove. The rest four categorized as low involvement products, *i.e.* detergent, toothpaste, bath soap, and rice cooker (Table 1).

Table 1
Products Categorized to High and Low Involvement

No	*High Involvement Product Category*	*%*	*No*	*Low Involvement Product Category*	*%*
1	Motorbike	97	1	Detergent	91
2	Hand phone	90	2	Toothpaste	85
3	TV	71	3	Bath soap	78
4	Freezer	74	4	Rice cooker	54
5	Compo	64			
6	Gas stove	51			

Source: Primary data

In line with the purpose of the preliminary study, not all products would be employed on the experimental study. In other words, only four products operated, *i.e*. motorbike, HP, detergent, and toothpaste. Based on those four products, brands that dominate the market and brands supposed as new entrants are as follows (Table 2 and 3).

Table 2
The Dominating Brands Employed in SE

No	*Category*	*Brands*
1	Motorbike	Honda, Yamaha, Suzuki, Kawasaki
2	HP	Nokia, Ericsson, Siemens, Motorola
3	Toothpaste	Pepsodent, Close-up, Ciptadent, Ritadent, Smile-up.
4	Detergent	Rinso, So Klin, Attack, Daia, Surf, B29

Source: Primary data

Table 3
The New Entrants Employed in SE

No	*Category*	*Brands*
1	Motorbike	Jialing, Sanex, Hokkaido, Kymco, Kasea, Kansen, Garuda, Beijing, Daiheiyo, Tossa, Millenium
2	HP	Samsung, LG, Philips, Mitsubishi, Sagem, Sharp
3	Toothpaste	Enzym, Oral-B, Siwak-F, Total Care, Colgate, Formula
4	Detergent	Omo, Total, Klin Power, Dino, Dangdut, Cemara

Source: Primary data

(b) Experimental Study

1) Testing the hypothesis 1

Two methods are employed, firstly, showing the percentage of respondents who successfully recall particular brands, under limitation above fifty percent. Secondly, operating the logit model. The hypothesis is supported if $p > 50$ percent. With the purpose of getting support, not all dominants (see Table 2) would be tested, only particular brands. The percentage analysis specifies that Honda and Yamaha on motorbike category have high probabilities, *i.e.* 99% and

94%. Likewise, Nokia and Ericsson on HP category, Pepsodent and Close-up on toothpaste category, Rinso and So Klin on detergent category, which each holds high probability as follows 97%, 91.5%, 98.83%, 94.25%, 97.25%, 95.58% respectively (Table 4).

The support of the hypothesis also supplied by logit model that Honda and Yamaha possess 99.77% and 99.72% probability. Similarly, Nokia, Ericsson, Pepsodent, Close-up, Rinso, and So Klin enjoy high probability *i.e*. 0.96, 0.91618, 0.9982, 0.9859, 0.9949, and 0.9949 respectively (Table 4).

2) Testing the hypothesis 2

The two methods, *i.e*. the percentage analysis and the logit model are still employed. Criteria such as *bebek* type, four tacks, and cylinder capacity (100-110 cc), are operated for those that supposedly closed and similar to the existing brands on motorbike category. Meanwhile for the rest three the criteria are likely alike *i.e.* design and benefit.

Jialing and Sanex are supposedly closed and similar to Honda, which each has 59.75% and 55.42% probability. Likewise, LG and Philips are supposedly closed and similar to Nokia, Enzym and Siwak-F to Close-up, and Omo and Total to Attack. Each has probability as follows, 43.8%, 40.3%, 66.75%, 52.83%, 67.5%, and 66.17% respectively (Table 4).

The logit model produces high probability for Jialing (0.8998), Sanex (0.8562), Enzym (0.7722), Omo (0.7318), and Total (0.8202), but low probability for LG (0.4146), Philips (0.1728), and Siwak F (0.4588) (Table 4).

Table 4
Results of Percentage Analysis and Logit Model Hypothesis 1 and 2

No	*Product*	*Percentage Analysis*			*Logit Model*		
	Category	*Brands*	*%*	*Hypo*	*Brands*	*P*	*Hypo*
1	Motorbike	Honda	99.42	Supported	Honda	0.9977	Supported
		Yamaha	94.17		Yamaha	0.9972	
		Jialing	59.75		Jialing	0.8998	
		Sanex	55.42		Sanex	0. 8562	
2	HP	Nokia	97	Supported	Nokia	0.96002	Supported
		Ericsson	91.5		Ericsson	0.91618	
		LG	43.8	Not sup-	LG	0.4146	Not sup-
		Philips	40.3	ported	Philips	0.1728	ported
3	Toothpaste	Close-up	94.25	Supported	Close-up	0.9292	Supported
		Smile-up	75.92		Smile-up	0.7010	
		Enzym	66.75		Enzym	0.7722	
		Siwak-F	52.83		Siwak-F	0.4588	Not supp
4	Detergent	Attack	91.42	Supported	Attack	0.7936	Supported
		Surf	85.75		Surf	0.9255	
		Omo	67.5		Omo	0.7318	
		Total	66.17		Total	0.8202	

Source: data analysis

3) Testing the hypothesis 3, 4, 5

The method used is percentage analysis through comparison between assumedly a dominating product and dominated products, between compromise products or non-compromise products and bases products, and between an assimilating product and assimilated products. In addition a regression analysis with dummy variables is employed to find out a statistical significant coefficient of products that pose dominating, compromise, and assimilated product. The dependent variable is all products that considered by respondents. The independent variables are dummy variables which assigned as follows (1) all brands or types before entry are encoded 0, (2) a product, whether the existing product or the entrant that poses a dominating, compromise, and assimilated position is encoded 1, otherwise 0.

The consideration set consists of a set of alternatives, which some belong to existing brands and the rest belong to new entrants. With reference to particular purpose, the composition and sequence of the set, whether the existing brands or the new entrants are willfully and diversely determined. The reason of the variance is uniquely served as treatments to attain the effect of attraction, compromise, and assimilated.

Table 5
Result of Percentage Analysis and Regression Analysis Hypothesis 3, 4, 5

No	*Effect*	*Category*	*Percentage Analysis*		*Regression Analysis*		
			Evidence	*p*	*Coef.*	*t*	*Sign*
1	Attracti-on	Motorbike	Hon Leg	0.000; 0.001	+15.203	2.190	0.05
			Yam Yup	0.000; 0.002	+8.9803	2.436	0.03
		HP	Nokia 3330	0.024	+11.827	5.149	0.00
		Toothpaste	Pepsodent	0.000; 0.000	+10.410	5.841	0.00
			Close-up	0.001; 0.001	+8.863	2.402	0.03
		Detergent	Rinso	0.000; 0.000	+8.819	2.808	0.02
			Attack	0.018; 0.008	5.555	2.992	0.02
2	Compromise	Motorbike	Hon Leg	0.001; 0.000	+3.045	2.788	0.02
			SzkSho	0.070; 0.080	+3.595	2.363	0.03
		HP	Nokia 3330	0.005; 0.018	+13.141	4.657	0.00
		Toothpaste	Pepsodent	0.000; 0.001	+7.315	2.472	0.03
			Close-up	0.028; 0.034	+8.863	2.402	0.03
		Detergent	Surf	0.000; 0.009	+4.651	3.676	0.00
3	Assimi-lated	Motorbike	Hon Leg	0.180	+5.841	2.610	0.02
			Yam Yup	0.312	+4.447	2.309	0.05
		HP	-	-	-	-	-
		Toothpaste	Smile-up	0.823	+11.529	2.760	0.02
		Detergent	Surf	0.452	+6.328	2.662	0.02

Source: Data Analysis

The treatment of each product category results supports whether for attraction, compromise, or assimilated effect. Motorbike for instance, is indicated by Honda Legenda and Yamaha Yupiter for attraction effect, Honda Legenda and Suzuki

Shogun for compromise effect, and Honda Legenda and Yamaha Yupiter for assimilated effect. The sign plus (+) on regression analysis points to the direction that is expected, which means that the existence of particular product resulting particular effect (Table 5).

4) Testing the hypothesis 6

The method employed is not only percentage analysis and regression analysis, but also the logit model. The last approach is beneficial to detect which position has the most favorable probability *i.e.* between dominating assimilated and compromise position. Support for the hypothesis 6 denoted by Honda Legenda on motorbike category (Table 6). There is no evidence on HP, toothpaste, and detergent category since no product stands for dominating and assimilated position.

Table 6
Result of Percentage Analysis, Regression Analysis, and Logit Model Hypothesis 6

No	*Category*	*Percentage Analysis*			*Regression Analysis*			*Logit Model*	
		Evidence	*p*					*Probability*	
			Dom	*Ass*	*Coef*	*t*	*Sognif*	*DomAs*	*Compr*
1	Motorbike	Hon Leg	0.00	0.3	+13.521	2.239	0.05	0.9154	0.7826
2	**HP**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
3	**Toothpaste**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
4	Detergent	-	-	-	-	-	-	-	-

Source: Data Analysis

5) Testing the hypothesis 7 and 8

The method employed was the logit model. Looking for evidences is obtained by two ways, firstly, through particular brand that successfully retrieved and considered. Secondly, through particular brand that not successfully retrieved and or considered. While brands tested for supporting the hypothesis 7 were Honda Legenda, Nokia 3330, and Suzuki Bravo, for the hypothesis 8 were Attack, Smile-up, and Siwak-F.

Table 7
Result of the Logit Model
Hypothesis 7 and 8

HYPO	*BRAND*	*P*		
		Retrieved	*Considered*	*Not considered*
7	Honda Legenda	0.975	0.923	
	Nokia 3330	0.962	0.823	
	Suzuki Bravo	0.801		0.132
8	Attack	0.790	0.945	
	Smile-up	0.705	0.765	
	Siwak-F	0.461		0.371

Source: Data Analysis

The result denotes that brands potentially chosen are brands successfully considered and successfully retrieved as well (Honda Legenda, Nokia 3330, Attack, and Smile-up). While brands even though successfully retrieved but not considered, are not potentially chosen (Suzuki Bravo and Siwak-F). Further, it provides evidences that whether products belonging to group which needed consumer high involvement or products belonging to group which needed consumer low involvement are all relevant to multi-stage model (Table 7).

CONCLUSION

While all brands tested produce favorable probabilities as expected to support the hypothesis 1, particular brands, such as LG and Philips on HP category, and Siwak-F on toothpaste category, do not supply good probabilities for supporting the hypothesis 2. However, evidences still generated from motorbike and detergent category. Even, as a matter of fact, the toothpaste category still partly contributes supports *i.e.* from Enzym. In addition, the percentage analysis for Siwak-F still provides evidence. Therefore, the hypothesis 1 and 2 are empirically corroborated. The findings are still in accordance with Santosa's study (2006b, 2009).

The result of the percentage analysis and the regression analysis with dummy variable to support the hypothesis 3, 4 and 5 produce good supports. Likewise, the both approach and the logit model to support the hypothesis 6. The HP category, on the contrary, has no evidence for supporting the hypothesis 5. The reason is, since among brands mostly similar, no brand is tested. Similarly, there are no evidence on HP, toothpaste, and detergent category since no product stands for dominating and assimilated position.

The findings are absolutely still appropriate to the findings of Huber, Payne & Puto (1982), Huber & Puto (1983), Ratneshwar, Shocker & Stewart (1987), Simonson (1989), Nedungadi (1990), Shocker *et al.* (1991), Kardes *et al.* (1993), Pan & Lehmann (1993), Lehmann & Pan (1994). Further, they are in line with Santosa's studies (2005a, 2005b, 2006a, 2009).

The result of the logit model for the hypothesis 7 and 8 is no doubt empirically corroborating. While the implication of the findings from the hypothesis 1 to 6 is no longer extraordinary, the findings from the hypothesis 7 and 8 should be explicitly taken into account. Consumers inevitably process a choice through particular steps, whatever the product. What a marketer should do to anticipate the fact is to highlight saliency, distinctively, and assimilated, which aimed to be successfully retrieved, considered, and chosen.

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