AN EXPLORATORY STUDY OF LIMITED INFORMATION ACQUISITION:  
DO BRAND NAMES MAKE PRODUCT EVALUATIONS EASY?  

Mototaka SAKASHITA  
Keio University, Japan  

Consumers are faced with an enormous amount of information when making product evaluations. Faced with this difficulty, they often try to simplify the evaluation process by limiting their information acquisition. The purpose of this study is to identify two types of such limited information acquisition strategies (IAS), brand-based and attribute-based, and to investigate their characteristics in the product evaluation process. A computer-based laboratory experiment was conducted to gather empirical evidence. The results identified differences in time spent on processing each piece of information, the amount of perceived effort, and the degree of perceived task complexity depending upon which limited IAS consumers utilized. Specifically, the utilization of attribute-based limited IAS simplifies consumers’ information processing, a finding that is consistent with the previous literature. However, that of brand-based limited IAS does not necessarily make the task easy; in fact, it may make it difficult. Implications, limitations and future research directions are discussed.

Key words: consumer behavior, information acquisition, product evaluation, brand knowledge

Consumers are faced with a fair amount of information when making product evaluations in everyday purchasing activities. This is even accelerated by technological advancement, which has dramatically changed the way consumers search for information, lowering the search cost and maximizing the efficiency. This may appear to be desirable for consumers; however, it has also created a problem. In order to make decisions, consumers must process an enormous amount of information.

Faced with this difficulty, consumers may use one of two remedies. The first remedy is external support, such as a salesperson’s recommendations at retail stores, as well as search engines or price comparison functions provided by online retailers. Using these external supports, consumers can make product evaluations in a more efficient way, restricting the amount of information they need to consider in order to make choices.

The second remedy is internal support, such as the utilization of knowledge stored in consumers’ memories. This typically leads to applying many choice heuristics to help cope with difficulties generated in various phases of the decision making process. In particular, brand knowledge is known to serve as an information chunk that organizes the various kinds of information stored, thus supporting consumers’ information processing. These supports, either external or internal, would typically result in a reduction in the amount of additional information consumers would seek out.
Previous researchers have found that limiting the amount of information acquired at product evaluations would make the whole process easier for the consumer (Payne, 1976; Beach & Mitchell, 1978; Payne, 1982; Bettman, Johnson, & Payne, 1991). However, this premise would not always hold true; in fact, in some special cases where consumers limit their information acquisition by utilizing their brand knowledge, they would find the evaluation process more complex, even though they are obtaining a relatively small amount of outside information.

The purpose of this study was to identify two types of limited information acquisition strategies (hereafter referred to as IAS), brand-based and attribute-based, and to investigate their characteristics in the product evaluation process. A computer-based laboratory experiment was conducted to gather empirical evidence using an information display board method (IDB). The results indicate that, depending on which IAS they utilize when evaluating alternatives, consumers show different characteristics in time spent on processing each piece of information, the amount of perceived effort, and the degree of perceived task complexity.

**Literature Review**

(1) Causative Factors of Limited Information Acquisition

Consumers try to search for as much information as possible to make better purchase decisions; however, they are faced by a huge amount of information from various sources. Because of the limited capacity for information processing, they use heuristics, or rules of thumb, and this leads them to more simplified information acquisition behaviors (Beach & Mitchell, 1978).

Numerous studies have identified the causative factors of such IAS, and according to the framework of Bettman, Luce, and Payne (1998), those factors can be classified into three categories: task characteristics, individual differences, and social context.

One example of task characteristics is task complexity (Payne, 1976; Onken, Hastie, & Revelle, 1985), which has been the main focus of this research stream (Ford, Schmitt, Schectman, Hults, & Doherty, 1989). In this area, most researchers seem to agree that the more complex the task is, the less information consumers tend to search out when making purchasing decisions (Payne, 1976; Bettman, Johnson, & Payne, 1990; Sakashita, 2003). Another example of task characteristics is information display format, which affects consumers’ information acquisition patterns (Bettman & Kakkar, 1977; Painton & Gentry, 1985). Time pressure is also a factor, and Newman and Staelin (1971) investigated the relationship between time pressure and the total time required to finish purchase decisions. They found that the more time pressure consumers have, the less time they spend making decisions.

Consumers are known to search for outside information when motivated to purchase (Engel, Blackwell, & Kollat, 1978), so highly involved consumers tend to engage in more intensive information acquisition activities (Moorthy, Ratchford, & Talukdar, 1997). There seems to be a positive relationship between the involvement level and the intensiveness of information acquisition; that is, a higher involvement level leads to more intensive information acquisition (Jacoby et al., 1978; Beatty & Smith, 1987; Smith & Bristor, 1994).

As for the effect of product class knowledge, there are two contradictory findings in the previous literature. On one hand, higher product class knowledge would result in a less intensive information search because consumers utilize their knowledge to substitute for the information required to make choices (Newman & Staelin, 1971, 1972; Kiel & Layton, 1981; Punj & Staelin, 1983). On the contrary, higher knowledge would result in a more intensive information search because consumers would accelerate their search using the information stored in memory (Punj & Staelin, 1983; Johnson & Russo, 1984). However, this controversy was resolved when Johnson and Russo (1984) found an inverted U relationship between these two variables.

As for the effect of brand loyalty on search activities, consumers are known to search less for information when they hold a loyal attitude toward a particular brand (Jacoby et al., 1978; Sugimoto, 1982).

There are some examples of the third causative factor, social context. Consumers are known to search more external information when they are married (Newman & Staelin, 1972), higher in social class (Schaninger & Seiglimpaglia, 1980), female, younger, and higher in education level (Schaninger & Seiglimpaglia, 1981).

Other factors causing limited information search behaviors are risk perception (Urbany, Dickson, & Wilkie, 1989) and search cost (Punj & Staelin, 1983; Moorthy et al., 1997). Consumers are known to search more when they feel there is a higher risk or lower cost to do so.

These studies have focused on the causative factors of limited IAS; however, little research has been done on the types of limited IAS and their characteristics in the product evaluation process. Therefore, this study investigates the unique nature of such behaviors.

(2) Brand-based and Attribute-based Limited Information Acquisition Strategies

This study identifies two types of limited IAS, brand-based and attribute-based, in order to refine the construct of such behaviors. When consumers use the attribute-based limited IAS, they search only for certain types of information, such as price. Imagine a consumer is looking for a computer in a regular retail store. He is considered to be engaged in attribute-based limited IAS when he is searching the alternatives only for price and memory storage information, ignoring all the other information. On the other hand, he is considered to be engaged in brand-based limited IAS if he is looking only for his favorite brands of computers. Note that he may engage in both the attribute-based and the brand-based limited IAS, or neither of these.

Therefore, consumers can be classified into 4 groups: the Brand Loyal group using both attribute-based and brand-based limited IAS, the Brand Mania group using only
brand-based limited IAS, the Variety Seeking group using only attribute-based limited IAS, and the Beginner group without such limited IAS.

According to Keller (1998), brand knowledge consists of three types of brand associations, including product-related attributes. This means that brand names carry relatively more information compared to physical characteristics of the product. This is consistent with the findings of previous literature that brand-related information serves as “information chunks” (Jacoby, Szybillo, & Busato-Schach, 1977; Johnson & Russo, 1984; Biehal & Chakravarti, 1982; Mazursky & Jacoby 1985; Stokes, 1985). Also, brand names are known to effect consumers’ evaluation of perceived quality (Gardner, 1971; Jacoby, Olson, & Haddock, 1971; Mazursky & Jacoby, 1985; Rao & Monroe, 1989). As a result, consumers tend to search brand-related information rather than price-related information when evaluating product quality (Brucks, Zeithaml, & Naylor, 2000). Similar findings on this point are that the level of brand loyalty determines the amount of information acquired in product evaluation (Sugimoto, 1982), and utilization of brand knowledge leads to less information acquisition (Sakashita, 2003). Therefore, consumers can limit their information acquisition by brand names and/or attribute information; however, when consumers search for less information in terms of brand names (brand-based limited IAS), they must engage in a more intensive processing. In contrast, they can ease the degree of such intensiveness when searching for less information in terms of product attributes (attribute-based limited IAS).

**HYPOTHESIS**

Based on the literature review, there are three hypotheses in this study. First, consumers are expected to acquire relatively less information when they take either brand-based or attribute-based limited IAS. Therefore, they would spend relatively more time in processing each piece of information when they are using brand-based/attribute-based limited IAS. Hence;

H1: Consumers tend to spend relatively more time on processing each piece of information when limiting their information acquisition by brand names and/or attributes.

Secondly, consumers are expected to engage in more effortful processing when using brand-based limited IAS because they are utilizing the brand information stored in their memories with a relatively higher involvement level. On the other hand, they are expected to engage in less effortful processing when using attribute-based limited IAS, simply reducing the amount of information required to evaluate each product. Therefore;

H2: Brand-based limited IAS would make the product evaluation more effortful, while attribute-based limited IAS would make it more effortless.

Third, consumers would feel the product evaluation task was more complex when using brand-based limited IAS, since they have to process a certain amount of information about the favorable/unfavorable brands in their memory. On the other hand, they would feel it was less complex when using attribute-based limited IAS. Therefore;
H3: Brand-based limited IAS would make product evaluation more complex, while attribute-based limited IAS would make it easy.

**METHOD**

Fifty undergraduate students were recruited to participate in an experiment where they were asked to perform three evaluation tasks. Therefore, $50 \times 3$ units were analyzed. Each student received a bottled-drink for his/her participation. A small group interview ($N = 5$) was conducted to choose the stimulus. A portable music player was selected as the product category because it was relatively popular and all the students could easily imagine the purchase situation.

Six attributes (price, battery life, recording function, color, sound protection, and weight) and three brand names (Sony, Panasonic, and Sharp) were selected in the experiment. There were 2 to 3 levels per attribute and they were all randomly assigned to the alternatives.

Following the Information Display Board (IDB) method, a computer-operated experiment was conducted for the evaluation task, and each participant was asked to use a mouse to answer questions. Participants were seated individually in front of a computer and told that they would evaluate some products.

After a short practice to make sure all the participants were comfortable using the computer, they were told to complete three evaluation tasks on portable music players. This part consisted of 2 sub-parts. In the first sub-part, a brand (either 6 or 12 alternatives, randomly assigned) × attribute (6 attributes) matrix was shown. The three existing brand names were evenly presented in the left column, one name per alternative. In the matrix, blank buttons were displayed (either 36 or 72 buttons), and each button would show the relevant attribute level for the alternative if clicked. The participants were told to search for as much attribute information as possible until they felt comfortable evaluating each alternative based on a 10-point scale. The total time spent on completing the evaluation task was measured, as well as the number and the order of the attribute information buttons that were clicked to expose additional information. The first dependent variable for H1, the time spent on processing each piece of information (TIME), was calculated by dividing the total time by the number of the attribute information buttons clicked. In the subsequent sub-part, the remaining two dependent variables were measured; here, they were asked to rate the amount of felt effort required for the evaluation task (EFFORT), and the perception of the task complexity (COMPLEX), based on a 7-point scale. These two sub-parts were repeated three times followed by the collection of demographic variables.

**ANALYSIS**

(1) Classification of the Information Acquisition Strategy

Using the data, strategies were classified into one of the four groups mentioned above. Classification criteria for brand-based limited IAS were either of the following three standards; 1) at least one particular brand name was excluded from the information acquisition, 2) information on products of a particular brand name was intentionally

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1 Two pretests were conducted to select the brand names and attributes. In the first pretest, 107 undergraduate students were told that they would purchase a portable music player and asked to list all the brand names and attributes they would consider, and 12 brand names and 32 attributes were selected based on frequency. In the second pretest, 115 undergraduate students were asked to mark all the 32 attributes based on importance on a 7-point scale (“not at all important” to “very much important”). 7 dimensions were found through factor analysis, and 7 attributes with the highest average score of importance from each dimension were selected. One attribute (design) was dropped due to the difficulty of manipulation, to form 6 sets of attributes. The brand names were selected according to the result of the first pretest and high market share.
acquired at the beginning of the evaluation, or 3) information on products of a particular brand name was intentionally acquired at the end of the evaluation. A classification criterion for attribute-based limited IAS was established as follows: a strategy would be considered as attribute-based limited IAS when at least one attribute was excluded from the acquisition\(^2\). After the classification procedure, 82 out of 150 samples were determined to be attribute-based limited IAS, while only 30 applied brand-based limited IAS (Table 1).

(2) Results

ANOVA was conducted to test the dependent variables (TIME, EFFORT, and COMPLEX), in a 2 × 2 factorial design with brand-based limited IAS (yes/no) × attribute-based limited IAS (yes/no). For TIME, the results show that there was a significant main effect of attribute-based limited IAS \((F(1, 149) = 6.535, p < .05)\), and a significant moderating effect of brand-based limited IAS and attribute-based limited IAS \((F(1, 149) = 3.001, p < .10)\). Although not significant, there was a tendency for a main effect of brand-based limited IAS close to the convincing level \((F(1, 149) = 2.724, p = .101)\).

Precisely, the Brand Loyal group using both attribute-based and brand-based limited IAS spent a longer time processing each piece of information than did the Brand Mania group, the Variety Seeking group, and the Beginner group \((X = 5.17 (1.79) > 3.85 (.97), 4.13 (1.67), \text{ and } 3.88 (1.23), \text{ respectively})\). Thus, H1 was supported.

For EFFORT, the results show that there was only a significant main effect of attribute-based limited IAS \((F(1.149) = 11.200, p < .01)\). This means that utilizing an attribute-based limited IAS makes the evaluation process effortless, regardless of the use of brand-based limited IAS. Specifically, the Brand Mania group and the Beginner group felt the evaluation task more effortful than the Brand Loyal group and the Variety Seeking group \((X = 5.16 (.88) \& 5.38 (.87) > 4.46 (1.28) \& 4.59 (1.06), \text{ respectively})\). Thus, H2 was partially supported.

For COMPLEX, the results show that there was a moderating effect of brand-based limited IAS and attribute-based limited IAS \((F(1, 149) = 3.545, p < .10)\). Interestingly, only the Variety Seeking group using only attribute-based limited IAS felt the evaluation

\(^2\) More precisely, exclusion of an attribute would occur when less than one-third of the attribute information displayed was acquired by the participant.
task was relatively less complex, compared to the Brand Loyal, the Brand Mania, and the Beginner groups ($X = 3.57 (1.36) < 4.47 (1.63), 4.31 (1.44),$ and $4.47 (1.30)$, respectively). This means that the utilization of attribute-based limited IAS does not make the evaluation process easy when consumers are simultaneously using brand-based limited IAS; however, when not using brand-based limited IAS, attribute-based limited IAS makes it easier. Thus, H3 was partially supported.

These results indicate that consumers show different characteristics with respect to time spent on processing each piece of information, the amount of perceived effort, and the degree of perceived task complexity depending on which limited IAS they utilize when evaluating alternatives. The participants of the Brand Loyal group spent more time on evaluating each piece of information, made less effort, and thought the task was
complex. On the other hand, those of the Brand Mania group spent relatively less time, made more effort, and interestingly, they also thought the task was complex. Those of the Variety Seeking group also spent relatively less time, made less effort, and thought the task was easy. Finally, those of the Beginner group spent the least time, but made more effort and thought the task was complex.

**DISCUSSION**

(1) **Implications**

Theoretically, this study sheds light on the importance of identifying the types of limited IAS consumers utilize because attribute-based limited IAS and brand-based limited IAS lead to different types of information processing. Previous research on this topic simply suggested that limiting the amount of information provided in product evaluations would make the whole process easy by reducing the amount of information consumers need to process. However, the results of this study indicate that the utilization of brand-based limited IAS leads consumers to process information in a unique manner compared to utilization of attribute-based limited IAS. In fact, the utilization of attribute-based limited IAS simplifies consumers’ information processing, a finding consistent with the previous literature. However, utilization of brand-based limited IAS does not necessarily make the task easy; in fact, it may make it difficult.

Managerially speaking, marketers should pay attention to the fact that, especially when brand-minded, consumers do not always pay attention to other attribute information simply because they are busy going through the brand information stored in their memories. Especially for consumers with a high level of brand loyalty, there is less need to differentiate products on the attribute level; for example, price competition may not work in a positive way. On the other hand, for those with a low level of brand loyalty, marketers have to focus on building strong, favorable, and unique brand associations in consumers’ minds through the differentiation of key attributes.

(2) **Limitations and Future Research Directions**

There are some limitations regarding the external validity in this study. The experiment deals with only one product category with convenient samples. Moreover, portable music players have a relatively complex product structure offering a variety of attribute information compared to simpler products, such as paper napkins or toothbrushes. Also, the three existing brand names are very popular in the market and are mostly seen favorably; however, unique brand names with low or no name recognition, or even a very bad reputation, might lead to different results. Further empirical studies are needed to overcome these limitations.

With respect to internal validity, the analysis did not deal with other key variables such as product knowledge, brand preference, or level of involvement because of the limited number of participants. These key factors are known to affect the product evaluation process, so another experiment needs to be done including these variables.
Finally, regarding construct validity, the measurement of the felt effort and the perceived complexity of the evaluation task did not contain multiple scales owing to the information load aspect of the experiment. Also, these measurements were only subjective. Comprehensive multiple scales need to be applied to measure these key variables to obtain more accurate findings.

Though having these limitations, this study sheds light on the important role of different strategies of limited information acquisition. Further research needs to be done to investigate the uniqueness of this phenomenon.

REFERENCES


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