

The Influence of Consumer Involvement on Consideration Set Composition in Japanese and German Consumers

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Introduction

It is obvious that consumers do not consider all available brands before purchasing; in fact, they only remember a few brands before making purchasing decisions. The set of brands considered is called a *consideration set* (originally *evoked set*) and can be defined as “the subset of brands in the product class that a consumer would consider buying out of the set of brands that he or she is aware of in a given product class” (Howard 1977, 32). Because the concept of consideration set has important implications for marketing, it has been frequently examined in previous research (for overviews, see Roberts and Lattin 1997).

An important aspect of the consideration set is its composition, and most previous research has focused on which brands tend to be categorized into the consideration set (e.g., Andrews and Srinivasan 1995; Erdem and Swait 2004). Furthermore, the factors that exert influence on consideration set composition have also been investigated (e.g., Chakravarti and Janiszewski 2003; Desai and Hoyer 2000; Irwin and Naylor 2009). Despite this research, it remains to be determined whether the brands categorized into the consideration set are the same among consumers when *consumer involvement* increases. Consumer involvement can be defined as “a person’s perceived relevance of the object based on inherent needs, values, and interests” (Zaichkowsky 1985, 342), and has emerged as one of the most prominent concepts in consumer research. This paper focuses on this concept, and specifically examines whether the influence of consumer involvement differs between countries. Consumers’ brand evaluation styles may differ from country to country (Walsh, Mitchell, and Hennig-Thurau 2001). That

is, it is possible that, as consumer involvement increases, the consideration set becomes more brand-diverse among consumers in one country, but has no effect on brand inclusion in another country. In addition, even if the direction of consumer involvement influence on consideration set composition is similar among countries (e.g., as consumer involvement increases, the same brands are categorized into the consideration set among consumers in each country, and vice versa), the power of this influence can vary among countries. In some countries, as consumer involvement increases, the brands that are categorized into the consideration set strongly converge, but this may not be true for all countries, and consumer involvement may have a less noticeable effect in certain locations.

Based on this research question, this paper explores whether the influence of consumer involvement on consideration set composition differs between Japanese and German consumers. Germany is the largest market within the EU; hence, the German market is attractive to Japanese firms because the Japanese market is already mature. German consumers' decision-making characteristics have been investigated by previous research (Mitchell and Walsh 2004; Walsh et al. 2001), but a direct comparison with Japanese consumers with regard to the research questions this paper addresses has not been conducted. Due to these factors, it is worthwhile to investigate the difference between Japanese and German consumers.

In addressing these research questions, we limit the investigation to products that are mainly bought for utilitarian, cognitive reasons (for a characterization of such products, see Claeys, Swinnen, and Vanden Abeele 1995). Although the influence of consumer involvement on consideration set composition may depend on product type, this paper narrows the search to the consideration set composition of the above product type.

Theoretical view and hypotheses

How can consumer involvement influence consideration set composition when the products in question are bought for utilitarian and cognitive reasons? Firstly, the definition of consumer involvement suggests that high-involvement consumers seek more information in purchasing situations, and conduct detailed evaluations (Laurent and Kapferer 1985; Mittal 1988). They also seem to seek higher standards of quality because of their interest in a particular product category. This activity creates a situation in which high-involvement consumers form a smaller consideration set (Belonax and Javalgi 1989), because they are able to evaluate the quality of each brand through detailed information searching and comprehensive processing. This may lead to the formulation of a clear brand ranking based on function and performance, and a stringent selection of brands for consideration.

The critical question is whether the brands categorized into the consideration set are the same among consumers. As a result of detailed and comprehensive brand evaluation, high-involvement consumers, by virtue of product attributes that are available as cues for objective brand evaluation, can recognize the best brands from the available alternatives. Due to these factors, it can be hypothesized that the brands that high-involvement consumers categorize into the consideration set are likely to be those that are functionally the best. On the other hand, low-involvement consumers tend to avoid detailed brand evaluation, and use a few attributes that are important to them. The brand evaluation criteria of low-involvement consumers are vague, so they are not able to find the functionally best brand. In this case, it is likely that the brands in their consideration set are more diverse than those that quality-conscious consumers prefer. Thus, we assume that there is more brand diversity in the consideration set of low-involvement consumers.

In this study, we assume that this tendency is common among countries and propose the first two hypotheses as follows:

H1a

In Japanese consumers, as consumer involvement increases, the same brands are categorized into the consideration set among consumers.

H1b

In German consumers, as consumer involvement increases, the same brands are categorized into the consideration set among consumers.

H1a and H1b indicate that the direction of the influence of consumer involvement on consideration set composition is the same for Japanese and German consumers. But the power of influence can vary among countries. Here we point out the difference in brand evaluation styles between Japanese and German consumers. Firstly, Japanese consumers are more likely to pay attention to attributes that do not have objective evaluation criteria, such as superiority, and therefore evaluate brands more subjectively than American, French, and Chinese consumers (Miura 2013). This means that Japanese consumers are likely to evaluate brands relatively affectively. Products that are mainly bought for utilitarian, cognitive reasons do have attributes that can only be evaluated subjectively, such as color (Miura 2013; Miura and Ito 2000). It is impossible to evaluate which colors are objectively the best, so consumers evaluate colors based on subjective self-preference. That is, even when purchasing products that are mainly bought for utilitarian, cognitive reasons, subjective brand evaluation is possible. Based on these considerations, we define Japanese consumers' evaluation style as follows: They evaluate brands in a logical manner to a large extent, and pay attention to attributes with objective evaluation criteria, but at the same time they also take notice of attributes without such criteria, allowing for subjective evaluation of brands.

In contrast to Japanese consumers, European consumers tend to pay attention to the attributes that can be evaluated objectively, and this is particularly true for German consumers (Miura 2013). Product quality is of utmost importance to German

consumers when purchasing (Mitchell and Walsh 2004; Walsh et al. 2001), which means that German consumers are likely to evaluate brands logically. Hence, we can summarize German consumers' brand evaluation style as follows: Germans place a higher value on attributes that can be evaluated objectively to determine superiority and, therefore, evaluate brands logically. We assume that, compared to Japanese consumers, brands with higher rated objective criteria will have an advantage when it comes to brand evaluation by German consumers.

Next, we consider a hypothesis regarding the difference in consumer involvement influence on consideration set composition between Japanese and German consumers if products in question are mainly bought for utilitarian, cognitive reasons. Firstly, we assume that with increasing consumer involvement, the brands that are categorized into the consideration set converge, and that this is a common occurrence between Japanese and German consumers. Despite these similarities, the power of consumer involvement influence is different for Japanese and German consumers due to differences in brand evaluation. As consumer involvement increases, Japanese consumers use objective evaluation criteria to decide which brands to categorize into the consideration set, and this leads to consumers including the same brands in their consideration sets. But Japanese consumers also assign value to subjectively evaluated criteria so, in all, their brand evaluation style is not entirely logical. Assigning value to subjectively evaluated criteria leads to behavioral diversity (Miura and Ito 2000). In this context, consumers evaluate attributes based on subjective preferences developed from their own values. These preferences vary from person to person. In the case of color (an attribute that can only be evaluated subjectively), preferred colors diverge rather than converge among consumers. Taking this into consideration, for Japanese consumers, as consumer involvement increases on the one hand, the brands categorized into the consideration set converge based on logical evaluation and, on the other hand, the brands categorized into the consideration set become diverse based on subjective evaluation. Because this study focuses on products that are mainly bought for utilitarian, cognitive reasons, we assume that the former influence is reflected in

the relationship between consumer involvement and consideration set composition. But the tendency that with increasing consumer involvement, consumers categorize the same brands into their consideration sets is weakened by the subjective evaluation. In contrast to Japanese consumers, German consumers are likely to evaluate brands based on logical characteristics only. This suggests that increasing consumer involvement leads to different consumers putting the same brands into their consideration sets. Based on this, the next hypothesis of our study is as follows:

H2

With increasing consumer involvement, German consumers are more likely to categorize the same brands into their consideration set than Japanese consumers.

Methods

Data collection and participants

To test our hypotheses, surveys were carried out in Japan and Germany. The surveys measured the degree of consumer involvement and the consideration set composition of each participant. Using Claeys et al. (1995) as a reference, we selected laptop computers as our test product, as they are mainly purchased for utilitarian, cognitive reasons.

In Japan, the surveys were performed in September of 2011, and in Germany they were performed from May to June of 2006. After collecting the data, we excluded the participants who did not categorize any brands into the consideration set. In the end, we included 136 undergraduate students enrolled in a public university in Tohoku for analyses of Japanese consumers. Similarly, a sample of 80 participants in Berlin, most of whom were students, was selected for analyses of German consumers.

Degree of consumer involvement

Consumer involvement was measured by the criteria established by Zaichkowsky (1985). Participants responded to the question “The purchase of this product is...” using three 7-point scales (important–unimportant, of concern to me–of no concern to me, relevant–irrelevant; Zaichkowsky 1985, 350). Cronbach’s alphas were .84 (test for H1a), .89 (test for H1b), and .86 (test for H2), respectively. We calculated the average of these three points (maximum 7, minimum 1) and this to indicate the degree of consumer involvement for each participant.

Consideration set composition

The consideration set composition was measured by the recognition method and the question, “Which brands do you want to buy?” Ten brands were listed in the questionnaire, and these brands differed between countries. Then, using Andrews and Srinivasan (1995) as a reference, an index of consideration set composition was calculated for each participant as follows:

$$P(C) = \frac{\prod_{i \in C} D_i \prod_{i \notin C} (1 - D_i)}{1 - \prod_i (1 - D_i)},$$

where D_i indicates the frequency that the i th brand was categorized into the consideration set, and can be calculated by the number of participants who categorized the i th brand into the consideration set divided by the sample size (136 for the Japanese participants and 80 for the German participants). Thus, each D_i ranges from 0 to 1. The calculated $P(C)$ also ranges from 0 to 1, and an index that is close to 1 indicates that the same brands are categorized into the consideration set among participants. In order to test our hypotheses based on regression analysis and the test for parallel regression lines (a part of ANCOVA), $P(C)$ was transformed as follows:

$$P^*(C) = \log\left(\frac{P(C)}{1-P(C)}\right),$$

and the transformed $P^*(C)$ was used as the conclusive variable. We assume for H1a and H1b that, as consumer involvement increases, $P^*(C)$ becomes larger. With regard to H2, the assumption in this study is that this tendency is more pronounced in German participants.

Data analysis

To test H1a, a regression analysis (method of estimation: OLS) was conducted using Japanese participant data, where the dependent variable was $P^*(C)$ for each Japanese participant, and the independent variable was the degree of consumer involvement. The sample size was 136. Similarly, to test H1b, a regression analysis (method of estimation: OLS) was conducted using the German participant data, where the dependent variable was $P^*(C)$ for each German participant, and the independent variable was the degree of consumer involvement. The sample size was 80.

To test H2, the regression coefficient, obtained from the test for parallel regression lines, was compared between Japanese and German participants. The total sample size was 216.

Results and discussion

The results (Table 1) show that, as consumer involvement increased, the consideration set for Japanese participants became more brand-diverse. These findings are the opposite of what we hypothesized in H1a. Furthermore, the effect of consumer involvement among German participants was not statistically significant; thus, these results do not support H1b.

Table 1

Influence of consumer involvement on consideration set composition

	coefficient	standard error	<i>t</i>	<i>p</i>
Japanese participants				
constant	-3.01	0.61	-4.94	< .001
involvement	-0.21	0.11	-1.88	.062
R ² .03				
German participants				
constant	-5.11	0.91	-5.63	< .001
involvement	0.11	0.15	0.74	.463
R ² .01				

Note: A positive coefficient of independent variable *involvement* indicates that, as consumer involvement increases, the same brands are categorized into the consideration set among consumers. A negative coefficient indicates that, as consumer involvement increases, the brands categorized into the consideration set become more diverse among consumers.

Why did the results differ from our hypotheses? A possible reason is the brand evaluation styles of Japanese and German consumers. This study postulates that while Japanese consumers evaluate brands logically, in the main, at the same time, they also evaluate them subjectively, German consumers only evaluate brands logically. From our results, however, we can infer that Japanese consumers are likely to evaluate brands mainly subjectively, and that German consumers logically and subjectively evaluate brands. For Japanese consumers, increasing consumer involvement mainly leads to subjective brand evaluation, which means that the brands included in the consideration set become more diverse. For German consumers, increasing consumer involvement leads to both logical and subjective brand evaluation. The former leads to the categorization of the same brands into the consideration set among consumers as hypothesized in this study. In contrast, the latter has the opposite result. Hence, by the balance of both influences, the diversity of brands in the consideration set appears stable, and is thus independent of the degree of consumer involvement for German

consumers. Therefore, German consumers tend to evaluate brands more logically than Japanese consumers, as we assumed, but the level of subjective brand evaluation in both groups is higher than we proposed.

Although these results differ from the hypotheses of this study, it is still worth considering whether the influence of consumer involvement on consideration set composition is statistically different for Japanese and German participants. The results from the test for parallel regression lines support this remark: $F(1, 212) = 2.87, p = .092$. Although H2 was not supported, the results show that while Japanese consumers have significantly more diverse consideration sets with increasing consumer involvement, German consumers do not show this tendency. It means that the degree of influence of consumer involvement differs between German and Japanese consumers and, accordingly, implies that the brand evaluation style also differs between these countries.

Conclusion

The objective of this study was to investigate whether the same brands are categorized into consumers' consideration sets when consumer involvement increases. We used German and Japanese consumers to investigate this question. Empirical results show that the influence of consumer involvement on consideration set composition is different for Japanese and German consumers. For Japanese consumers, increasing consumer involvement leads to a greater diversity of brands in consumers' consideration sets. However, German consumers did not have this tendency. From this information we can conclude that the influence of consumer involvement on consideration set composition differs from country to country. The main contributions of this study are in presenting this point empirically.

What managerial implications can be derived from these results? Firstly, for Japanese consumers, because high-involvement consumers categorize diverse brands into the consideration set, offering them only a few brands would be ineffective. In

order to appeal to high-involvement consumers, who subjectively evaluate brands, firms should offer diverse brands. For low-involvement consumers, firms should narrow down the brand offerings because they form relatively homogenous consideration sets. In any case, firms should have a strong understanding of the consumers' preferences. In contrast, for German consumers, based on the results of this study, adjusting the range of brands offered to fit the degree of consumer involvement would be relatively ineffective because the diversity of brands in the consideration set is constant among consumers. Therefore, the results of this study suggest that location, namely the country in which the consumers reside, will strongly affect the effectiveness of a marketing campaign.

The findings of this study can be best used when considering the study's limitations. Firstly, only one product category was examined in this study. Previous research argues that consumers' brand evaluation styles are dependent on product type (Claeys et al. 1995). Hence, the influence of consumer involvement on consideration set composition is likely to vary from product to product. Thus, the results of this study cannot be extrapolated to all products. Secondly, the hypotheses of this study were designed on the assumption that Japanese consumers evaluate brands mainly logically and partly subjectively, whereas German consumers evaluate brands in an entirely logical manner. The results of this study indicate that this may not be the case. In the next investigation, the brand evaluation styles of both groups should be reconsidered, and the influence of evaluation style on consideration set composition should be empirically examined. With respect to the empirical results, this investigation was conducted among a relatively small number of participants, and they were almost all students. Furthermore, the low coefficients of determination should be taken into account when interpreting the results for H1a and H1b. Similarly, the results of the test for parallel regression lines were statistically significant, but only marginally. These issues are especially relevant to the generalizability of the experimental results.

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