



Understanding consumer's brand categorization across three countries: Application of fuzzy rule-based classification



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ABSTRACT

In multi-brand situations, people categorize all known brands into subsets called consideration, hold, foggy and reject sets. This is the Brisoux–Laroche model. Traditional brand categorization models including this, assume that consumers can properly categorize each brand into these subsets. However, a brand with both perceived positive and negative attributes increases the difficulty for a consumer to decide about the placement into subsets. This study investigates consumers' brand categorization when a brand has both perceived positive and negative attributes. We propose that a brand may belong to more than one subset (decision fuzziness). Using fuzzy-rule-based classification, this is investigated across three cultures (Chinese, Japanese and Kazakhstan) and two product categories: Quick Service Restaurants (QSR) and beer. The findings confirm that decision fuzziness varies across cultures. Chinese consumers have less decision fuzziness for foreign brands than for local brands in the QSR market. In general, the opposite is found to be true for Japanese and Kazakh consumers.

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1. Introduction

As the number of brands in a product category increases, so does the difficulty for consumers to make a choice. Among all brands available, only some might be known to consumers. This subset is the consumer's awareness set. While some brands within this subset are considered for purchase, some are rejected. The first set of brands belongs to the consideration set and the rejected brands belong to the reject set. A consumer might hold opinions about some brands which they will not consider buying in the near future which constitute the hold set. However, there are some brands that are not even evaluated for purchase and these are in the foggy set. In the marketing literature, this conceptualization is called brand categorization (Brisoux & Laroche, 1980).

This taxonomy assumes that consumers are able to properly categorize each brand in these sets. However, an alternative with both perceived positive and negative attributes increases trade-offs and in turn decision difficulty (Chatterjee & Heath, 1996) which may lead to ambiguous categorization, or deferral of decision (Dhar, 1997). For example, during the Maple Leaf meat recall in 2009, consumers who were devoted users of the brand may have rejected it at that time. However, when the Maple Leaf CEO apologized and pledged consistent quality in the future, those who rejected the brand may have reconsidered the situation. Consumers hold some positive and negative opinions about the brand at the same time. This conflict makes the categorization decision difficult. How

do consumers categorize a brand in this scenario? The traditional model of brand categorization cannot distinguish these cases.

Drawing on literature, our study tries to fill the void by proposing that when a decision is not obvious in consumers' minds, a brand may belong to more than one subset of the awareness set. This phenomenon of one brand belonging to more than one set is termed decision fuzziness. According to the Brisoux–Laroche model of brand categorization, the levels of 'cognition about a brand', 'attitude towards the brands', 'confidence in evaluation' and 'purchase intention' determine a brand's categorization to either the consideration, hold, reject or foggy set (Table 1). Therefore, these determine decision fuzziness.

The next question is, does decision fuzziness vary across brands in a product category? Research showed that consumers' belief about appropriateness to purchase foreign made products (ethnocentrism) affects the attitude towards local and foreign brands and the purchase intention within a category (Watson & Wright, 2000). Therefore, ethnocentrism affects the determinants (attitude and purchase intention) of the decision fuzziness and in turn affects decision fuzziness of local and foreign products. Moreover, researchers showed that culture influences consumer ethnocentrism (Yoo & Donthu, 2005). Therefore, we believe that decision fuzziness varies across foreign and local brands and cultures, and it is important to examine the effect of culture on decision fuzziness of foreign and local brands. Thus, another goal is to investigate decision fuzziness across cultures (Chinese, Japanese and Kazakhs). We investigate this phenomenon across two categories (Quick Service Restaurant (QSR) and beer) for foreign and local brands. We also examine how this pattern of decision fuzziness can be modified by adding a managerially actionable positive attribute, a coupon, to the offering.

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Table 1
Brand categorization (Laroche et al., 2005).

| | Consideration set | Hold set | Foggy set | Reject set |
|------------|-------------------|----------------|-----------|--------------------|
| Cognition | High | Average to Low | Average | Low |
| Attitude | High | Average | Low | Lower than Average |
| Confidence | High | Average to Low | Average | Low |
| Intention | High | Average to Low | Low | Low |

To test the hypotheses, we applied the fuzzy rule based (FRB) classification on the Brisoux–Laroche brand categorization model. Unlike the probability based model, FRB provides degrees of membership or belongingness for more than one set at the same time and this is the central aspect to be investigated.

Next, we briefly review the literature on brand categorization and fuzzy rule based methodology. Then, in three studies, we examine decision fuzziness. The first explores decision fuzziness of the Chinese QSR market compared with the Japanese QSR market. In the second, the Japanese QSR market is compared with the Japanese beer market. In the last study, the Japanese and Kazakhstan beer markets are compared. We conclude with managerial implications and limitations.

2. Conceptual background

When faced with several brands in a category, consumers categorize the available brands into different sets. This “brand categorization” concept was first put forward by Howard (1963). In 1980, Brisoux and Laroche presented a complete brand categorization paradigm (Fig. 1). Accordingly, consumers classify all the brands in a category into two sets, namely the foggy (attributes are not processed) and the processed sets. The brands in the processed set are evaluated and put into either consideration, reject or hold sets. There are four determinants (cognitions, attitudes towards the brand, confidence in evaluation and purchase intentions) of each of the sets and these vary from low to high (Table 1).

The “cognitions”, “confidence in evaluation” and “purchase intentions” are “average to low” for the hold set, and “average” for the reject set. “Attitudes” are “average” for the hold set and “low” for the reject set. For example, consumers may have average cognitions and confidence towards well-known brands such as the Maple Leaf brand in Canada. However, consumers may not have clear attitudes and purchase intentions towards the brand because of a particular attribute (e.g., confusion from reconsidering the quality of the Maple Leaf meat after the CEO’s assurances). Consequently, attitudes and purchase intentions towards the brand may be between average and low. Now, if we classify the brand into one of these sets based on consumers’ cognitions, confidence in evaluation, brand attitudes and purchase intentions (Table 1), it is likely that the brand would belong to both the hold and reject sets

to similar degrees because of the overlapping of the determinant variables of the hold and reject sets.

Moreover, there is an intuition in the literature supporting this proposition. As mentioned by Yoon, Thompson, and Parsa (2009), these subsets of awareness set may not be mutually exclusive and thus, there exists the possibility of one brand belonging to more than one set. Therefore,

H1. A brand may belong to more than one subset of awareness set in the consumer mind.

This phenomenon of a brand’s belongingness to more than one subset of awareness in consumers’ minds is termed ‘pattern of decision fuzziness’. This pattern increases when multiple influences (positive and negative) act on consumers’ decision making processes.

2.1. Culture and decision fuzziness

As mentioned, studying decision fuzziness across cultures needs careful examination of the effects of culture on four variables (brand attitude, cognition, confidence in evaluation and purchase intention). In some cultures consumers have favorable attitudes and high purchase intentions towards foreign brands and in others they do not (Yoo & Donthu, 2005). Researchers suggest that culture affects consumer ethnocentrism which in turn affects the attitudes and purchase intentions towards buying foreign brands (Watson & Wright, 2000; Yoo & Donthu, 2005). Consumer ethnocentrism is “the beliefs held by consumers about appropriateness, indeed morality, of purchasing foreign made products” (Shimp & Sharma, 1987, p 280). Highly ethnocentric consumers have a less favorable attitude towards foreign brands. Researchers link the collectivism dimension of culture to consumer ethnocentrism (Yoo & Donthu, 2005). Studies also suggest that less favorable attitudes towards foreign brands are manifested more frequently among consumers with high collectivism (Balabanis & Diamantopoulos, 2004).

2.2. Choice of context

We examine decision fuzziness across three countries (China, Japan and Kazakhstan) with both foreign and local brands in each market. These countries are predominantly collectivist (Hofstede, 1991). Apart from geographical proximity, the cultural dimension scores (Table 5) are similar. By choosing these countries, we see a range in scores and thus differences within the collectivist umbrella. China portrays a classic example of collectivism, Japan is less so, with Kazakhstan somewhere between the two.

We chose foods as our product category since food taste preferences are shaped by culture (Wright, Nancarrow, & Kwok, 2001). They noted that marketers need to recognize the “tension” between the local

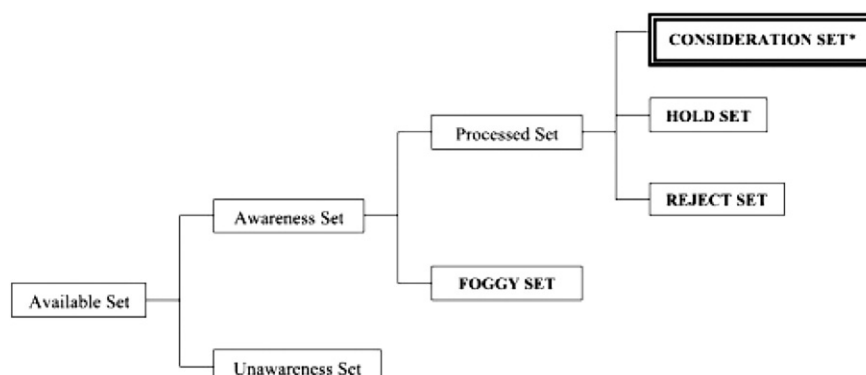


Fig. 1. The Brisoux–Laroche model of brand recognition.

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