

Brands as Signals: A Cross-Country Validation Study

This article tests how well the information economics view of brand equity explains consumer brand choice in countries that represent different cultural dimensions. In this empirical analysis, the authors use survey and experimental data on orange juice and personal computers collected from respondents in Brazil, Germany, India, Japan, Spain, Turkey, and the United States. The results provide strong empirical evidence across countries for the role of brands as signals of product positions. In addition, the positive effect of brand credibility on choice is greater for consumers who rate high on either collectivism or uncertainty avoidance. Credible brands provide more value to collectivist consumers because such consumers perceive these brands as being of higher quality (i.e., reinforcing group identity). Credible brands provide more value to high-uncertainty-avoidance consumers because such brands have lower perceived risk and information costs.

A brand—understood to be “a name, term, sign, symbol, or design, or a combination of them, [that] is intended to identify the goods and services of one seller or a group of sellers and to differentiate them from those of competitors” (Kotler 1997, p. 443)—can potentially play many roles in consumer decision making and choice behavior. Underlying many of the brand effects is consumer uncertainty about product attributes and/or benefits. This uncertainty arises from the imperfect and asymmetric information state that characterizes most product markets (i.e., firms are more informed about their own products than are consumers).

The many roles that brands play in consumer decision making can materialize through multiple mechanisms, such as psychological (e.g., associative network memory), sociological (e.g., brand communities), and economic (e.g., brands as signals under uncertainty) processes (Keller 2002). Prior work on brands as signals under uncertainty (e.g., Erdem and Swait 1998; Wernerfelt 1988) focuses on the influence of imperfect and asymmetric information on consumer choice processes. Specifically, Erdem and Swait (1998) suggest that the clarity and credibility of brands as signals of product positions increase perceived quality, decrease consumer perceived risk and information costs, and thus increase consumer expected utility. They also dis-

cuss the antecedents to credibility and clarity. In this framework, the key characteristic of a brand signal is its credibility. “Brand credibility” (the credibility of a brand as a signal) is defined as the believability of the product position information contained in a brand, which depends on the willingness and ability of firms to deliver what they promise.

Most previous work using information economics frameworks to explain brand credibility and brand equity focuses only on the United States. The validity of existing frameworks in predicting consumer behavior in regard to brands as signals and outcomes outside the United States is not clear. With the growing trend in the globalization of marketing activities and the importance of brands in accomplishing many of these activities, there is a pressing need to address explicitly whether existing frameworks are compatible with consumer behavior outside the United States and, if not, to delimit their scope of application. Despite this practical impetus and growing theoretical interest, relatively little work examines the use of signals or extrinsic cues to judge quality across countries and/or cultures.

The purpose of this article is twofold. First, we test how well the information economics view of brand equity explains consumer brand choice and brand equity formation in different countries. Specifically, we assess the applicability of Erdem and Swait’s (1998) framework across countries representing different cultural dimensions.¹ Second, we highlight some differences across countries. More specifically, we explore differences in the way brands as signals operate across countries and link any such differences to consumers’ cultural orientation. We believe that three of Hofstede’s (1980) cultural dimensions (collectivism/individualism, uncertainty avoidance, and power dis-

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¹Note that Erdem and Swait (1998) collected survey data on consumer self-reports of perceptions and purchase intentions and estimated a structural equation model (SEM) based on these survey data to assess the impact of brands as signals of expected utility, omitting price effects. In this article, using surveys, we collected consumers’ self-reports of their perceptions and experimental data about their choices, and we estimated SEMs and brand choice models; for the latter, we also incorporated price effects.

tance) may particularly affect the way consumers use and think about brands as signals.

We conducted our analysis using survey and experimental data on orange juice and personal computers (PCs). We collected data on consumer brand perceptions, choices, and cultural dimensions from respondents in Brazil, Germany, India, Japan, Spain, Turkey, and the United States. We chose these countries to represent a wide range of Hofstede's (1980) cultural dimensions. All respondents were undergraduates in business schools (except for about half of the Brazilian sample, who were undergraduate engineering students) and participated in exchange for course credit. The results we obtained provide strong empirical evidence for brands as signals of product positions in general and for Erdem and Swait's (1998) framework in particular across countries that vary along the previously mentioned cultural dimensions. However, some interesting differences emerge in terms of both total credibility effects on choice and the mechanisms through which brand credibility effects on utility operate.

We organize the rest of the article as follows: In the next section, we review the relevant literature and discuss the conceptual framework. We then develop several hypotheses to be tested and describe the empirical approach and the data collection. The last section outlines the implications of our findings and discusses avenues for further research.

Literature Review and Conceptual Framework

Brands Under Uncertainty

The effect of uncertainty about brand attributes (in more general terms, a brand's position in the attribute space) on consumer choice has been the focal point of economics approaches to brand effects. Uncertainty affects consumers' perceptions of brand attributes, the variance of their attribute beliefs, and their information costs. The literature in both economics and marketing has focused on quality uncertainty, which is conceptualized and measured as a multidimensional construct (as a summary statistic of a brand's position in the space for attributes that are imperfectly observable). Aaker (1991) suggests that, all else being equal, strong brands are associated with higher perceived quality, which refers to mean beliefs about quality. Uncertainty about quality also implies that there is variance with consumer beliefs about quality for a given consumer (if consumers knew quality exactly or believed that they knew it exactly, the variance would be zero). This creates consumer perceived risk, and consumers tend to be risk averse in most contexts. Risk aversion affects consumers' decision making in various ways (e.g., Rao and Bergen 1992; Shimp and Bearden 1982). Risk-averse consumers feel threatened by ambiguous and uncertain product assessments. In this context, the literature suggests that brands can reduce perceived risk by becoming credible and consistent symbols of product quality (Erdem and Swait 1998; Montgomery and Wernerfelt 1992).

When there is quality uncertainty, especially in the presence of risk aversion, consumers tend to search for more information about product quality before making a decision

(Money, Gilly, and Graham 1998; Shimp and Bearden 1982).² However, such information may often not be available or may not be credible if it is available. If it is available and credible, consumers may not be willing to bear large information costs, because utility decreases with increasing information costs. Consequently, consumers may resort to extrinsic cues, such as price, advertising, or channel choice, to infer product quality (Zeithaml 1988). For example, brand as a cue of quality could be particularly useful in countries (e.g., India) in which the quality of the products may vary widely in a given product category (Maxwell 2001).

The signaling literature in economics focuses on which conditions cause these cues to become credible signals (i.e., manipulatable attributes or activities of economic agents to convey information about their characteristics; see, e.g., Spence 1974). A firm can use various marketing-mix elements to signal product quality (e.g., charging a high price, offering a certain warranty, distributing through certain channels). Each of these actions may or may not be credible depending on market conditions, including competitive conditions and consumer behavior. However, what sets brands apart from the individual marketing-mix elements as credible signals is that the former embody the cumulative effect of prior marketing-mix strategies and activities. The historical notion that credibility is based on the sum of prior behaviors has been referred to as "reputation" in the information economics literature (see Herbig and Milewicz 1995).

Credibility is broadly defined as the believability of an entity's intentions at a particular time. Credibility is posited to have two main components: expertise and trustworthiness (Rao and Ruekkert 1994; Wernerfelt 1988). Thus, brand credibility is the believability of the product information contained in a brand, which requires that consumers perceive the brand as having the ability (i.e., expertise) and willingness (i.e., trustworthiness) to deliver continuously what has been promised (brands can function as signals because if and when they do not deliver what is promised, their brand equity will erode). All else being equal, the credibility of a brand has been shown to be greater for brands with greater marketing-mix consistency over time and greater brand investments (Erdem and Swait 1998). Consistency refers to the degree of harmony and convergence among the marketing-mix elements and the stability of marketing-mix strategies and attribute levels over time. Brand investments are resources that firms spend on brands to (1) assure consumers that brand promises will be kept and (2) demonstrate long-term commitment to brands (Klein and Leffler 1981). Furthermore, it has also been shown that the clarity (i.e., lack of ambiguity) of the product information contained in a brand is an antecedent to brand credibility (Erdem and Swait 1998).

As Aaker (1991) also suggests, higher perceived (or expected) quality, lower information costs, and lower risks associated with credible brands can increase consumer

²Specifically, in cross-cultural contexts, consumers in cultures that rate high in collectivism and uncertainty avoidance have been shown to use personal information sources more often than those that rate low on these two cultural dimensions (Dawar, Parker, and Price 1996).

evaluations of brands. Using structural equation models (SEMs), Erdem and Swait (1998) show that expected utility increases with perceived quality and decreases with perceived risk and information costs; in turn, these are anteceded by brand credibility.

Brand Effects Across Countries and Cultural Dimensions

Few previous studies examine the use of signals or extrinsic cues to judge quality across countries and/or cultures. Dawar and Parker (1994) find that there are few differences in the use of price to signify quality for a highly homogeneous segment of consumers across both Western countries and Japan. McGowan and Sternquist (1998) compare Japanese and U.S. consumers in terms of their price-quality schema, prestige sensitivity, and value consciousness. The results indicate that price-inference behaviors may be market universal. However, these studies focus on comparing consumer price-quality perceptions across developed markets. In inefficient markets, such as those of less-developed countries, consumers may believe in the price-quality relationship to a lesser extent because price information is less credible (Zhou, Su, and Bao 2002). As a result, consumers in such markets may need to rely more on certain other signals to infer quality because the usual product information is less available or less reliable.

Prior research has also attempted to link brand choice to several cultural dimensions (e.g., Cray and Mallory 1998; Trompenaars and Hampden-Turner 1997; Voich 1995). Particularly, Hofstede's (1980, 1984) influential work on cross-cultural value systems identifies three aspects of cultures that can be related to brand choice: collectivism/individualism, uncertainty avoidance, and power distance.³ Although Hofstede conducted his research in organizational settings, the values he identifies have often been associated with consumer behavior, such as consumer tipping behavior (Lynn, Zinkhan, and Harris 1993), country-of-origin effects on product evaluations (Gurhan-Canli and Maheswaran 2000), value-attitude relationships (Gregory, Munch, and Peterson 2002), persuasion effects (Aaker and Maheswaran 1997), consumer innovativeness (Steenkamp, Hofstede, and Wedel 1999), and behavioral intention models (Lee and Green 1991).

The marketing literature has been particularly keen in examining the cultural dimensions of collectivism and individualism. The collectivism/individualism dimension relates brand usage to social motivations (Hofstede 1980). Cultures that are high in individualism tend to seek variety and hedonistic experiences, whereas cultures that are high in collectivism correlate more with conformity and group behavior. Roth (1995) finds support for the hypotheses that

³Hofstede had a fourth dimension, masculinity, and later added time orientation as a fifth dimension. We chose not to focus on masculinity, because the scale he developed combines two separate (though related) components: (1) attitudes toward gender roles and (2) attitudes toward quality of life. No straightforward expectations can be generated about how these might affect brand credibility effects. We pretested the impact of time orientation. However, there was not enough variation across countries on this dimension to study it further.

collectivist cultures consider brands that reinforce group membership and affiliation more attractive, whereas individualistic cultures favor brands that reinforce their independence and provide individual gratification. Furthermore, collectivist societies value consensus, which makes them loyal to the dominant brand (Robinson 1996). Research into the symbolic meaning of brands indicates that brand names are an important symbol of group identity in collectivistic societies (Johansson, Ronkainen, and Czinkota 1994). Finally, previous literature has found that the degree to which other people influence the consumer purchase decision is a factor that may affect brand attitudes across national cultures. Particularly, Nicholls, Roslow, and Dublish (1997) show that a collectivist subculture (Hispanic consumers in the United States) tends to be more susceptible to social influence than an individualistic subculture (their Anglo counterparts). For example, collectivist consumers considered the influence of friends in the choice of a favored brand very important.

In this article, and given our focus on brands as signals, it is likely that the most relevant cultural mechanism is uncertainty avoidance. Uncertainty avoidance refers to "the extent to which people feel threatened by ambiguous situations and create beliefs and institutions that try to avoid these" (Hofstede and Bond 1984, p. 418). This concept captures the cultural pattern of seeking stability, predictability, and low risk rather than change and new experiences (Hofstede 1984). Consequently, consumers in cultures that are high in uncertainty avoidance tend to favor credible and consistent brands (Dawar and Parker 1994; Robinson 1996).

Another cultural dimension, power distance, describes the extent to which a culture fosters social inequality. Cultures that are high in power distance tend to emphasize prestige and wealth in shaping boundaries or vertical relationships between social and economic classes, such as rich/poor and superiors/subordinates (Hofstede 1984; Inkeles 1960). If the aspects of cultural power distance are related to consumer needs, it appears that social brand images should be the best fit for high-power-distance cultures. Prior research confirms that consumers in high-power-distance cultures attach more importance to products' brand names than consumers in low-power-distance cultures (Bristow and Asquith 1999; Robinson 1996; Roth 1995). However, when power distance is high, consumers also tend to "distrust" authority (Hofstede 1980). In turn, greater distrust of authority may diminish brand credibility effects, counterbalancing the stronger positive impact of the relationship between social status and brand names.

Applicability of the Information Economics Perspective to Brand Effects Across Countries and Cross-Cultural Differences in the Use of Brands as Signals

Erdem and Swait (1998) show that brand credibility (1) increases perceived quality, (2) decreases perceived risk, and (3) decreases information costs, all three of which (4) increase consumer (expected) utility. We expect these main relationships to hold across countries but to be moderated