

Marketing Universals: Consumers' Use of Brand Name, Price, Physical Appearance, and Retailer Reputation as Signals of Product Quality

Marketing universals are defined as consumer behaviors within a segment and toward a particular product category that are invariant across cultures. Using several definitions of culture and three different criteria for universality, the authors evaluate whether the use of brand, price, retailer reputation, and physical product appearance as signals of quality are marketing universals for consumer electronics products. Using a sample representing 38 nationalities, they find that there are few differences in the use of quality signals across cultures for a high priority segment of consumers. They draw conclusions for the adaptation versus standardization debate and argue that certain behaviors are likely to be universal, whereas others are not. Understanding such differences is essential to designing international marketing strategies.

Efforts to internationalize products present marketing managers with important challenges. Hair care products, home/office equipment, medical products, motion pictures, consumer electronics, and various industrial products are now often launched simultaneously on two or three continents, making the "localize versus standardize" debate an urgent and important one in terms of the stakes involved (Levitt 1983). Managers must balance using culture or national borders as a segmentation criterion with identifying one or two key segments based on individual (or noncultural) consumer characteristics across countries (Price 1992). The former criterion is appropriate when consumer behavior is "culture bound," as it is for certain food products, leading to local adaptation strategies. The latter is more pertinent for "culture-independent" behavior, as it is for medical products, leading to globalized strategies. Despite increased managerial and academic interest in this area, Jain (1989, p. 70), in an extensive review of the literature, notes that "empirical studies in the area of international marketing are limited," especially those that focus on "gaining insights into the standardization issue." On the basis of a comprehensive review of research in international marketing, Douglas and Craig (1992, p. 299) call for "further research to identify potential cross-national segments and their characteristics." Farley and Lehmann (1992), in a review of international studies of marketing re-

sponse, also note the lack of research emphasizing cross-national similarities, or "laws," in marketing. We respond to these calls by proposing a research approach to detect "marketing universals," defined as segment- and product-specific consumer behaviors that are invariant across cultures or countries. We illustrate this approach using psychographic, demographic, and economic data from a matched sample representing over 30 nationalities. We demonstrate how international marketing managers can choose better between emphasizing cultural differences and playing up differences at the individual consumer level when formulating international segmentation and marketing mix strategies.

We begin our discussion by outlining the critical methodological issues involved in testing for similarities in behavior across cultures. From a managerial perspective, the choice between adaptation and standardization across markets must explicitly consider the differences and similarities in consumer behavior for a particular setting. For example, a seller of medical diagnostic equipment and supplies is most interested in evaluating the impact of culture on sales to narrow segments across countries (e.g., doctors, hospital administrators, health officials). For most managerial situations, general tests of cultural differences across total populations would be irrelevant, given that most products are targeted to specific segments (even within a given culture/country). In our study, we consider marketing universals for consumer electronics products; the relevant (high-priority) segment across countries for this category are relatively young, mobile, affluent, and educated consumers. In particular, we examine an area of consumer behavior that recently has received great attention: consumer's use of product quality signals. In setting prices, for example, managers

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make assumptions about the extent to which, say, British consumers use price as a signal of product quality versus French or Japanese consumers. Should the degree of signal use differ substantially across countries, segmentation and adaptation of the marketing mix based on culture may be optimal; if not, we might conclude that signal use levels are universal, and standardization may be warranted for similar segments across cultures.

Our study focuses on the four product quality signals that have received the greatest attention in the marketing and economics literature: branding, pricing, physical features, and retailer reputation (often called "store name") (see, for example, Brucks and Zeithaml 1991; Enis and Stafford 1969; Milgrom and Roberts 1986; Olson 1977; Rao and Monroe 1989; Wheatley and Chiu 1977; Wolinsky 1983). As stated in a review by Rao and Monroe (1989, p. 351), the results from over two decades of research on this topic have yielded "little consensus on the magnitude, generalizability, or statistical significance" of signal use. Furthermore, the literature has yet to consider whether these signals, which are fundamental to marketing, are used to the same degree by consumers in all cultures. Naturally, the degree of universality in consumer behavior is at least partly due to the product category chosen for study. There may be less universality for products such as food, for which consumer behavior is more culture bound. Although our study is limited to one broad product category (consumer electronics), it illustrates a procedure for testing marketing universals while providing substantive findings with respect to signal use. We conclude with a discussion of our findings and suggestions for further research in this area.

Investigating Marketing Universals

To explore the cultural versus individual segmentation controversy, it is important that we consider two methodological concerns: (1) What are appropriate definitions of culture and their implications for sample characteristics? and (2) How can one substantively test the universality of a consumer behavior?

Defining Culture and Sample Requirements

Many cross-cultural studies take random samples in several countries and perform various mean or variance tests to demonstrate similarities or differences in behavior (see Green and Langeard 1975; Hempel 1974; Lorimer and Dunn 1968). This approach is not appropriate for studies of marketing universals that focus on a particular product being launched in several markets and targeted to specific segments. One serious drawback of randomly selecting respondents is that factors other than culture that differ across countries may drive the observed differences in behavior; in other words, noncultural factors may be confounded with cultural factors (see Clark 1990; Farley and Lehmann 1992; Katona, Strumpel, and Zahn 1973). For example, it may be that one country is poorer than another, and therefore we would find differences; if we accept per capita income as an appropriate definition of culture, then the rejection of similarity is justified. However, if we were to compare persons with similar incomes across cultures (even across countries

with very different average incomes), we may no longer find statistical differences—the rejection of similarity may not be warranted (i.e., noneconomic differences might have no effect, given that similar consumer segments are compared in both countries). Matching samples on relevant segmentation criteria is proposed by researchers who find that marketers should identify segments (in, for example, both rich and poor countries) that represent the same target market to understand actual cultural differences (Kale and Sudharshan 1987; Levitt 1983; Sheth 1986; Simmonds 1985). Which matching criteria are used will depend on the category studied but will most likely include economic criteria (wealth, professional status) and/or demographic criteria (age, marital status, lifestyle, family size) that characterize specific segments (Anderson and Engledow 1977; Engledow, Thorelli, and Becker 1975; Katona, Strumpel, and Zahn 1973). For example, we would sample doctors for medical products, engineers for technical industrial products, and farmers for agricultural products; samples drawn should be representative of the segments targeted by the marketer, and not of the overall population of each culture or country.

Once relevant segments and matching criteria have been chosen, a prerequisite to the study of multiple cultures is a clear definition of cultural groups, with boundaries that are believed to yield some commonality within and diversity between groups. Operationally, Hall (1966) identifies the most important characteristic of culture for our study: Culture is common to members of "cultural groups," or clusters with well-defined boundaries. For example, language might be seen as a cultural dimension that delineates well-defined groups (anglophone versus francophone) because all members of one group have a common bond that is not shared by other groups. Often, nationality is used as a surrogate for culture because all members of a given national group typically share a similar history, language, and political and educational environment. As discussed previously, a person's demographic status (e.g., profession, marital status), economic status (e.g., income, wealth), and psychographic profile (e.g., extrovert versus introvert) are not typically considered cultural dimensions, unless all members of each culture generally share in these dimensions (e.g., not all Germans have the same standard of living or profession). Ultimately, it is internal commonality within samples that determines the operational definition of culture in most cross-cultural studies in marketing.

Most international marketing studies evaluate two or three cultures whose boundaries are defined by nationalities (e.g., Japan and the United States). Clark (1990) distinguishes "cross-cultural" studies as those that compare two or more national groups and "national character" studies as those that define cultures on the basis of underlying behavioral (or other) variables; the former method enables us to extrapolate to populations within each national group, the latter to groups with common traits. In evaluating marketing universals, the use of multiple definitions of culture is appropriate. As described subsequently, the definitions adopted for our study include two cross-cultural comparisons made on the basis of (1) nationality and (2) ethno-

geographic trade area; and two national character comparisons made on the basis of (3) national behavioral traits and (4) state of the retail marketing infrastructure. If marketing universals exist, they should be independent of the definition of culture adopted. For the present study, four definitions (discussed in the next section) were chosen for their interpretability and managerial relevance. Typical cross-cultural studies use a single definition of culture, potentially limiting their conclusions to that particular definition.

Testing for Marketing Universals

Researchers can investigate marketing universality on three levels: (1) the existence of specific consumer behaviors, (2) the relative order of importance of behaviors across cultures, and (3) the absolute level of behavior across cultures, or the independence of behavior from culture. According to this hierarchy, at the first level the behavior of interest *exists* in all cultures. Some anthropological studies of cultural universals have used existence tests (Murdock 1945). For example, to find whether humor is universal, anthropologists observing the behavior of humans in various cultures found that a universal exists if all cultures studied demonstrate some existence (though not all people in the culture use or participate in the activity to the same degree). Although we may be interested in the universal existence of certain consumer behaviors, a simple existence test would not be sufficiently informative in the marketing context. The second level of universality requires the more rigorous criterion of similar rank order of use/importance. For example, the British may be more responsive to brand advertising than the reputation of the retailer; the opposite may be true for the French. Budgets may be equal (proportional) across countries, though the relative weight accorded to each element varies. If the rank order of importance for a set of consumer behaviors is identical across cultures, then managers should consistently allocate efforts in a similar order across marketing activities (e.g., always focus on brand image first, retail reputation second, etc.).

Relative universals, however, do not entail an identical allocation of resources across cultures or countries. For example, brand image may be ranked most important in all cultures, but may be extremely important in Britain and less consequential in Germany, relative to Britain. The most stringent criterion of universality requires that there be no meaningful difference between the absolute levels of behavior across cultures. It is likely in such cases that individual differences dominate cultural differences in explaining behavior. Universals in levels require that the absolute level of behavior be the same across cultures. Clark (1990) formulates a general hypothesis, which is commonly used in cross-cultural studies and appropriate for testing differences in levels:

- H₀: Consumers in different cultures exhibit the same levels of (a specific) behavior.
- H₁: Consumers in different cultures exhibit differing levels of (a specific) behavior.

Although this general formulation may be appropriate when testing for differences across cultures or countries, the

strongest possible statistical test for universality using such a formulation is limited to the nonacceptance of the alternative. Clearly, if we were to perform a census across two cultures (or if sample sizes were very large), we necessarily would find some statistical differences in the level of signal use and therefore would have to reject the notion of strict universality in levels (the null hypothesis is no difference in levels). The impossibility of accepting the null hypothesis on "identical behavior" prevents a strict statistical test of universality in levels. Given the nature of classical hypothesis testing, therefore, we would classify consumer behavior as a marketing universal of absolute importance if we observe no statistical difference in mean behavior from one culture to another (given appropriately large samples and a predetermined rejection criterion) and if the variance in individual behaviors is statistically independent of one's culture (given the various definitions of culture). The logic behind this is akin to that of a pooling test. Two samples can be pooled if no statistical differences are observed, given appropriately large sample sizes and predetermined rejection criteria.

This test rationale places emphasis on managerially relevant differences, as opposed to statistical differences. We must be formal in stating that this "test" does not imply a statistical acceptance of the null hypothesis, but rather a "substantive" acceptance of the null hypothesis (differences will certainly exist across any two populations, but these will be small or managerially inconsequential; see Sawyer and Peter 1982).

Study

In the following discussion, we consider marketing universals in a cross-cultural study of the use of signals of quality by consumers. After briefly reviewing the theoretical literature in this area, we describe our study and summarize our findings.

Theoretical Background: Consumers' Use of Product Quality Signals

In choosing among competing brands, consumers are faced with uncertainty of product performance and, more generally, quality. With neither infinite time horizons nor the incentive to perform thorough comparative studies prior to purchase, consumers are likely to rely on heuristics to gauge quality across competitive products. Both the economics and marketing literature have found that signals mostly serve as heuristics in assessing product quality when (1) there is a need to reduce the perceived risk of purchase (Jacoby, Olson, and Haddock 1971; Olson 1977), (2) the consumer lacks expertise and consequently the ability to assess quality (Rao and Monroe 1988), (3) consumer involvement is low (Celci and Olson 1988), (4) objective quality is too complex to assess or the consumer is not in the habit of spending time objectively assessing quality (Allison and Uhl 1964; Hoch and Ha 1986), or (5) there is an information search preference and need for information (Nelson 1970, 1974, 1978). The most prevalent signals studied include brand names (Akerlof 1970; Darby and Karni 1973; Olson 1977; Ross 1988) or brand advertising (Milgrom and

Roberts 1986), product features or appearance (Nelson 1970; Olson 1977), price (Leavitt 1954; Milgrom and Roberts 1986; Olson 1972, 1977; Rao and Monroe 1989; Scitovsky 1945; Wolinsky 1983), and product/retail reputation, store names, warranties, or guarantees (Cooper and Ross 1985; Emons 1988; Olson 1977; Rao and Monroe 1989).

Although few generalizable results have emerged, brand names have been found to be more important than price, which is in turn more important than physical appearance; retail reputation or store name has been found to be least consequential in signaling product quality (Jacoby, Szybillo, and Busato-Schach 1977; Rao and Monroe 1989). The relative importance of these signals generally follow their specificity, or the extent to which a particular signal is not shared across competitive products. A brand name, for example, typically is shared by only a few products within a competitive line of products and is therefore a very specific signal. Prices and physical features, on the other hand, can be shared to a greater extent across competing products and are therefore less specific. Retailer reputation is even less specific, because a typical retail function is to sell several competing product lines having a relatively broad range of quality. The more specific a signal, all else being equal, the more likely it will provide information that is useful in an assessment of product quality. This distinction is consistent with the belief that signals are relied on as a function of their predictive value (the extent to which the consumer believes that the signal is predictive of a product characteristic such as product quality; see Cox 1962; Olson 1972, 1977). As noted by Rao and Monroe (1989, p. 351), however, the generalizability of these findings is limited. To our knowledge, the overall relative rank order across the four signals we consider have been observed only in studies of consumers from the United States.

Culture and the Use of Signals

Are the empirical results on signal use reported in the literature specific to the country in which they were conducted (the United States)? Unless signal use is universal in all respects (existence, relative importance, and absolute importance), one might expect to find substantial differences in the use of signals to the extent that the factors contributing to signal use also vary from one culture to another. Although not all the factors reviewed previously have been studied on an international basis, some studies have argued or empirically demonstrated international variation for factors that could contribute to signal use: risk aversion (Hofstede 1980; Hoover, Green, and Seagert 1978; Mitchell and Greatorex 1990) and expertise, reflecting life cycle effects (Jain 1984; Kirpalani and MacIntosh 1980; Parameswaran and Yaprak 1987).

On the basis of the theoretical arguments presented previously, one can hypothesize that signal use should be correlated positively to a culture's risk aversion level. Signal use may be correlated negatively to a culture's level of expertise (or product familiarity), provided that expertise implies less reliance on signal use for the category studied; as Rao and Monroe (1988) note, however, experts may be-

come more dependent on signals, given their better understanding of the relationship between, say, brand names and quality.

Some authors have argued that existing differences across cultures have minimal or no impact on certain consumer behaviors (Elinder 1961; Fatt 1964; Levitt 1983; Ohmae 1985; Roostal 1963). In an extensive review, Douglas and Craig (1992, p. 298) find that studies of organizational buying behavior, consumer cognitive processes and information seeking patterns, consumer attitudes relative to complaining, consumers' response to advertising, and levels of involvement with products "often find strong similarities among consumers across countries." This convergence often is argued to be the result of the high penetration of mass media advertising in all societies, increased competition among products and media, increased globalization of products, and increased international mobility of consumers. The effects of languages, educational institutions, customs, and other culture-specific factors are swamped by these converging forces (Levitt 1983). Some authors argue, however, that such convergence has not occurred or that the differences actually are increasing (Boddewyn 1981; Fisher 1984; Fournis 1962). This debate highlights the importance of empirical studies of consumer behavior across cultures. The next section describes our empirical contribution to this debate with respect to signal use.

The Data

Sample Characteristics

Testing for marketing universals requires a matched sample of respondents (i.e., identifying a relevant segment for a particular product category) across countries to avoid attributing differences to unrecognized definitions of culture. We consider consumer electronics products, for which the target segment has been identified as young, mobile, affluent, and educated consumers; this product-segment combination was identified by companies that motivated aspects of this study and previous academic studies on such products (see review in Gatignon and Robertson 1985). The questionnaire was administered to 691 masters of business administration students representing 38 mostly Western industrialized countries and Japan (640 responses were useable/complete). An OECD-oriented sample is managerially desirable, given that some 60-70% of consumer electronics are sold in those countries. Had we considered agricultural equipment, or certain other categories, our sample would underrepresent countries of managerial interest.

The MBA admissions criteria provide an effective and expedient matching procedure for our study, given that such consumers represent a primary target segment for the category considered. Respondents are matched, in part, by the admissions procedure on the basis of age, education, professional aspiration, academic potential, and, indirectly, general income levels. For culture clusters as defined by Hofstede (1980), Table 1 shows the relative sample sizes, proportions, means, and standard deviations for various individual and country/culture measures. As the statistics reported in Table 1 indicate, the sample is well-matched on several in-

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TABLE 1
Panel A
Sample Characteristics Across Hofstede's Culture Clusters^a

Characteristics	Latin (N=202)	Germanic (N=85)	Anglo (N=238)	Nordic (N=62)	Other (N=53)	Total (N=640)
Age	28.7 (2.7)	28.3 (2.4)	27.8 (2.2)	28.4 (2.4)	28.6 (2.2)	28.3 (2.4)
Years at university	6.5 (1.2)	6.1 (1.2)	5.2 (1.3)	6.4 (1.3)	5.9 (1.8)	5.9 (1.4)
% male	92.1	89.4	73.1	87.1	88.7	83.9
% married	44.5	37.6	22.3	25.8	37.7	32.9
% with children	30.5	14.1	8.0	8.2	18.4	16.7
% owning house	36.0	31.8	46.2	45.2	46.0	40.9
% owning car	89.6	95.2	82.4	87.1	75.0	86.2

^a Standard deviations are in parantheses.

Panel B
Percentage of Respondents Reporting Use of Information Sources, by Culture

Information Source	Latin (N=198)	Germanic (N=83)	Anglo (N=235)	Nordic (N=62)	Other (N=53)	χ^2
Personal friends	97.47	97.59	96.17	98.39	96.23	1.32 ^c
Consumer magazines	67.86	65.48	78.72	50.00	83.02	26.0 ^a
Salespeople	62.69	68.29	75.00	80.33	50.00	19.3 ^a
Newspaper	42.42	61.45	43.53	54.84	48.08	11.28 ^b
TV commercials	21.24	17.07	25.88	25.81	30.00	4.5 ^c
Radio commercials	5.18	3.57	7.93	4.84	10.00	3.80 ^c

^a $p < .001$

^b $p < .05$

^c p not significant

dividual-level criteria such that the subsample from any cluster is comparable to the subsample from any other cluster on several demographic variables (age, marital status, education). The most important question in the marketing context is whether these respondents are likely to represent the young, affluent, mobile, and educated consumers from their countries/cultures of origin. The sample generally consists of young (mean = 28 years of age) professionals who are at similar stages in the family life cycle (mostly single, with many owning one home/apartment and a car—standardized, cross-cultural proxies for wealth). This group of consumers, therefore, is likely to be representative of the primary target market identified for the consumer electronics industry.

The questionnaire was administered in English (all respondents were fluent in English). The use of a common language for all respondents helps overcome potential language-based response biases common to multicultural research (Douglas and Craig 1983). Questionnaires were completed during the first weeks of the MBA program to avoid possible "MBA group think" biases. Concern may arise, however, over whether persons with such backgrounds or profiles have shed some of their basic culture, or share a "cosmopolitan" culture. Furthermore, because the entire sample spoke English, the potential dampening of cultural effects may be a concern. However, for some countries, especially European ones, respondents having English as a second language is almost unavoidable given national education systems' emphasis on English. This factor reflects a nat-

urally occurring characteristic of the segment, which is also likely to exist for those not considered in our sample but with similar profiles from the countries represented. Hall (1966) notes that individuals, even after great effort, are unable to devoid themselves of their culture of origin. In addition, we can examine previous cross-cultural studies relying on similar (matched) samples to determine if differences were detected. Hofstede's (1980) study often is cited as the most comprehensive study of cross-cultural differences at the individual level. Hofstede's respondents were also matched across cultures: all had English as a first or second language, were mid- or senior-level managers in companies, attended business school or executive training seminars, and actually worked for the same firm (IBM). In spite of this matching, Hofstede nevertheless finds substantial differences in self-reported behaviors across cultures (e.g., uncertainty avoidance). Similar consumer research also has found cultural differences among business students (Durvasula et al. 1993).

To evaluate possible biases further, three statistical tests were performed on the sample. The first involved evaluating possible contamination effects due to the local campus environment. Questionnaire pretests revealed that responses are not affected by whether the questionnaire is administered during their first days or early weeks on campus. The second tested for differences among persons having lived in, worked in, or traveled to multiple countries prior to arriving on campus and those who had not. Likewise, no significant differences in responses to the dependent variable

(signal use) were detected. Finally, should respondents have shed their cultural origins, one would expect little difference in most behaviors that may be affected by culture. In Table 1, Panel B, we report the third test, which examines differences across cultures for frequency of media use in gathering information on consumer electronics products. If our sample is culturally representative, we would expect media usage to vary on the basis of structural differences across the nationalities sampled. For example, television and radio advertising is restricted in Germany, whereas in anglophone (the United States, Canada, and the United Kingdom) and Latin (France, and Italy) countries, it is more common. Similar structural or local business climate differences exist for newspaper and consumer magazines across countries. We find that these differences are detected in respondent's self-reported reliance on various media for gathering information on consumer electronics; that is, media reliance for this category and segment is not universal in relative or absolute levels. In the case of the Nordic countries, for example, we observe that consumers rely on salespersons to a much greater extent than consumer magazines, the use of which is not widespread (unlike in other countries). These tests enhance our confidence in concluding that any lack of statistical differences in behavior is likely to indicate a marketing universal for this category-segment combination. Likewise, observed differences in behavior can be ascribed confidently to differences in culture or country-of-origin effects.

Individual Measures

A three-part questionnaire was used to gather data on each respondent's use of information signals, country of origin, and basic demographics. Part 1 of the questionnaire asked for purchase intentions and ownership levels for various consumer electronic products (e.g., video cameras, video cassette recorder, digital audio tape recorders, high-definition television) and served to frame respondent's thinking to this category. Marketing universals, should they exist, will at a minimum be category- and segment-specific (a universal for one product, however, may not be so for another). In addition to being relevant to the sample considered, consumer electronics products were chosen for several reasons: (1) respondents from most countries will have at least a minimum level of awareness because this category typically represents 5–10% of annual household purchases when purchases are made; (2) the category has high levels of quality uncertainty, which would imply the use of signals; (3) household penetration (Gatignon, Robertson, and Eliashberg 1989), retailing methods, pricing, and promotion levels vary substantially across the countries represented in our sample; (4) despite general physical standardization, some physical adaptation is necessary for many products due to cross-country infrastructure differences (e.g., voltage, room size), and taste differences (e.g., the extensive use of wood paneling on consumer electronics in the United States versus the preference for matte finishes in European markets); and (5) the existence of both national and international branding. A pretest questionnaire indicated that the broad category of consumer electronics allowed variation on such

aspects as individual expertise, involvement, and ownership within the category. Part 2 of the questionnaire asked for self-report measures of use for each of the four signals of quality, information search, category interest/familiarity, as well as a set of risk-related measures.¹ Measures were obtained on a 7-point Likert scale.

Part 3 of the questionnaire collected basic demographic and shopping habit data on individual respondents (age, nationality, measures of asset wealth, number/type of information sources used during search). Self-report measures were chosen over alternatives (projection, field observation, or the indirect measures of experimental research) given that pretest results were consistent with the experimental literature on signal use. Although self-reports "can provide satisfactory results" if undertaken with care (Nunnally 1978, p. 586), possible biases in responses were minimized by question order sorting; verification of responses with admission data, where possible, revealed a high level of self-report accuracy (e.g., demographic or other individual measures).

Identification and Measurement of Culture

We represent each respondent's culture using the four clustering procedures mentioned previously: (1) nationality, (2) ethno-geographic trade area, (3) national behavioral clusters, and (4) level of engagement in the retail sector. The first clustering method involves defining a person's nationality or country of origin as his or her culture (for examples of this approach in marketing, see Campbell et al. 1988; Farley and Sexten 1982; Hoover, Green and Seagert 1978; Johansen, Douglas, and Nonaka 1985; Lehmann and O'Shaughnessy 1974; Lindberg 1982; Weinberger and Spotts 1989). Though descriptive and convenient to implement in multivariate studies (e.g., a country can be represented as a dummy variable, comparisons can consist of t-tests), this approach provides little insight into the factors that contribute to cross-national differences, and conclusions may be limited to the form "the French are different from the British because the French are French and the British are British." This method is nevertheless useful in identifying cross-national differences, should they exist. Four nationalities have large representation in our sample: the United Kingdom (20%), France (18%), the United States (9%), and Germany (7%). Of the 38 nationalities, those with fewer than 15 respondents are clustered in an "other" category; the remaining 533 respondents belong to 12 nationality clusters representing industrialized countries from North America, Europe, and Asia. The "other" category mostly represents economically lesser developed, and non-EEC (European Economic Community) European countries.

The second cross-cultural clustering approach is managerially motivated. Many international marketing texts dis-

¹Each respondent was asked "In general how likely are you to personally use brand names [or other signals] as a sign of quality for purchasing electronics products?" Because consumer electronics are high in experience and credence qualities, respondents were queried on physical "appearance" rather than "features" to emphasize extrinsic signal use, which is consistent with the three other signals studied.

cuss global segmentation strategies based on regional proximity and/or regional trade affiliation (see, for example, Czinkota and Ronkainen 1988; Keegan 1989). We commonly see trade press assertions that Americans, Europeans, and Asians represent different cultures. In the academic marketing literature, countries are frequently clustered by trade area, continent, or other ethno-geographic grouping (see Takada and Jain 1991, who compare Pacific rim countries with the United States; and Assmus, Farley, and Lehmann 1984; Lilien and Weinstein 1984; Sultan, Farley, and Lehmann 1990; and Tellis 1988, who compare the United States with Europe). Here, we define cultural clusters along the following lines: (1) North American countries (United States and Canada), (2) member countries of the EEC, (3) European countries that are not EEC members, and (4) others. Seventy respondents from countries not belonging to any of these trade areas were placed in the "other" category. The advantage of this definition is that these groupings are used widely in international trade; one disadvantage, which is similar to using nationalities as cultures, is that one cannot attribute cross-cluster differences. Nevertheless, in testing for marketing universals, this clustering approach may detect differences in signal use not captured in the previous clustering procedure (e.g., North Americans may have higher signal use than Europeans).

The next two clustering approaches are based on "national characteristics" and potentially enable us to (1) attribute differences to causal factors, and (2) extrapolate beyond the countries included in the sample (provided those countries share similar characteristics). The national characteristics approach requires samples drawn from a large number of countries for which characteristic data exist. For example, see Gatignon, Robertson, and Eliashberg (1989), who consider cosmopolitanism, mobility, and women in the labor force (or gender roles) as national characteristics in a study of innovation diffusion in Europe. Other studies have used such measures as income per capita, number of national languages, television penetration, and death rates per thousand either to cluster countries into various groups or as independent measures to explain cross-cultural or national differences (see, for example, Douglas 1979; Green and Langeard 1975; Sethi and Curry 1973). The drawback of using national characteristics, however, is that it may force researchers to exclude some 100 countries around the world for which little data exist, other than basic economic statistics, or for which data collection would be prohibitively expensive.

The first national characteristic approach employed in our study involves the use of national behavioral measures to define a country's culture (see, for example, Eysenck and Eysenck 1969; Inkeles and Levinson 1969; Kluckhohn and Stodtbeck 1961; Peabody 1985). As noted by Clark (1990, p. 73) a reasonable approach to selecting from among the myriad of cultural dimensions "is to begin with the national character literature per se, and then to establish backlinkages to justify dimensions selected." From among the dimensions previously explored in the literature, we rely on Hofstede's (1980) study, which defines a country's culture on the basis of responses to a battery of work-related

questions; other cultural measures were not available across enough countries to be useful. Hofstede finds that four general factors are useful in defining a country's culture: power distance (i.e., how far people perceive themselves to be from ultimate decision makers), individualism, masculinity, and uncertainty avoidance (or "relation to risk"). On the basis of these four factors, countries have been clustered into 11 different groups in terms of their relative scores on each. Given the degrees of freedom by cluster of the sample analyzed, we have used 4 of Hofstede's culture clusters: Nordic, Latin, Germanic, and Anglo. We also consider an "other" cluster for those countries not belonging to the 4 defined clusters.

The second national characteristic approach defines cultures on the basis of the level of a culture's engagement in the retail sector, which shows variance across countries. The percentage of the labor force engaged in the retail sector is used as a surrogate for this characteristic. Although, like any surrogate measure, this may not capture the entire construct, it does reflect variances in direct contact, via employment, that a population has with retailing activities. This measure may be confounded with other structural differences, such as those inherent to different economic systems or that reflect the infrastructure of retailing. The latter might include differences in the concentration of shopping malls, hypermarkets, and warehouse distribution or local laws. However, it also should be noted that the measure is not a surrogate for the level of "development of the marketing infrastructure," because countries such as Denmark, Finland, France, Germany, and Sweden are categorized as "low," and Australia, Austria, Belgium, Canada, Japan, and other are categorized as "high." The measure is valid to the extent that the proportion of the work force employed in a tertiary sector such as retail services is a reasonable approximation of the level of consumer marketing activity. It has the advantage of capturing an aspect of culture not addressed by the other clustering methods. The sample was split into two clusters on the basis of this measure (using the FASCLUS routine in SAS, the F-statistic value on cluster means is significant at p -value $< .01$). Because data on the state of the retail labor-force variable were not available for all countries in our sample, the effective sample size for the t -tests in this analysis is reduced to 583. This clustering scheme is appealing in that managers often make contrasts across such groups (because the problems faced by marketers in economically developed countries may be similar across these countries, but dissimilar to those encountered in developing economies). Table 2 contains the sample sizes for clusters representing the level of engagement in the retail sector.

The use of multiple definitions of culture ensures that our test for universals is not culture-definition dependent. A summary of the country membership in the culture clusters is provided in Appendix A.

Analysis and Results

Universals in Existence

Table 2 reports mean responses to the four signal questions

TABLE 2
Means and Standard Deviations of Signal Use by Clusters Using Three Clustering Methods^a

	Trade Area				Hofstede's Culture Clusters						Retail Development			
	North America (N=88)	EEC (N=431)	Non-EEC (Europe) (N=51)	Non-Aligned (N=70)	F	Latin (N=202)	Germanic (N=85)	Anglo (N=238)	Nordic (N=62)	Other (N=53)	F	Low (N=253)	High (N=330)	F
					P<						P<			P<
Brand	5.72 (.13)	5.49 (.06)	5.73 (.17)	5.51 (.14)	1.29 .28	5.41 (.08)	5.55 (.13)	5.61 (.08)	5.58 (.15)	5.72 (.16)	1.20 .31	5.45 (.13)	5.58 (.10)	1.75 0.19
Price	4.37 (.15)	4.32 (.07)	4.57 (.21)	4.53 (.18)	.72 .54	4.30 (.10)	4.11 (.16)	4.38 (.09)	4.56 (.19)	4.77 (.20)	2.01 .09	4.25 (.16)	4.52 (.13)	4.59 0.33
Physical appearance	4.06 (.17)	4.00 (.08)	4.57 (.22)	3.83 (.19)	2.45 .07	4.00 (.11)	4.09 (.17)	3.93 (.10)	4.52 (.20)	3.96 (.22)	1.78 0.13	4.05 (.17)	3.98 (.14)	0.23 0.64
Retailer reputation	3.73 (.18)	3.30 (.08)	3.39 (.23)	3.60 (.20)	1.97 .12	3.27 (.12)	3.11 (.18)	3.59 (.11)	3.24 (.21)	3.66 (.23)	2.17 0.07	3.25 (.18)	3.49 (.15)	3.11 .08
Across signals by clusters	F				152						268			217
	P<				.001						.001			.001

^aAll values are means on 7-point scales. Numbers in parentheses are standard deviations.

for three culture-clustering schemes. If each culture indicates some use of signals, then we can conclude that the use of signals to judge product quality is a marketing universal in existence for this category-segment combination. All signals scored significantly greater than 1 on the 7-point Likert scale in the aggregate and across all definitions of culture (all *p*-values < .001). With respect to the category studied, consumers' use of the four signals to judge product quality is, therefore, a marketing universal in existence for this category and segment. The next, more stringent test examines the relative importance of the various signals across cultures.

Universals in Relative Importance

The next step is to consider whether the rank order of signal use differs across cultures. We begin by simply observing ranks based on sample means, to compare our results with the existing literature. Across the entire sample, brand name scores highest (mean score = 5.6), followed by price (mean score = 4.3), physical appearance (mean score = 4.1), and retailer reputation (mean score = 3.4). An analysis of variance (general linear model; GLM) on the entire sample reveals that the use levels of the four signals are significantly different ($F_{3,1905} = 217, p < .001$). Furthermore, six paired *t*-tests reveal that each signal is significantly different from all others (applying the Tukey correction for family-wise error at *p*-value < .01). More importantly, the self-reported mean signal use measures replicate the order of importance attached to each signal reported in experimental consumer research conducted in the United States (Rao and Monroe 1989). The more specific a signal, the more it will be relied on by consumers. Brand name is found to be more important than price or physical appearance as a signal of quality. Furthermore, price and physical appearance were found to be more important than retailer reputation as a signal of quality. In spite of the statistically significant differences in means, price and physical feature signals are rated to be used to similar degrees.

Is the general rank order found in U.S. experimental research and our aggregate sample replicated across cultural groups? An analysis of rank orders across mean values of brand name, price, and retailer reputation reveals the following for all four definitions of culture:

- mean brand name signals are always ranked highest,
- mean retailer reputation signals are always ranked lowest, and
- mean price signals are always ranked between brand name and retailer reputation.

The rank order of physical appearance is generally below price and above retailer reputation, yet there are some exceptions to this. For non-EEC European countries, price and physical appearance are given equal importance (score = 4.57). For some of the 38 individual nationalities, physical appearance is ranked above price: the United States, Denmark, Germany, and Belgium. For one nationality, Canada, physical appearance is rated lower than retail reputation.² Again, because differences are seen in national clusters, it is difficult to attribute differences in ranks to some underlying factor, such as risk avoidance (in which no differences in rank are detected); differences in rank order that do exist, for this study, are generally the result of small differences in means. For the national characteristic clusters, the rank order of mean responses is invariant to the definition of culture. In summary, the data indicate universality in relative importance across mean behavior levels for the product category (consumer electronics), and segment (young affluent adults) studied: Brand name is universally used more than price or physical appearance, which are in turn used more than retailer reputation as signals of product quality.

Beyond simple comparisons of rank orders revealed by means, a number of nonparametric approaches can be applied to test similarity of ranks across samples (see Hol-

²Results of analysis by nationality are not presented in tabular form due to space limitations. Significant results are reported in the text.

TABLE 3
Correlations in Signal Use (N = 640)

	Price	Brand	Physical Appearance	Retail Reputation
Price	1.00	—	—	—
Brand	.37 (.001)	1.00	—	—
Physical appearance	.25 (.001)	.23 (.001)	1.00	—
Retail reputation	.17 (.001)	.15 (.001)	.17 (.001)	1.00

lander and Wolfe 1973). One approach involves testing the homogeneity of means across cultures by signal; homogeneity implies rank equivalence in average behavior. This approach is proposed for testing the third level of universality—absolute importance.

Universals in Absolute Importance

Universality in rank order does not imply that each signal is used to the same extent across cultures. We now focus on the most stringent criterion for universality: Does the absolute level of use for each signal vary from one culture to another? We test mean differences across cultures using four analyses, following the operational definitions of culture. As discussed previously, we define universality by lack of statistical (meaningful) differences across cultures. Though conservatively ignoring family error rates, the consideration of which more readily leads to the rejection of differences, we set the critical rejection criterion of .05 for universality (not rejecting the null hypothesis of equivalence in means). Across all four definitions of culture and all four signals, 16 analyses of variance (GLM ANOVAs) revealed no meaningful differences in signal use across cultures; all *p*-values are greater than .05. Marginally significant differences are obtained primarily for price and retailer reputation (see Table 2). Brand name, like physical appearance, is accorded practically the same level of importance across cultures. These two factors are the most standardized across countries, especially in the category of consumer electronics. Price and retailer reputation, on the other hand, have limited standardization across countries. These marginal differences, however, are exaggerated themselves because they do not explicitly consider family error rates across the 16 tests.

The results of this more stringent test for universality can be summarized as follows: with respect to the cultures investigated and for the category and demographic group studied, the use of brand name, price, physical appearance, and retailer reputation as signals of product quality appears to be universal in absolute importance (at *p*-value < .05). In addition to culture clusters, represented by dummy variables, a battery of interval- and ratio-scaled variables representing national characteristics also were regressed against signal use; these include urban density, income per capita, penetration of electricity, penetration of radio, penetration of television, penetration of telephone services, literacy levels, Hofstede's culture measures, and the percentage of

workforce in various industries (e.g., agriculture, retailing, manufacturing). None were found to be statistically significant. Similarly, several nonlinear relations were tested and also yielded nonsignificant results.

Because we also find universality in existence and relative importance across the four definitions of culture (at *p*-value = .05 level), it appears that cultural segmentation, on the basis of signal use levels, is not justified. Noncultural, individual-level factors seem to provide greater potential for segmentation across populations (within this particular demographic group); this possibility is explored next.

Individual Versus Cultural Differences

Segmenting consumers on noncultural dimensions requires testing for individual differences in signal use. One problem our sample presents in detecting individual differences is that the sample is matched to gauge differences in culture better. Ideally, one would take several matched samples (demographic groups) across a large number of countries to test (1) whether the behavior is universal across segments, (2) for factors driving individual differences within a culture across segments, and (3) whether factors explaining individual differences are universal across cultures. Our sample only allows us to look for individual differences within a given demographic group, having found no meaningful differences across cultures.

In Table 3, we report the Pearson correlation coefficients across the various signals. The positive and statistically significant correlations would indicate that there are people who are generally more "signal oriented" than others. The more one uses brand names as a signal, for example, the more one also will use price, physical appearance, and retailer reputation as signals of product quality. Furthermore, correlations are high among the more specific signals (brand and price), which in turn correlate less with the least specific signals (retailer reputation and physical features). This fact reinforces the previous finding that specificity might affect the use of a given signal.

If culture cannot be used to differentiate between high and low signal users, what individual factors might be appropriate to segment consumers? The literature gives some theoretical guidance. On the basis of the literature reviewed previously and the work of Rao and Monroe (1988), who considered expertise levels, a battery of individual measures were considered as possible drivers of signal use. These include purchasing behavior and demographic measures reflecting (1) differing levels of preference across various information sources (search methods), (2) differing levels of risk proneness, (3) differences in willingness to pay for high-priced brands, (4) differing levels of product interest and familiarity, and (5) differences in demographics (education, family status).

Because each theoretical construct is multidimensional, the questionnaire used multiple items across several dimensions within each domain. We considered variables that would best reflect segmentation schemes used in practice. For example, preferences for information search involved asking which sources are often used to collect product-related information (e.g., television advertisements, per-

TABLE 4
Correlation Between Individual Level Factors and Signal Use^a

Individual Measures	Signals			
	Brand	Price	Physical Appearance	Retail Reputation
1. Information search preferences				
Seek advice from others	.21	—	.09	.12
Likely to research before buying	.09	—	—	—
Rely on personal friends ^b	.10	—	—	—
Rely on salespersons ^b	.11	.16	—	.09
Rely on television advertisements ^b	—	.10	.14	.13
Rely on radio advertisements ^b	—	—	.09	.13
Subscription to magazines	—	—	.09	—
2. Risk proneness				
Create clothes fashion trend	—	.08	.19	.20
Buy latest electronic gadgets	—	—	.19	.16
Likely to bet on horses, casino, etc.	—	.11	—	—
3. Willingness to pay for high priced brands^c				
Personal computers	.17	.15	—	.12
High definition television	.25	.28	.13	.09
4. Category interest				
Intention to purchase:				
• cable television	.13	—	—	—
• high definition television	—	—	.09	.18
• satellite television	.10	.12	—	—
• video cassette recorder	—	—	—	.13
Perceived relative advantage				
• cable television	.15	—	.08	—
• high definition television	.15	.10	.14	—
• video cameras	.10	.20	—	—
• video cassette recorder	—	.10	—	—
5. Demographics and education				
Married ^b	-.08	—	-.09	—
Number of children	-.08	—	—	—
Number of cars	-.10	-.08	—	—
Years at university	-.10	—	—	—
Knowledge of personal computer	-.13	-.11	—	—

^aReported correlations significant at .05 level.

^bSpearman correlations are reported on median splits of the signal concerned.

^cSimilar results obtained on eight other categories.

sonal friends); risk measures include the likelihood of one creating a clothes fashion trend (social or trend setting risks), gambling on horses or in casino games (financial risk), or purchasing the latest electronic gadget (innovation/product adoption risk).

In Table 4, we summarize the correlations between these individual segmentation criteria and the four signals studied. Only correlations with p -values < .05 are reported; unreported correlations for a given variable are generally of the same sign as those reported but are insignificant. Recalling that culture is uncorrelated with signal use, Table 4 clearly demonstrates that individual factors suggested in the literature better explain signal use variation. The correlations in Table 4 would suggest the following:

- The more people rely on a particular signal, the more they also seek information from other sources; the sources used, however, vary from one signal to another;

- Risk proneness is correlated positively with signal use; people more likely to take on certain forms of risk are also those who use signals the most³;
- Willingness to pay for high-priced brands is positively associated with signal use; for example, "brand-prone" people are more price inelastic, reflecting the value of the brand signals; this correlation is higher for the more specific signals, reflecting these signals' relative value in quality judgments;
- The higher the category intention to purchase (reflecting interest or involvement) or the higher the perceived benefits of certain products (mostly audio/visual), the higher the reliance on signals, especially brand and price; and

³In a secondary analysis, risk-prone consumers are found to give relatively less importance to specific signals (e.g., brand names) and more importance to less specific signals (e.g., physical appearance and retailer reputation) than risk-averse consumers; one can hypothesize, therefore, that signals reducing risk most (e.g., specific signals) have a relatively low weight in risk-prone consumers' assessments of product quality.

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- People who have more formal education or are technology oriented (knowledge of personal computers) are less likely to use signals, especially brand names.

The individual factors affecting signal use show some variance across the signals themselves. For example, brand name signal users are more likely to use personal contacts (salespeople, friends) than those who are retail reputation oriented; family status and education levels are found to be mostly significant (negatively correlated) for only brand signals among the four studied. Because the empirical and experimental research in this area has focused primarily on individual expertise, Table 4 would suggest that a number of additional factors lead to individual signal use levels. We must caution, however, that this analysis is limited to a single demographic group and must be seen as exploratory. We can conclude, however, that individual factors suggested in the literature, not cultural factors, determine signal use levels within this demographic group. Segmenting across signal users by culture group appears less relevant, therefore, than segmenting across individuals, irrespective of culture.⁴

Discussion

Managerial Implications

Answering calls for empirical studies (Clark 1990; Douglas and Craig 1992; Farley and Lehmann 1992; Jain 1989), we explore the existence, relative importance, and absolute magnitude of signal use across several cultures. Using a multicultural sample, we find that self-report measures of signal use replicate the findings of experimental research conducted in the United States; namely, brand name signals are relied on more heavily than price or physical appearance, which are in turn relied on more heavily than retailer reputation for judging product quality—the more specific a signal, the more likely it is to be relied on in assessing quality. Results of the study reported here indicate that there are few managerially meaningful differences in the use of these signals across cultures (for the segment and category studied). Our analysis indicates that variances in signal use are independent of culture (as defined using four methods), and are likely to be driven by individual factors. The four signals studied appear to be universal in existence, relative importance, and absolute importance for this target market for consumer electronics.

Differences at each of these levels would have implications for the kinds of decisions that would be optimal. In Table 5, we present an illustrative set of decision rules for the possible outcomes of this kind of research: differences in existence, relative importance, or absolute level. For each type of difference, an example of the kind of finding is presented, and implications drawn for consumer behavior. Thus, for example, if brand names are found not to be used

⁴When culture and individual factors are considered simultaneously using multiple regression, 32 likelihood ratio tests based on 48 regressions indicate the rejection of cultural factors in favor of individual ones for all four quality signals and all four definitions of culture (p -value $< .05$); the adjusted R-squares vary from .00 (models with only culture) to .26 (models with only individual factors).

TABLE 5
Illustrative Decision Rules for Marketing Resource Allocation Under Different Marketing Universality Conditions

Level of Universality	Violations, Implications, and Decisions
Existence	<p><i>Violation:</i> Brand name is found not be used typically as a signal of quality, but use depends on culture.</p> <p><i>Implication:</i> Consumers in cultures in which brand name is not used may rely on alternative signals.</p> <p><i>Decision:</i> Do not squander resources building the brand. Instead adapt marketing mix to more salient signals in markets in which brand name is not a salient signal.</p>
Relative	<p><i>Violation:</i> Consumers are found to rely on retailer reputation more than brand names as a signal of quality in some cultures, whereas in others the reverse situation holds.</p> <p><i>Implication:</i> Differences exist in the weights that consumers assign to various signals in their assessments of quality.</p> <p><i>Decision:</i> Priority across marketing elements will differ from culture to culture: a high priority for price setting in one cultural market versus a high priority for creating channel presence in another.</p>
Absolute	<p><i>Violation:</i> Although consumers are found to have the same order of priorities of signals in assessments of quality across cultures, they do differ in the absolute weight accorded to them.</p> <p><i>Implication:</i> Cultures differ not in the relative importance accorded to the signals, but in the absolute levels.</p> <p><i>Decision:</i> Standardized relative resource allocation that may differ in terms of the absolute levels of the budgets across cultures. Budgets can be adapted further on the basis of differences, such as media habits and information seeking.</p>

universally (i.e., a violation of the existence rule), then consumers may rely on alternative signals. Marketers would be ill-advised to invest resources in building a brand and might be better off focusing marketing efforts on developing other elements of the marketing mix. Similarly, implications can be drawn for violations of universality in relative or absolute importance for cultures in which brand names (price, physical appearance, or retailer reputation) are not used as signals of quality (Table 5).

On the basis of our study, it appears that for the product category investigated, cultural segmentation based on signal use levels may not be justified. Does this imply that marketing strategies should be uniform across the countries studied? The answer is clearly no. As reported previously, several culture-specific behaviors were detected in our sample, including the use of various information sources (e.g., consumer magazines versus salespeople). Clearly, some behaviors are likely to be universal, whereas others are not. The marketing manager must understand the extent to which key behaviors vary from one culture to another. Local business conditions, legal restrictions, and other culture-bound

structural factors certainly will affect the implementation of strategies. Our study would indicate that managers should focus most on reinforcing brand signals to an equal degree across countries yet consider using different media to do so, given that local marketing environments affect information gathering.

The identification of a segment of consumers who do not differ across cultures in their use of signals of quality in the purchase of consumer electronics is an opportunity for companies to apply all the recommendations for a standardized marketing program on at least a few dimensions. This segment of consumers—young, educated, affluent, and upwardly mobile, described loosely as “yuppies”—indeed appears in many of the industrialized countries. Managerially, it may be worthwhile to uncover further dimensions of universality and cultural differences in this segment. The dimensions on which such studies would focus would be determined by the requirements of the product category being marketed. It also may prove worthwhile to uncover other segments that could be considered universal, at least on key dimensions.

Cultural universals, as discussed in virtually all marketing texts, are general human behaviors that have been observed to be common across cultures. For example, humor is said to be a cultural universal. Marketing universals, on the other hand, provide a more pragmatic focus on behaviors within those segments that are relevant to the product or product class under study. As a result, a study of marketing universals provides more actionable results than one of cultural universals.

Thus, the findings from our study can be interpreted to imply that culture or country boundaries can be a less important segmentation criterion than individual factors across culture for certain signal use behaviors. Although some suggest that managers should “think globally, act locally,” universals in marketing imply “think individually and act globally.” Global action, however, may best be limited to behaviors found to be marketing universals. Furthermore, individual criteria that dominate cultural dimensions must be identifiable and actionable across cultures. The recognition of both relevant individual segmentation criteria and marketing universals is a prerequisite to global strategies. In post-survey discussions with respondents, many expressed the belief that their particular culture would be found to use, for example, brand name more than other cultures. Such beliefs are consistent with ethnocentric biases, or what Farley and Lehmann (1992, p. 1) call the “myth in international marketing that all things are different” when one crosses borders.

The literature has yet to investigate universals in marketing. We propose that marketing universals, which are product and segment specific, be detected using a systematic approach that includes (1) the use of multiple definitions and operationalizations of culture, (2) matching samples from segments across a large number of countries or cultures (allowing for the attribution of differences), and (3) testing universality on three levels: existence, relative importance, and absolute importance. The result of such research will help guide managers in approaching multinational markets. For

example, it might be that a certain behavior exists universally (e.g., consumer reliance on outdoor advertising), but the behavior's relative importance diverges across cultures. Likewise, relative importance may be universal, yet absolute importance may diverge across culture. In our study, we found that price is used as a signal of quality to the same extent across cultures; should this not be the case, perceived-quality pricing certainly should be adapted to local cultures. Although marketing allocation decisions can be driven by divergences across cultures, this study highlights the basis on which managers should explore universals in consumer behavior.

Limitations and Further Research Directions

For the category and demographic group studied, it would appear that the use of signals is culture-independent. Naturally, the usual caution in interpreting a null result (no differences) is to be exercised. Different results may be found for culture-bound products such as certain food items or those adapted on the basis of local needs (Ohmae 1985). This potential difference across products raises the question of which comes first, the global product or global consumer behavior? The use of a globally uniform strategy might elicit similar behaviors from consumers worldwide. In any case, it would be worthwhile to study other product categories and segments.

Another potential limitation of the study is that the sample consists of a relatively homogeneous group of respondents across countries. The homogeneity of the sample could be a limitation if it were the source of the similarities observed across cultures. However, because we do observe differences in certain behaviors (Table 1, Panel B), they might not be expected to appear if the matching of the sample had obliterated them. The choice of a sample with homogeneity in terms of age, income, education level, and other variables was intentional given the product category studied and the need to directly attribute differences in behavior to culture. Katona, Strumpel, and Zahn (1973, p. 140) argue that “the higher the education the less likely it is that people will be affected by the particular history and culture in their country.” Our study empirically supports this contention and stands in contrast to authors who have observed that tastes and behavior diverge across cultures as people become better educated and more affluent (e.g., Fisher 1984). Although we argue that it is more appropriate to compare samples from different countries that are matched on a set of demographic and, if possible, psychographic variables to increase confidence in ascribing differences to culture, we recognize the need to conduct further research that compares samples matched across multiple segments simultaneously (across multiple cultures).

The methodology used in arriving at conclusions about universality is that of classical hypothesis testing. The usual caution in interpreting a null result is advised because the lack of statistical significance may not be an appropriate criterion for universality. Confidence in the results is increased by the use of a large sample drawn from a large number of countries, and the use of many operationalizations of culture. The relative use of the signals studied do appear to

be valid for this product category. However, we did not take into account possible interactions between these signals as in the addition of value to a brand if it is channeled through a retailer of repute or the potential damage to the retailer's brand if it is seen carrying a poor brand name.

The use of signals by consumers is a function of many factors, including individual consumer level factors, social or cultural factors, and product and market context. In addition, these factors can interact to provide an even more complex picture. We assume the simple but realistic scenario of comparing cultural factors with individual ones for a given product category. The significance of certain individual-level factors and the rejection of differences across culture, using four different definitions of culture and a large sam-

ple, increases our confidence that the use of signals for this product category is a marketing universal.

Finally, as with many cross-cultural studies, we must qualify our findings to the sample and context studied. Although our sample is drawn from 38 nationalities, mostly from industrialized countries, we did not consider some 100 nationalities, and an even larger number of cultures. Furthermore, the representation of each culture/nationality was unbalanced. We are limited to maintaining that signal use is a marketing universal, therefore, to one stratum of consumers across the countries studied, especially those well represented in the sample; further efforts to explore additional strata (segments) in a wider sample of countries/cultures (e.g., based on age, income, professional standing) would be desirable.

f. e.

APPENDIX A List of Nationalities by Cluster

Trade-Area Clusters	Hofstede's Culture Clusters	Engagement in Retail Sector ^a
1. <i>North America (N=88)</i> Canada United States	1. <i>Latin (N=202)</i> Argentina Belgium Brazil Italy France Spain Portugal	1. <i>High (N=330)</i> Australia Austria Belgium Canada Hong Kong Ireland Italy Japan Luxembourg Netherlands New Zealand Norway Singapore Spain Switzerland United Kingdom Venezuela
2. <i>EEC (N=431)</i> Belgium Denmark France Germany Greece Ireland Italy Luxembourg Netherlands Portugal Spain United Kingdom	2. <i>Germanic (N=85)</i> Austria Germany Israel Switzerland	2. <i>Low (N=253)</i> Argentina Brazil China Denmark Finland France Germany Greece Hungary India Israel Lebanon Mexico Portugal South Africa Sweden Syria Zimbabwe
3. <i>Non-EEC-Europe (N=51)</i> Austria Czechoslovakia Finland Hungary Iceland Norway Poland Russia Sweden Switzerland Ukraine	3. <i>Anglo (N=238)</i> Australia Canada Ireland New Zealand United Kingdom United States	
4. <i>Other (N=70)</i> Argentina Australia Brazil Chile China Hong Kong India Japan Lebanon Mexico New Zealand Singapore South Africa Syria Venezuela Zimbabwe	4. <i>Nordic (N=62)</i> Denmark Finland Iceland Netherlands Norway Sweden	
	5. <i>Other (N=53)</i> Chile China Greece Hong Kong Hungary India Japan Lebanon Luxembourg Mexico Singapore South Africa Syria Venezuela Zimbabwe	

^aData on this variable were available only for 583 subjects.

REFERENCES

- Akerlof, George A. (1970), "The Market for Lemons: Quality, Uncertainty and the Market Mechanism," *Quarterly Journal of Economics*, 84 (August), 488-500.
- Allison, Ralph I. and Kenneth P. Uhl (1964), "Influence of Beer Brand Identification on Taste Perception," *Journal of Marketing Research*, 1 (August), 36-39.
- Anderson, Ronald and Jack Engledow (1977), "A Factor Analytic Comparison of U.S. and German Information Seekers," *Journal of Consumer Research*, 3 (March), 185-96.
- Assmus, Gert, John U. Farley, and Donald R. Lehman (1984), "How Advertising Affects Sales: Meta-Analysis of Econometric Results," *Journal of Marketing Research*, 21 (February), 65-74.
- Boddewyn, J.J. (1981), "Comparative Marketing: The First Twenty-Five Years," *Journal of International Business Studies*, 12 (Spring-Summer), 61-79.
- Brucks, Merrie and Valarie A. Zeithaml (1991), "Price and Brand Name as Indicators of Quality Dimensions," Working Paper 91-130. Cambridge, MA: Marketing Science Institute.
- Campbell, Nigel C.G., John L. Graham, Alain Jolibert, and Hans Gunther Meissner (1988), "Marketing Negotiations in France, Germany, the United Kingdom, and the United States," *Journal of Marketing*, 52 (April), 49-62.
- Celsi, Richard L. and Jerry C. Olson (1988), "The Role of Involvement in Attention and Comprehension Processes," *Journal of Consumer Research*, 15 (September), 210-24.
- Clark, Terry (1990), "International Marketing and National Character: A Review and Proposal for an Integrative Theory," *Journal of Marketing*, 54 (October), 66-79.
- Cooper, Russell and Thomas W. Ross (1985), "Product Warranties and Double Moral Hazard," *Rand Journal of Economics*, 16 (1), 103-13.
- Cox, Donald F. (1962), "The Measurement of Information Value: A Study in Consumer Decision Making," in *Emerging Concepts in Marketing*, William S. Decker, ed. Chicago: American Marketing Association, 413-21.
- Czinkota, Michael R. and Ilkka A. Ronkainen (1988), *International Marketing*. Hinsdale, IL: The Dryden Press.
- Darby, Michael R. and Edi Karni (1973), "Free Competition and the Optimal Amount of Fraud," *The Journal of Law and Economics*, 16 (April), 67-88.
- Douglas, Susan P. (1979), "A Cross-National Exploration of Husband Wife Involvement in Selected Household Activities," in *Advances in Consumer Research*, 6, William B. Wilkie, ed. Provo, UT: Association for Consumer Research.
- and C. Samuel Craig (1983), *International Marketing Research*. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- and ——— (1992), "Advances in International Marketing," *International Journal of Research in Marketing*, 9 (December), 291-318.
- Durvasula, Srinivas, J. Craig Andrews, Steven Lysonski, and Richard G. Netemeyer (1993), "Assessing the Cross-National Applicability of Consumer Behavior Models: A Model of Attitude toward Advertising in General," *Journal of Consumer Research*, 19 (March), 626-36.
- Elinder, Erik (1961), "How International Can Advertising Be?" *International Advertiser* (December), 12-16.
- Emons, Winand (1988), "Warranties, Moral Hazard, and the Lemons Problem," *Journal of Economic Theory*, 46 (October), 16-33.
- Engledow, Jack L., Hans B. Thorelli, and H. Becker (1975) "The Information-Seekers—A Cross-Cultural Consumer Elite," in *Advances in Consumer Research*, 2, M.J. Schlinger, ed. Provo, UT: Association for Consumer Research.
- Enis, Ben M. and Jerry E. Stafford (1969), "The Influence of Price and Store Information Upon Product Quality Perception," *Southern Journal of Business* (April), 90-94.
- Eysenck, H. J. and S. B. G. Eysenck (1969), *Personality Structure and Measurement*. London: Routledge and Keegan Paul.
- Farley, John U. and Donald R. Lehman (1992), "Cross-National 'Laws' and Differences in Market Response," working paper, The Wharton School, University of Pennsylvania.
- and Donald E. Sexten (1982), "A Process Model of The Family Planning Decision," *TIMS Studies in Management Science*, 18, 209-39.
- Fatt, Arthur C. (1964), "A Multinational Approach to International Advertising," *International Advertiser* (September), 17-20.
- Fisher, Anne B. (1984), "The Ad Biz Gloms Onto Global," *Fortune* (November 12), 77-83.
- Fournis, Y. (1962), "The Markets of Europe or the European Market?" *Business Horizons*, 5 (Winter), 77-83.
- Gatignon, Hubert, Jehoshua Eliashberg, and Thomas Robertson (1989), "Modeling Multinational Diffusion Patterns: An Efficient Methodology," *Marketing Science*, 8 (Summer), 231-46.
- and Tomas S. Roberston (1985), "A Propositional Inventory for New Diffusion Research," *Journal of Consumer Research*, 11 (March), 849-67.
- Green, Robert and Eric Langeard (1975), "A Cross-National Comparison of Consumer Habits and Innovator Characteristics," *Journal of Marketing*, 49 (July), 34-41.
- Hall, Edward T. (1966), *The Hidden Dimension*. New York: Doubleday & Co. Inc.
- Hempel, Donald J. (1974), "Family Buying Decisions: A Cross-Cultural Perspective," *Journal of Marketing Research*, 11 (August), 295-302.
- Hoch, Stephen J. and Young Won Ha (1986), "Consumer Learning: Advertising and the Ambiguity of Product Experience," *Journal of Consumer Research*, 13 (September), 221-33.
- Hofstede, Seert (1980), *Culture's Consequences: International Differences in Work Related Values*. Beverly Hills, CA: Sage Publications, Inc.
- Hollander and Wolfe (1973), *Nonparametric Statistical Methods*. New York: John Wiley & Sons, Inc.
- Hoover, Robert J., Robert T. Green, and Joel Seagert (1978), "A Cross-National Study of Perceived Risk," *Journal of Marketing*, 42 (July), 102-108.
- Inkeles, Alex, and Daniel J. Levinson (1969), "National Character: The Study of Modal Personality and Sociocultural Systems," in *The Handbook of Social Psychology*, Vol. 4, 2nd ed., G. Lindzey and E. Aronson, eds. Cambridge, MA: Addison-Wesley.
- Jacoby, Jacob, Jerry C. Olson, and Rafael A. Haddock (1971), "Price, Brand Name and Product Composition Characteristics as Determinants of Perceived Quality," *Journal of Applied Psychology*, 55 (December), 570-79.
- , George J. Szybillo, and Jacqueline Busato-Schach (1977), "Information Acquisition Behavior in Brand Choice Situations," *Journal of Consumer Research*, 3 (March), 209-16.
- Jain, Subhash C. (1984), *International Marketing Management*. Boston: Kent Publishing Co.
- (1989), "Standardization of International Marketing Strategy: Some Research Hypotheses," *Journal of Marketing*, 53 (January), 70-79.
- Johansen, Johnny K., Susan B. Douglas, and I. Nonaka (1985), "Assessing the Impact of Country-of-Origin on Product Evaluations: A New Methodological Perspective," *Journal of Marketing Research*, 25 (November), 388-96.

- Kale, Sudhir H. and D. Sudharshan (1987), "A Strategic Approach to International Segmentation," *International Journal of Advertising*, 2 (3), 147-57.
- Katona, G., B. Strumpel, and E. Zahn (1973), "The Sociocultural Environment," in *International Marketing Strategy*, Hans B. Thorelli, ed. Harmondsworth, Middlesex, England: Penguin Books.
- Keegan, Warren J. (1989), *Global Marketing Management*, 4th ed. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Kirpalani, V.H. and N.B. MacIntosh (1980), "International Marketing Effectiveness of Technology-Oriented Small Firms," *Journal of International Business Studies* (Winter), 81-90.
- Kluckhohn, F. R. and F. L. Strodtbeck (1961), *Culture: A Critical Review of Concepts and Definitions*. New York: Vintage Books, 77-154.
- Leavitt, Harold, J. (1954), "A Note on Some Experimental Findings About the Meaning of Price," *Journal of Business*, 27 (July), 205-10.
- Lehmann, Donald R. and John O'Shaughnessy (1974), "Difference in Attribute Importance for Different Industrial Products," *Journal of Marketing*, 38 (April), 36-42.
- Levitt, Theodore (1983), "The Globalization of Markets," *Harvard Business Review*, 61 (May-June), 92-102.
- Lilien, Gary L. and David Weinstein (1984), "An International Comparison of the Determinants of Industrial Marketing Expenditures," *Journal of Marketing*, 48 (Winter), 46-53.
- Lindberg, Bertil C. (1982), "International Comparison of Growth in Demand for a New Durable Consumer Product," *Journal of Marketing Research*, 19 (August), 364-71.
- Lorimer, E.S. and S. Watson Dunn (1968), "Four Measures of Cross-Cultural Marketing Effectiveness," *Journal of Advertising Research*, 8 (January), 11-13.
- Milgrom, Paul and John Roberts (1986), "Price and Advertising Signals of Product Quality," *Journal of Political Economy*, 55 (August), 10-25.
- Mitchell, V. and M. Greatorex (1990), "Consumer Purchasing in Foreign Countries: A Perceived Risk Perspective," *International Journal of Advertising*, 9, 295-307.
- Murdock, George P. (1945), "The Common Denominator of Culture," in *The Science of Man in the World Crisis*, Ralph Linton, ed. New York: Columbia University Press, 145.
- Nelson, Phillip (1970), "Information and Consumer Behavior," *Journal of Political Economy*, 78 (2), 311-29.
- (1974), "Advertising as Information," *Journal of Political Economy*, 81 (4), 729-54.
- (1978), "Advertising U.S. Information Once More," in *Issues in Advertising, The Economics of Persuasion*, D.G. Tuerck, ed. Washington, DC: American Enterprise Institute.
- Nunnally, Jum C. (1978), *Psychometric Theory*, 2nd ed. New York: McGraw Hill Book Co.
- Ohmae, Kenichi (1985), *Triad Power: The Coming Shape of Global Competition*. New York: The Free Press.
- Olson, Jerry C. (1972), "Cue Utilization in the Quality Perception Process, A Cognitive Model and an Empirical Test," unpublished doctoral dissertation, Purdue University.
- (1977), "Price as an Informational Cue: Effects on Product Evaluations," in *Consumer and Industrial Buying Behavior*, Arch Woodside, Jagdish N. Sheth, and Peter D. Bennett, eds. New York: Elsevier, 267-86.
- Parameswaran and Yaprak (1987), "A Cross-National Comparison of Consumer Research Practices," *Journal of International Business Studies*, 28 (Spring), 35-49.
- Peabody, Dean (1985), *National Characteristics*. Cambridge: Cambridge University Press.
- Price, Lydia (1992), "Think Global, Act Local? Think Again," working paper. Fontainebleau, France: INSEAD.
- Rao, Akshay R. and Kent B. Monroe (1988), "The Modernizing Effect of Prior Knowledge on Cue Utilization in Product Evaluations," *Journal of Consumer Research*, 15 (September), 253-64.
- and ——— (1989), "The Effect of Price, Brand Name, and Store Name on Buyers' Perceptions of Product Quality: An Integrative Review," *Journal of Marketing Research*, 26 (August), 351-57.
- Roostal, I. (1963), "Standardization of Advertising for Western Europe," *Journal of Marketing*, 27 (October), 15-20.
- Ross, Thomas W. (1988), "Brand Information and Price," *The Journal of Industrial Economics*, 36 (March), 301-13.
- Sawyer, Alan G. and J. Paul Peter (1982), "The Significance of Statistical Significance Tests in Marketing Research," *Journal of Marketing Research*, 20 (2), 122-33.
- Scitovsky, Tibor (1945), "Some Consequences of the Habit of Judging Quality by Price," *The Review of Economic Studies*, 12 (32), 100-105.
- Sethi, S. Prakash and David Curry (1973), "Variable and Object Clustering of Cross-Cultural Data: Some Implications for Comparative Research and Policy Formulation," in *Multinational Business Operations*, S. Prakash Sethi and N. eds. Pacific Palisades, CA: Goodyear Publishing Company, 31-61.
- Sheth, Jagdish N. (1986), "Global Markets or Global Competition?" *Journal of Consumer Marketing*, 3 (Spring), 9-11.
- Simmonds, Kenneth (1985), "Global Strategy: Achieving the Geocentric Ideal," *International Marketing Review*, 2 (Spring), 8-17.
- Sjolander, Richard (1992), "Cross-cultural Effects of Price on Perceived Product Quality," *European Journal of Marketing*, 26 (7), 34-44.
- Sultan, Fareena, John U. Farley, and Donald R. Lehmann (1990), "Meta-analysis of Application of Diffusion Models," *Journal of Marketing Research*, 27 (May), 70-77.
- Takada, Hirokazu and Dipak Jain (1991), "Cross-National Analysis of Diffusion of Consumer Durable Goods in Pacific Rim Countries," *Journal of Marketing*, 55 (April), 48-54.
- Tellis, Gerald J. (1988), "The Price Elasticity of Selective Demand: A Meta-Analysis of Econometric Models of Sales," *Journal of Marketing Research*, 25 (November), 331-42.
- Weinberger, Marc G. and H. E. Spotts (1989), "A Situational View of Information Content in TV advertising in the U.S. and U.K.," *Journal of Marketing*, 53 (January), 89-94.
- Wheatley, John J. and John S. Y. Chiu (1977), "The Effects of Price, Store Image, and Product and Respondent Characteristics on Perceptions of Quality," *Journal of Marketing Research*, 14 (May), 181-86.
- Wolinsky, Asher (1983), "Prices as Signals of Product Quality," *Review of Economic Studies*, 50 (4), 647-58.

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