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Positioning Multi-Country Brands: The Impact of Heterogeneity in Cultural Values and Competitive Set

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Abstract

We suggest and show that multi-country brands should position themselves consistently across markets more on those specific imagery attributes that are themselves more consistently valued across countries. Leveraging prior research, we first identify four life values that are relatively more equal in their cross-national importance (universalism, benevolence, self-direction, achievement) versus two that are not (hedonism and power), and link specific brand imagery attributes (e.g., traditional, energetic, independent, rugged) to these life values. Using an extensive proprietary field-data set on consumer perceptions and preferences from 22 countries on over 1,700 brands, we then show, in an attribute-level analysis, that greater global consistency of a brand's image decreases brand attitudes if the specific image attribute is one of those that is not consistently desired worldwide. Importantly, the attitudinal impact of a multi-country brand's positioning consistency is also moderated by the heterogeneity of the brand's competitive set across its markets. Implications are discussed for global brand management theory and practice.

Keywords: Cross-cultural values; global brands; international marketing strategy; brand image.

*"Some brands have established a strong, consistent connection across cultures by tapping into fundamental human truths: **the commonalities that unite rather than divide people across the globe**, such as the desire for love… and happiness. Such a platform opens up real opportunities to make your marketing budget work more efficiently, but finding the right idea can be a tough challenge."* Nigel Hollis, *The Global Brand,* 2008, p.165 (emphasis added).

As pointed out above by Hollis (as well as by Torelli et al. 2012), a key challenge facing multinational marketers today is devising the best positioning strategy for their "global brands" across multiple national markets that often vary in their cultures -- hence in consumer values and preferences -- as well as in their competitive contexts (Roth 1995). These multi-country brands are typically marketed in a very similar, coordinated, way across multiple markets, utilizing consistent brand associations or imagery (Kapferer 2008).[1] Such cross-national marketing standardization can lower total global costs (via economies of scale), speed-up market roll-out (Neff 1999), and increase consumer preference by creating a positive perception of globalness (Kapferer 2008; Steenkamp, Batra and Alden 2003). However, such consistency can, naturally, also decrease local-market relevance (Jain 1989; Ryans, Griffith and White 2003). The literature on the "standardization versus adaptation" of international marketing strategy, over 40 years old, has thus long argued that only a high level of similarity in *consumer needs* and *competitive contexts* should justify the kind of standardization that can lower costs, without hurting consumer attitudes and preference (e.g., Zou and Cavusgil 2002). However, the prior literature has not attempted to identify specific consumer needs that are similar enough across countries to justify standardizing on them; nor has it empirically tested the impact of competitive context similarity

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[1] Aaker and Joachimsthaler (1999, p. 137) describe such "global brands" as having "a high degree of similarity across countries with respect to brand identity, position, advertising strategy, personality, product, packaging, and look and feel," while Steenkamp, Batra and Alden (2003, p. 53) define them as "brands that consumers can find under the same name in multiple countries with generally similar and centrally coordinated marketing strategies." *McDonald's, Coca-Cola, Disney,* and *Sony* are often cited as examples of such global brands (Business Week 2008).

(or lack of it) on consumer brand preference. We do both of these here, using a unique and large multi-country database.

Varying Cultural Values. Despite the recent growth of 'global consumer culture' (Alden, Steenkamp and Batra 1999), cross-country studies still find very significant differences across countries in their cultures and values (e.g. Hofstede 2001; Schwartz 2004), creating countervailing local or hybrid cultural affinities (Hannerz 1990). A recent review (Gupta, Winkel and Peracchio 2009) provides a vivid example of how the standardized brand positioning of global brands can thus run into problems as it crosses cultural boundaries. Apple's ad campaign showing opposing "Mac" and "PC" personalities became widely-liked in the USA for depicting Mac as more pleasurable and play-oriented, and PC as more efficiency-focused, rule-following and work-oriented. However, this brand positioning was received much more negatively by consumers in Japan. Because of different cultural values, "Japanese consumers indicated that the PC's sacrifice for group conformity, work ethic, and pride in the organization were positive values, much more positive than the fun and approachable benefits offered by the Mac" (p.230).

Such differences in cultural values are a critical obstacle that global marketers must overcome in their attempts to develop economically-viable, yet locally-relevant, multi-country brands. Given the similarities and differences in cultural values across their many national markets, the ideal solution for global brands would be one where they could position themselves consistently across markets *on those brand meanings that are themselves highly valued in (almost) all of these markets and cultures*.

Multi-country brands could then benefit from the advantages of standardization, while also remaining locally relevant. In this paper, relying on prior work in the literatures on cross-national values and their evolution over time, we explore these questions: (1) what might be the

specific cultural values that are more, versus less, heterogeneous in terms of their desirability across national cultures, and (2) is the effect of a brand's cross-country consistency of brand image attributes, on its brand attitudes, moderated by these differences in the desirability of the specific brand image attributes used?

Varying Competitive Context. From a competitive positioning perspective, a brand that faces a varying set of competitors (and thus differing competitive brand positioning platforms) across its multiple markets might be better served by responsively varying its own brand positioning across these markets, rather than sticking with the same standardized positioning worldwide. In addition to discussing the impact of the heterogeneity in consumer needs, the literature on the standardization versus adaptation of international marketing strategy thus also conceptually suggests – but has not yet established empirically – the moderating effects of the cross-market heterogeneity of the *competitive environment* of the brand on its performance (Cavusgil, Zou and Naidu 1993; Jain 1989). This prior literature suggests that only a low level of heterogeneity in the brand's cross-market competitive environment justifies greater standardization -- but empirical tests of this proposition, using actual data on a brand's competitors in multiple markets, have not yet been reported in the literature. Thus we also examine, using our field data on a multi-country brand's varying competitive set across markets, (3) how the effect of a brand's consistency of its image attribute positioning, on attitudes towards it, varies with the level of heterogeneity in the competitors it faces across markets.

In this paper, we test both these consumer-values and competitive-consistency relationships using the Brand Asset Valuator (BAV) database, arguably the most comprehensive global database of consumer perceptions on brands, containing disaggregate attribute-level perceptual and attitudinal data on multi-country brands, as well as data on their actual

competitors worldwide. Our analysis sample consists of field data from 64,790 consumers on 1,723 brands competing cross-nationally in over 27 broadly-defined product and service categories, from 22 representative countries across the world. These data are supplemented by additional cross-national consumer-level data that allowed us to match the BAV brand-level data to the types of consumer values they best represented.

CONCEPTUAL DEVELOPMENT

Brand Image Attributes

As will be seen below, we will test the differential effect of the consistency of a multi-country brand's specific image attributes, interacting with its competitive context, on the overall cross-market attitudes towards it. By "image attributes," we mean here brand perceptions on symbolic aspects of the brand that include, but are not limited to, its 'brand personality' (its human-like perceptions of being, e.g., 'friendly,' 'honest,' 'upper-class,' 'exciting' or 'tough': Aaker 1997). As defined by Dichter (1985), brand image refers to the impressions a brand makes on the minds of consumers that include the just-mentioned personality dimensions but also cover the degree to which the brand is innovative, is reliable, perceptions about the types of people who use it, and the like. While some of the brand image attributes we study are a function of the underlying product category, they are not the usual functional brand attributes typically studied in single-category marketing research (e.g., cavity-fighting in toothpastes, fuel efficiency in cars). The non-functional image attributes we study -- unlike category-specific functional ones – do apply across multiple categories, making them very appropriate for data collection and analysis in multi-category studies such as ours (Aaker 1997; Batra, Lenk and Wedel 2010). In addition, brands are often chosen for their symbolic (image) attributes, not just their functional attributes (Aaker 1997). Such symbolic, value-expressive, and more abstract qualities of brands

are especially important in cross-cultural research like ours since they relate to a brand's ability to carry and communicate cultural meaning (Aaker, Martinez and Garolera 2001; Torelli et al. 2012), in a manner that can potentially vary more across cultures than does the meaning of functional benefits (Aaker and Maheswaran 1997; Kim and Markus 1999). Thus, our analysis of non-functional image attributes is itself an important contribution to the cross-cultural marketing literature.

Linking Brand Image Attributes to Cultural Values

In our analysis, we follow prior literature in conceptualizing these brand image attributes as being symbolic of deeper cultural and societal *values*. Torelli and colleagues (2012) recently showed how the embodiment of emotional and symbolic meanings by abstract "brand concepts" can be related successfully to different types of *cultural values*. Values are defined as "desirable, trans-situational goals, varying in importance, that serve as guiding principles in people's lives" (Schwartz and Bardi 2001, p. 4). Supporting this relationship, Batra, Homer and Kahle (2001) find that values influence brand attitudes via prioritizing the importance to consumers of product attributes, including image attributes. For example, consumers higher on "other-directed values" (e.g., being well-respected, warm relationships, sense of belonging) place a greater importance weight on brand image attributes such as reputation and style, while consumers higher on "self-directed values" (e.g., self-fulfillment, sense of accomplishment, self-respect) place a greater importance weight on attributes such as care and product fit (Batra et al. 2001, p.123). *Thus, variations across countries in how important they consider particular brand attributes are linked to how consumers in these countries vary in the types of life-values they consider important.* To understand why consumers in different cultures vary in their responses to brands marketed on

different image attributes, we turn now to the considerable prior research on how individuals and societies are similar, or different, in their underlying values.

Cross-National Commonalities and Variations in the Importance of Specific Values

Substantial prior research documents the variations in the desirability (i.e., importance ratings) of "life values" across cultures (e.g., Hofstede 1980, 2001; Schwartz 1992, 2004). Value dimensions studied include individualism/collectivism, power distance, masculinity/mastery versus femininity/nurturance, long-term orientation, uncertainty avoidance, independent versus interdependent self-construals, analytic versus holistic thinking, and others, with the first of these being the most researched (see review in Gupta et al. 2009).

Perhaps the broadest look at these cross-national value patterns comes in the work by Schwartz with his colleagues (Schwartz 1992, 2004). Schwartz and his colleagues obtained their cross-cultural values survey data from 1988 through 1996, from over 60 nations. Data were collected on the subjects' rated importance of 57 individual values (e.g., social status and prestige; safety; harmony and stability of society), and 45 of these individual values were subsequently collapsed into ten multi-item "value types" (Schwartz 1992, 2004).[2]

In this research, Schwartz and colleagues have first found a striking degree of consensus across societies in the importance given to particular values. For instance, values such as

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[2] The ten Schwartz value types, with sample items, are: POWER (status, prestige, authority); ACHIEVEMENT (successful, ambitious, influential); HEDONISM (pleasure, enjoying life, sensuous gratification); STIMULATION (excitement, daring, novelty); SELF-DIRECTION (independent thought, creativity, freedom); UNIVERSALISM (equality, unity with nature, broadminded); BENEVOLENCE (helpful, honest, forgiving); TRADITION (respect for tradition, devout, accepting my position in life); CONFORMITY (obedience, self-discipline, honoring parents and elders); and SECURITY (safety, social order, family and national security). In other work (Schwartz 1992), he has distinguished between values that represent 'self-enhancement' (hedonism, power, and achievement) from those that represent 'self-transcendence' (benevolence and universalism). The values categories found in Schwarz' research have been shown to map well into the dimensions used by other researchers (Inglehart and Oyserman 2004). For instance, his value-types of POWER, ACHIEVEMENT, SELF-DIRECTION, STIMULATION and HEDONISM tap into individualism, while his value-types of TRADITION, CONFORMITY, SECURITY, UNIVERSALISM and BENEVOLENCE measure collectivist values (Schwartz 1992).

BENEVOLENCE, UNIVERSALISM and SELF-DIRECTION tend, almost everywhere, to be

more highly-ranked than wealth and other POWER values (see the Appendix, which reports

these importance means, taken from Schwartz and Bardi 2001, Table 3, p. 39). A motivational

account for these similarities is that these shared values derive from the three *universal*

requirements of human existence: biological needs; requisites of social interaction; and demands

of group survival and functioning (Schwarz 1992). There are differences, however, in the

importance given to many of the other values.

Changing Importance of Values with Economic Development

Why do Schwartz' data show that countries and cultures vary in the human values they

prioritize? The literature on the dynamic evolution of societies over time suggests that economic

development – characterized by industrialization, and later post-industrialization (i.e., the rise of

the knowledge and service-oriented economy) – has a powerful impact on the relative

importance of these cultural values. According to time-series analysis discussed by Inglehart and

Oyserman (2004), many research streams converge in showing that as economies develop and

prosper, societies appear to move from a focus on collective economic and physical security,

hard work, tradition, the status quo, and shared societal goals, towards an emphasis on personal

autonomy, self-fulfillment, and the pursuit of pleasure and an exciting and varied life.

Since markets across the world naturally differ in their levels of economic development,

it follows that at any particular point in time one should expect consumers in these markets to

vary more in the relative importance they place on those values that change with economic

development (respect for CONFORMITY and TRADITION, or the seeking of HEDONISM and

POWER). By the same logic, those life values that do *not* change much (in their importance)

with economic development (UNIVERSALISM, BENEVOLENCE, SELF-DIRECTION,

ACHIEVEMENT, SECURITY, STIMULATION) should also *not* vary as much across cultures in their importance.

These theoretical accounts find support in the published data of Schwartz and Bardi 2001 (see Appendix), which also provide the *variation* (standard deviations, or SDs) of these importance ratings across countries. An examination of this table, looking at the standard deviations from the largest samples (teachers/students from 56/54 countries), shows that the degree of cross-country consistency varies from roughly 0.25 at the low end to about 0.65 at the high end, a range of 0.40 (on 7-point scales). Creating four quartiles within this range allows us to put these ten value types into four groups. In the quartile with the most consistency (i.e., least standard deviations, from 0.25 to 0.34) in their rated importance would fall BENEVOLENCE (0.28/.25), UNIVERSALISM (0.31/.29), SELF-DIRECTION (0.31/.31), and ACHIEVEMENT (0.31/.30). The next-highest quartile (SDs of 0.35-0.44) would include SECURITY (0.39/.36) and STIMULATION (0.41/.34). Higher still in inconsistency (standard deviations from 0.45 to 0.54) are TRADITION (0.45/.48), and CONFORMITY (0.47/.48). The final quartile grouping contains the values that clearly have the least consistency (i.e., highest standard deviations, in the 0.55-0.65 range) of POWER (0.55/.43), and HEDONISM (0.59/.65). Thus, national cultures seem to vary least in their rated desirability for the life values of BENEVOLENCE, UNIVERSALISM, SELF-DIRECTION, and ACHIEVEMENT, and most in their rated desirability for POWER and HEDONISM, with the remaining value types falling in the middle 50%.

These data, and the theoretical frameworks discussed above that account for them, thus offer very useful insight into the specific nature of those values that – in terms of how consistently they are valued – "unite" us, as well as those that "divide" us. Combined (and

limiting ourselves for theory-testing purposes[3] to the values at the extreme first and fourth

quartiles of the distribution), they suggest that multi-country brands should gain in preference by

being consistently positioned on those image attributes (and underlying cultural values) that are

themselves *desired most equally* across markets. In contrast, they should lose in preference by

being consistently positioned on image attributes that *vary the most* in their desirability across

markets. Thus:

H1: For brands marketed in multiple countries, higher cross-national consistency on

individual image attributes will relate *positively* to overall consumer attitudes *if* the specific

brand image dimensions reflect cultural values that are *least heterogeneous (most similar)* across

nations, but *negatively* if they reflect values with the *greatest cross-cultural heterogeneity* (least

similarity). More specifically:

H1a: Higher cross-national image consistency reflecting consumer values of

BENEVOLENCE, UNIVERSALISM, SELF-DIRECTION, and ACHIEVEMENT will affect

overall consumer attitudes positively for a brand.

H1b: Higher cross-national image consistency reflecting consumer values of

HEDONISM and POWER will affect overall brand attitudes negatively.

Moderating Influence of Competitive Context

As mentioned earlier, in addition to discussing the impact of the heterogeneity in

consumer needs as a moderator of the effectiveness of a standardized international marketing

program, the literature on international marketing strategy has also conceptually stressed the

additional moderating effects of the cross-market heterogeneity of the *competitive environment*

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[3] Tests of the moderating effect of a continuous variable are frequently performed (e.g., Chandon and Wansink 2007) by creating four quartiles of it and testing for differences across the first and last quartiles, or by creating thirds and testing for differences across the top and bottom thirds. Issues with this 'extreme groups approach' are discussed by Preacher et al. 2005.

on brand attitudes and performance (Cavusgil, Zou, Naidu 1993; Jain 1989). This competitive set

does in fact often vary across markets: *Henkel*, for instance, has found that its set of top three

competitors is different in each of its six major European markets (Arnold and Schroiff 2004).

Aaker and Joachimsthaler (1999) provide examples of global car brands that face different

competitors in various geographic markets. If a multi-country brand faces a variety of

competitors in its different markets, rather than the same ones, it is more likely to face

competitive brands utilizing differing brand positioning platforms.

When faced with a varying set of competitive brand positioning platforms across

markets, the international marketing strategy literature (Jain 1989; Quelch and Hoff 1986) argues

that standardization of a brand's own image positioning strategy may be detrimental for

performance, since such standardization would reduce the firm's ability to directly respond to

these differing competitive contexts. Thus, as an example, if Samsung mobile phones face lower-

priced Chinese competitors like Huawei and ZTE in Nigeria, but premium competitors like the

Apple iPhone in the USA, using an "affordable" image positioning in Nigeria but a "premium"

one in the USA -- and sacrificing global consistency -- might be more successful for Samsung

than a strategy that insists on a consistently premium position worldwide. Relatedly, research in

strategy has also shown that a firm's global degree of cross-market integration is frequently

determined by the nature and actions of its competitors (e.g., Hamel and Prahalad 1985).

The similarity (or not) of the competitive positioning contexts across markets should

therefore also influence how a firm's competitive strategies are planned and executed on a multi-

country basis (Zou and Cavusgil 2002), in addition to the consumer-value moderator detailed

earlier. However, importantly, empirical tests of this competitive-set consistency proposition,

using actual data on a brand's competitors in multiple markets, have not yet been reported in the

literature. Hence, we also study, with our large field dataset, the moderating effects of *competitive set consistency* on the effectiveness of a multi-country brand's positioning strategy and suggest:

H2: For multi-country brands, higher overall imagery consistency will relate *positively* to consumer preference *more if* the brand faces a *less heterogeneous* set of competitors across these markets.

DATA SET AND ANALYSES

The main data that we use come from the Young & Rubicam Group's proprietary Brand Asset Valuator (BAV) database. Our portion of this data set consists of perceptual (image) and attitudinal ratings of 1,723 brands by 64,790 consumers, from 22 countries. As described below, we supplement these BAV data with additional cross-market consumer data that links the BAV perceptual variables to Schwartz' value types.

BAV Data

Countries. The countries from which we used BAV data included the UK (3,614 respondents), France (2,327), Germany (4,388), Holland (1,501), Italy (2,272), Poland (2,503), Spain (2,854), Sweden (1,579), Australia (3,841), New Zealand (2,399), Brazil (2,982), Chile (2,481), Mexico (2,980), Peru (1,647), Uruguay (1,879), India (3,016), China-PRC (5,033), Malaysia (1464), Thailand (1,897), Japan (2,219), Canada (2,587), and the USA (9,327). We chose these countries because the set included countries at different levels of economic development, from different geographical regions of the world, with different social contexts, and because their data sets contained complete, comparable information on our variables.

Categories and Brands. We analyzed 1,723 brands that were present in at least 2 countries (thus qualifying them for the necessary 'multi-country' status), in 27 different product

categories. Brand ratings were collected from respondents by the company with no indication of product category. The company then classified the brands into (possibly several) micro-categories, 224 in all. To allow our analysis to account for the category, we consolidated the company's list into 27 macro-categories, and assigned every brand uniquely to the one category (e.g., consumer packaged goods; personal hygiene; alcoholic beverages; or computers) in which it had the highest usage across all countries.

Sample and Data Collection Instrument. It is important to note that the same brand data were collected on each of these brands with standardized questionnaires, using similar data collection methods across the 22 countries. The USA data collection method serves as a good illustration of the methodology used. Here, the BAV survey is administered quarterly (covering different brands); it uses 22 versions of a 24-page mail questionnaire (each covering a subset of the complete brand list), with response rates of 66% on average, resulting in around 6,600 respondents per quarter from a panel of about 10,000 respondents. The sample is balanced by the local data collection vendor to match local census proportions on age, gender, and region. In non-English-speaking countries, standard back-translation procedures are employed to create the local-language questionnaire versions. Consumers rate multiple brands, from multiple product categories, and each brand name is presented to respondents without any category context. While the goal is to cover all the major brands, not all brands in each category are rated; this is an unavoidable limitation of these BAV data for our purposes. (Although this creates a data set with observations from each individual respondent for several, but not all, brands, we analyze the data below at the level of brands, not individuals.)

Variables and Constructs. Our data contain consumer ratings of these brands on various dimensions. The first variable is the respondent's overall *familiarity* with the brand, measured on

a single-item 7-point scale ('never heard of' to 'extremely familiar'). This corresponds to what

BAV calls 'knowledge.' Those brands that fulfill the initial minimum familiarity requisite (i.e., a

non-zero level) are then rated on the variables to follow, as well as a few other BAV control

variables (such as *Regard/Esteem* and *Relevance*.).

The data next contains 48 brand attribute ratings, where consumers provide a 'Yes' or

'No' response to a checklist of attributes (some of which we used to calibrate an overall

attitudinal measure, see below), indicating whether (1) or not (0) they associate a certain

characteristic with that particular brand. Some of these variables assess consumer perceptions of

a brand's **overall attitude-like perceptions** such as "best brand," "worth more," "high

performance," "high quality," etc. Others pertain to **brand personality/image** (Aaker 1997),

where brands are rated on selected personality adjectives like "arrogant", "helpful", "stylish",

and the like. For a full list of constructs and variables in our data, please see Table 1, which also

shows, with an asterisk, which of the BAV "brand image" items have an identical or very similar

term in Aaker's (1997) list of brand personality facets and items.

[INSERT TABLE 1 ABOUT HERE]

Data Preparation. Our hypotheses above are stated at the level of brands, which serve as

our unit of analysis. Importantly, they are *not* stated at the level of individuals, who provided

binary (Yes/No) responses. These individual-level binary ratings possess many inherent

measurement limitations; in particular, they do not assess the *degree* to which individual

consumers believe a brand possesses a given attribute. A non-dichotomous measure suitable for

analysis was therefore obtained by aggregating the 'yes' responses into brand-level proportions

(for each image attribute, within each country) by averaging across respondents. Below, we do

not refer to these individual-level binary data again.

Our primary concern is the analysis of *consistency*, specifically, cross-national consistency. In simple terms, we would like to assess whether a particular brand is *consistently* viewed as, say, "somewhat above average, among all brands" across the countries in our data set, for a particular attribute. Standard deviations are the default measure for computing such consistencies: a small standard deviation would indicate that a brand is viewed fairly similarly across countries. Thus we computed and used the standard deviations of the (across-individual, within-country) proportions in the regression models that follow. (We also estimated those models using inter-quartile ranges as an alternative measure of consistency, as well as standard deviations of arcsine-transformed proportions, with substantively similar results, which can be obtained from the authors.) Data at this step were used for the factor analyses we report below.

Our hypotheses and ensuing analyses all concern *relative* appraisal across cultures. That is, even if 60% of the respondents in two countries agree on the Yes/No question of whether that brand possesses that image attribute, that may indicate greater relative salience on that image attribute for that brand in country 1 than in country 2, much in the way that a "B" grade can be awarded using varying standards at different universities. Thus, any cross-cultural data analysis must also correct the within-country data for country-varying consumer response-style and scale-usage differences (Baumgartner and Steenkamp 2001). Therefore, to make it amenable for cross-country analysis (Van de Vijver and Leung 1997; Fischer 2004), we performed the specific type of within-country standardization (*ipsatization*) recommended by Fischer (2004, p.277) as being appropriate for our eventual regression analyses. In reviewing the statistical properties of different types of ipsatization procedures, Fischer concludes that ipsatization can yield spurious *factors in factor analyses* (p.273), but that *regression analyses* using data ipsatized (standardized) not within-subject, but instead by within-group or within-culture adjustments, *do*

yield meaningful estimates of effects at individual and group/culture levels (p.277). Hence that is

the type of ipsatization (within-country) we utilize.

A flow-chart of our transformations and procedures appears in Figure 1 and a detailed

explanation is provided in Web Appendix A.

[INSERT FIGURE 1 ABOUT HERE]

Factor-Analytic Data Reduction. To reduce possible collinearity in our needed

regression analyses, we performed exploratory factor analysis (EFA) on the BAV items to see if

factor-creation was necessary. This EFA was performed on the pooled-countries brand-level

proportions data, before our ipsatization (see Figure 1). Possibly because some prior factor

analysis might have been used by BAV itself, 17 of our 48 BAV items did not load on multi-item

EFA factors. However, 31 of them did load on 9 multi-item factors, which were further refined

as described below.

Before we can further refine these EFA factors, we first need to test if our EFA factor

solution possesses 'configural invariance'[4] across our multiple countries, which we did using the

procedure recommended by Van de Vijver and Leung (1997, pp.90-106).[5] We used their

procedure instead of the CFA (Steenkamp and Baumgartner 1998) approach because, with 22

countries (groups) and 9 factors, the CFA-type tests of metric invariance would involve a very

large number of paired comparisons (de Jong, Steenkamp and Fox 2007), and because our

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[4] Note that since we are not interested in making cross-country comparisons of model estimates, but only in estimating pooled global coefficients, it is not necessary for us to undertake the detailed measurement invariance tests proposed by Steenkamp and Baumgartner (1998) and others. As discussed later and in Web Appendix A, we did perform within-country standardization, a type of ipsitization (de Vijver and Leung 1997; Fischer 2004), to allow us to use these cross-cultural data sets in a valid manner.

[5] Exploratory factor analyses (principal components) were thus conducted individually for each of the 22 countries, and each country's factor loadings matrix was then target-rotated (using Procrustean rotation) to the one for all countries pooled together, to measure the degree of convergence for each country's factor loadings matrix to the "centroid" all-country matrix. Tucker's linearity phi and other measures were used to assess this convergence, and in 21 out of the 22 cases this particular statistic exceeded 0.70. (China was the lone exception, at 0.63, but we decided to retain it nonetheless because of its obvious importance.)

approach of using procrustean transformation, in which we test how each individual country model compares to the pooled model, is "actually more stringent than the configural model" (Baumgartner, personal communication). Given that our Tucker's phi statistic exceeded 0.70, suggesting it was reasonable to pool the data and use a common factor structure, we next performed a confirmatory factor analysis (CFA) to test and improve the measurement quality of these nine multiple-item factors suggested by the EFA analysis (i.e., assess and improve their convergent and discriminant validity, using LISREL 8.8). In this CFA analysis phase[6], three of the nine EFA factors were found to not possess adequate convergent validity to be further analyzed as multiple-item composites, so their individual items were added back to the individual-item pool, and the 6 CFA-validated factors (described below) were used in the subsequent regression analysis as multiple-item scales.

CFA-Validated Factors. In the first of the six CFA-validated factors, seven of the BAV items (best brand, high performance, high quality, reliable, trustworthy, worth more, and leader) were found to load together, obviously capturing an overall "attitudinal positivity" assessment. While this measure did not include more standard evaluative attitudinal items (such as good-bad), each individual item clearly measures attitude-like beliefs and feelings about overall brand superiority (e.g., best brand, leader, high quality). Furthermore, consumer perceptions of such brand attributes have been found to be strong predictors of subsequent purchase behaviors (for a review, see Wilkie 1994, pp. 280-307). This **brand attitudes** **scale** (alpha reliability=0.88), thus

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[6] Model fit statistics were: chi-square = 76250, p = 0.00, d.f. = 274, n = 22,000; given the huge sample size, the chi-square and p-level statistics are not a useful measure of fit in our case. The Root Mean Square Error of Approximation (RMSEA) was 0.12, close to the conventionally acceptable level of 0.10. The Non-Normed Fit Index (NNFI) was 0.88, the Comparative Fit Index (CFI) was 0.92, and the Standardized RMR was 0.089. While these do not reach the "best levels" preferred today, they are still considered "acceptable" (Bentler 1990; Hu and Bentler 1999), especially given the large size of our model (with 31 indicators and 9 constructs).

constitutes the dependent variable in our regression analyses. (While brand sales or market-share would have been preferable, such data were not collected by BAV.).

For brevity, the five other multi-item brand image factors created are not detailed here but are presented in Table 2. The table also reports, for each multiple-item construct, the constituent items we used, as well as the reliabilities and the Fornell and Larcker (1981) "average variance extracted" (AVE) measures of each construct's "convergent validity." These reliabilities are all at least 0.71, exceeding their recommended minimum, and the AVEs for all constructs are above the conventional threshold of 0.50. These multi-item constructs are labeled "F-" (for "Factor") in the later regression estimates. To assess the discriminant validity of these multi-item factor scales, we used the conservative AVE method proposed by Fornell and Larcker (1981). Table 2 reports the shared variance (squared covariance) for each pair of multi-item constructs (in the cells), and puts the AVE of the column construct in the diagonals. It can be seen that in each case these diagonal elements are larger than any of the squared inter-construct covariances (in the columns below), supporting the discriminant validity of that column construct with each of the others with which it was paired. (Across-item correlations for our single-item constructs too remained significantly below 1.0, supporting discriminant validity for them as well.)

[INSERT TABLE 2 ABOUT HERE]

Those variables in our data not loading sufficiently on any of these CFA factors were retained as single-item measures in our regression analysis, since they were likely the result of the BAV's own prior factor-reduction; these will appear in our regression results below. Note that the names we use here for our brand image attributes (single-item variables and multi-item

factors) are those used by BAV itself (or based on them); many are conceptually similar to those listed by Aaker (1997), as shown in Table 1.

Matching BAV data to Schwartz' Life Values via Supplementary Studies

Our conceptual development earlier relies on Schwartz' life values. However, the BAV image attribute data we are using to operationalize them (single-item and multi-item measures) did not utilize Schwartz' own measures. Thus, it is necessary to relate these two sets of data prior to performing our regression-based tests of H1, and we do so below, using primary data from consumers. We began by obtaining linguistic (dictionary and synonym) descriptions of the image items and factor-labels in the BAV data. We then conducted three supplementary studies in which we asked respondents to "match" Schwartz' value categories to our BAV image data.

In all studies, respondents were presented with descriptions of Schwarz' values "categories" (the category names, and specific items), and were asked to indicate which one or two of them "best matched," in their judgment, with each of the specific brand image variables/factors used in our BAV analysis. For example, the Schwartz category of HEDONISM was described as "Pleasure and gratification of oneself; enjoying life," and participants were asked if it, or any of the other nine Schwartz categories, best matched the adjective "trendy (in accordance with the current fashion)," adding the dictionary definition we obtained to the BAV variable trendy, for clarity. They were told that there were no right answers, that we were simply "interested in seeing how you personally would 'match' these different ways to rate brand imagery."

Our first study involved a sample of English-speaking students from a Midwestern U.S. University (n=115, 57% male, most 20-21 years old). The second study tested slightly different wording (including oppositely-worded phrases), to help us better understand the Study 1 results;

it was conducted using the same subject population (n=122, similar demographics), for a limited subset of items. It used four BAV items exactly as they were in the first study (to see if those would replicate) and two other BAV items with modified descriptions (detailed below).

Table 3 presents the data from the first and second studies, reporting the most-frequently matched Schwartz category for each of our BAV image items and factors. It provides a description of Schwartz' (1992, 2004) ten value types, listed in the order of descending cross-country standard deviations in the analysis of Schwartz and Bardi (2001, Table 3); the items they used for each; and the items or multi-item factors (F- variables) from our BAV brand image data that best match them. This match is represented by the percentage of times a Schwartz category appeared as the best match for a specific BAV item. Only the percentages for the highest-matching Schwartz category are reported.

For example, the Schwartz value category of HEDONISM was the most-matched category by respondents to the BAV item 'sensuous' (54% of the participants in Study 1 thought this was the best match). The BAV sensuous item was also re-tested in the second study, to see if its result would replicate, and again was most-matched (57%) with the same HEDONISM value category.[7] To assess our empirical correspondence in a more formal statistical manner, we also performed tests, using a log-linear formulation within the General Linear Model framework, to see whether, in these data, each of the specific BAV adjectives 'loaded' significantly higher on the hypothesized Schwartz value categories than a "null" model would predict. Likelihood Ratio tests indicated this was indeed the case. Details of these tests appear in Web Appendix B.

<div align="center">INSERT TABLE 3 ABOUT HERE</div>

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[7] Our BAV item 'healthy' is included with HEDONISM as well because Inglehart and Oyserman (2004) show that it too increases in importance with economic development: the increase in emphasis on personal autonomy and self-expression also includes *better health and well-being* (pp. 8-10). Our respondent sample was very divided where to assign it, so we deferred here to Inglehart and Oyserman.

A third study (n=255) extended the data collection to the broader population, and countries other than the USA. It therefore examined whether the BAV-Schwartz item matches established by our two U.S. tests above would also replicate when non-U.S. (as well as U.S.) respondents were presented with an identical matching task. This test, conducted in English, used an international online panel and was taken by 255 subjects from countries that were among (or were geographically close to) the 21 non-US countries in our sample. Respondents came from 20 countries; besides the USA, respondents from 10 other countries contributed at least 10 respondents each. Again, we assessed the degree of empirical correspondence here using the same log-linear formulation, to see whether the specific BAV adjectives loaded significantly higher on the hypothesized Schwartz categories than a "null" model would predict. Likelihood Ratio tests indicated this was the case.

Thus, while some other interpretations may certainly be possible ('fun' might also be part of HEDONISM, for instance), the matching in Table 3 provides sufficient support for the mapping from Schwartz' value-types to the brand image variables/factors available to us in the BAV data. Some of our BAV variables (e.g., carefree, charming, different, simple, straightforward) did not seem to adequately match Schwartz' value items in these data (at levels >.3) and were therefore dropped from further analysis; they also are not listed in Table 3. Two of the Schwartz values categories (Security and Achievement) thus do not seem to have strong-enough matches in the BAV data.

Hellinger Indices of Competitive Set Consistency

To allow us to test H2, each brand in a category requires a measure of the *consistency* of the competitive set it faces, taken across all countries in which that brand competes. The BAV data set for each category in each country includes a list of several (but not all) competitive

brands, including local ones, in that category. From this list of competitive brands rated in each

category, it was possible for us to compute an index of competitive set consistency, called the

Hellinger Index, using the method detailed in Web Appendix C. The Hellinger Index is based on

measures of distributional similarity, similar to the Kullback-Leibler divergence (see Lee 1999).

This index accounts for four quantities critical to theoretical predictions underlying H2: inter-

brand similarity, numbers of competitor brands in each country, relative brand strengths, and

relative economic strength of each country's market. A higher Hellinger Index score means more

competitive set similarity.

ANALYSES AND RESULTS

Analysis Techniques. Our regression estimates below are those obtained by using

standard ordinary least squares (OLS) regression. In addition, since each of our brands lies (for

analytical purposes) in a single product category, and since the effects of interest will likely vary

across the categories, we accounted for potential effects differences across categories by also

testing H1 via a Hierarchical Linear Models (HLM) approach. For brevity, since the HLM results

were substantively very similar to the OLS ones, we will not report the HLM results in the text

below. Web Appendix D describes the HLM technique; the models we estimated using it; our

HLM results; and our commentary on those results.

Tests of Hypotheses: The dependent variable in all regressions was the 'brand attitudes'

composite described earlier (of seven performance-related attributes, e.g., "best brand"),

standardized within-country. Our independent variables included our consistency measures (see

Web Appendix A) of the brand image items and factors, to test H1, and the Hellinger Index of

Competitive Set Consistency (see Web Appendix C), to test H2.

The overall brand attitude score for each brand was regressed (see Table 4) on the cross-country consistency (standard deviation) measures for each of the 16 single-item ('down-to-earth' to 'unapproachable') and 5 multi-item image factors (F-Momentum to F-Rugged) that had shown adequately-high levels of "matching" with the Schwartz categories in Table 3; the Hellinger Index measure of consistency; and the BAV controls for Knowledge (Brand Familiarity), Regard (Esteem), Relevance, and 'good value'. Results (along with those from HLM, for easy comparison) are presented in Table 4. Other than the Hellinger Index measure of competitive set consistency, the other variables in this model are all measures of cross-country consistency, since these are the constructs underlying our theory.

The Schwartz value-types being considered vary not only in the consistency with which they are desired across countries (i.e., their standard deviations, our key variable), but also in their aggregate importance levels, with those that are most consistently preferred, like Benevolence, also rated highest on average (see Appendix A). Thus, the *consistency* with which brands communicate certain value-types is necessarily confounded with the *mean importance* of those same values. We thus include in our presented analyses – both OLS and HLM – the first Principal Factor for the means of these values (as operationalized through the 'matched' BAV image attribute data). That is, for each brand, just as we computed its standard deviation across countries on each attribute proportion, we also computed its mean across countries on each attribute. These attribute means (on each of the BAV single-items and multi-item factors) were then entered into a Principal Components factor analysis, with brands as the unit of observation (the rows of the data matrix). The first principal factor alone accounted for approximately one-quarter of the variance in the entire set of means, further underscoring the degree of collinearity. The factor score on the first principal factor, for that brand, was then calculated and retained as

another brand-level measure. The included principal factor improves fit enormously: OLS

analysis without it achieves an adjusted-R^2 of 0.335; including it raises it to 0.724 (with

d.f.=1699). Including the second principal factor as well yields only a trivial increase, to 0.728,

so the presented results (see Table 4) only use the first principal factor for the means. The HLM

analyses (also using this first principal factor) were run using Bayesian methods, to enable

estimation of large covariance matrices for the random effects (further details are available from

the authors); they are only presented for ease of comparison and are not discussed here (see Web

Appendix D). The results of the two analyses, OLS and HLM, are broadly concordant. (We also

obtained similar OLS results using inter-quartile range, rather than standard deviation, as our

measure of cross-national consistency, as well as models that excluded the first principal factor

for the means; for brevity, these are not reported here but are available upon request.)

[INSERT TABLE 4 ABOUT HERE]

Test of H1a: Negatively Significant Relations. Table 4 presents our regression estimates,

with the variables and Factors ordered to match the results presentation that now follows. We

first use these OLS estimates to test H1a, the hypothesis that multi-country brands that are more

consistent across their markets (possessing a smaller cross-country standard deviation), *on those*

image attributes that match those of Schwartz' values that are desired most similarly across

markets (BENEVOLANCE, UNIVERSALISM, SELF-DIRECTION, and ACHIEVEMENT), have

higher brand attitudes overall. Table 3 shows that none of the BAV items in our data adequately

capture the Schwartz ACHIEVEMENT values-type, leaving us with a test of the three more

equally-desired values-types (BENEVOLENCE, UNIVERSALISM, SELF-DIRECTION). For

these, we hypothesize a negative relationship, such that a higher standard deviation (more

inconsistency) should reduce brand attitudes.

H1a does not find strong support in Table 4. Of the seven variables/factors that represent these three Schwartz value-types (F-friendly, F-helpful, social, down-to-earth, original, unique, and independent), three are significant (at p<.05) in the predicted negative direction (F-friendly; social; original). Two are significant in the opposite (positive) direction: down-to-earth, and F-helpful. Two others are non-significant (independent, unique).

Test of H1b: Positively Significant Relations. H1b, however, does find substantial support. This hypothesis argued that multi-country brands that are more consistent across their markets (possessing a smaller cross-country standard deviation), *on those image attributes that match those of Schwartz' values that vary the most across markets (HEDONISM and POWER)*, have *lower* brand attitudes overall. For these, we hypothesize a positive relationship, such that a higher standard deviation (more inconsistency) should increase brand attitudes.

Of the seven variables/factors that represent these two Schwartz value-types (Sensuous, Healthy, Arrogant, Unapproachable, F-Elite Style, F-Momentum/Gaining in popularity, F-Rugged), five are significant (at p<.05), all in the predicted positive direction (Healthy, Unapproachable, Elite Style, F-Momentum, and F-Rugged). The other two are non-significant (sensuous, and arrogant, though sensuous is significant in the negative direction in the HLM results).

Though this is not a part of a hypothesis test, we note that of the other BAV items in the regression estimates, that operationalize the Schwartz value-types "in the middle" (of the standard deviations' range, and Table 4), only two are significant, in a negative direction (trendy and fun).

Thus, summarizing these H1 results, it appears that the attitudinal payoff for brands that pursue a high-consistency strategy in their positioning worldwide *does* depend on whether the

image attributes on which they are consistently positioned are themselves desired uniformly, or

not, across those markets. The empirical evidence seems strong that if those image attributes

represent values that *vary more* in their global appeal – such as HEDONISM or POWER – it

may be wiser for multi-country brands to deploy those image attributes *inconsistently*, rather than

consistently. The empirical evidence in our data is weaker, and only somewhat supportive, for

the relationship in the opposite direction: for those image attributes that represent values that

vary less in their global appeal – such as BENEVOLENCE, UNIVERSALISM and SELF-

DIRECTION – global brands may indeed be well-served by a strategy of consistent worldwide

positioning.

Why might the "healthy" image attribute (which we listed in the HEDONISM value-type

in Table 3) also be one where brand attitudes increases more with the inconsistent, rather than

the consistent, use of such imagery across the world? A simple explanation might be that many

health "fads" are prevalent more in some countries than in others. A more nuanced explanation,

which we have referenced earlier (footnote 7), might be that the pursuit of individual health is of

more primary importance in societies where other security and economic needs have been met,

than in societies where the latter needs are seen as currently more pressing, leading to variation

across countries in the importance given to it. Consider, for example, the reduced importance

given in China to the health consequences of environmental pollution, when weighed against the

economic growth that generates such pollution (New York Times 2007).

Interactions of Imagery Consistency with Competitive Set. Hypothesis 2 suggested that

the effect of brand cross-national image consistency on overall brand preference ought to be

greater *if* the brand faces a more similar competitive set internationally – that is, there should be

an interaction between our measure of competitive set consistency across countries (the

Hellinger Index, described earlier), and a measure of the brand's cross-country consistency of

positioning, across all 22 countries, on all the image attributes that BAV is measuring. Since this

second hypothesis has nothing to do with the values literature, there is no reason to limit its test

to just the BAV image attribute items that match the Schwartz values types, as was done for our

H1 tests earlier. Thus, to measure this "overall" brand image positioning consistency, we

calculated an index that took the square root of the sum of the variances (squared SDs) of *all* the

BAV brand image attributes in our data, except for those measuring our attitudinal dependent

measure (thus, it used 48 less 7, or 41, brand image attributes; this is thus labeled SD41 below).

Lower values on this "SD41" index indicate less cross-country variation (more positioning

consistency).

The accepted methodology for testing the statistical significance of our hypothesized

interaction term is to estimate its value, in a model that contains all main effects going into the

interaction, after mean-centering the data to reduce collinearity and to increase the

interpretability of the interaction. Since our H1 test above showed very similar results for our

OLS and HLM estimates, and since the OLS estimates are more directly interpretable, only OLS

results are presented here. Our OLS-estimated regression model thus predicted the same

attitudinal dependent variable used in our H1 test, using just four independent variables: the total

brand image positioning consistency (standard deviation) measure, utilizing all the 41 perceptual

image attributes; the Hellinger Index, described in Web Appendix C; the interaction term

between the two; and, analogous to our H1 test of Table 4, the scores on the first factor for the

mean-scores on all these 41 image attribute items, to control for the means of these 41 brand

image attributes. These OLS results showed that (a) the main effect of the overall image

positioning consistency index (SD41) was not significant; (b) the main effect of the Hellinger

Index was significant, in a positive direction (coeff.=1.78, p<.001); (c) the control-variable for the image attribute means was significant (coeff.=.20, p<.0001); (d) relevant to our hypothesis test, the interaction between the Hellinger Index and the SD41 index was significant in a negative direction (coeff.=-.24, p<.026). (The R^2 of the model was .11, with n=1727 and d.f.=1722). That is, as the Hellinger Index gets larger – competitive set consistency gets greater – the relationship between overall brand image positioning inconsistency and brand attitudes gets even more negative.

To help interpret the nature of this interaction, we estimated and plotted the mean levels in our data set of brand attitudes for brands in the first and fourth quartiles each of the Hellinger Index, and of SD41. The plots showed that when the Hellinger Index is low (indicating competitive set *dissimilarity* across markets), there is very little difference in overall cross-national brand attitudes across the low and high levels of SD41. In other words, when the brand faces a diverse set of competitive brands, it matters little (in terms of brand attitude consequences) whether the brand creates cross-nationally consistent, or inconsistent, image perceptions. However, when the Hellinger Index is higher (in the fourth quartile) – i.e., the brand faces a more consistent set of cross-national competitors – there is clearly an improvement in overall brand attitude ratings if the brand in question is globally more consistent (first quartile of SD41), rather than less consistent (fourth quartile of SD41), in its brand image perceptions across its multiple markets.

DISCUSSION

Results and Theoretical Contributions. Our results make two distinct contributions to the theory of global brand management.

The first contribution concerns the impact of similar versus dissimilar consumer needs and values. The extant view in the international marketing strategy literature is that there is typically a trade-off between the opposing advantages of standardization and localization in brand positioning (Ryans et al. 2003), and that standardization makes sense only if there is enough homogeneity in consumer wants and needs relative to those standardized elements (Jain 1989; Ryans et al. 2003; Zou and Cavusgil 2002). The literature is silent, however, on *which specific* brand positioning attributes or messages will face relatively more homogeneity (versus heterogeneity) in consumer response, across markets.

We suggest and show that global brands can gain from the cost and speed advantages of standardization, without risking a loss of localized relevance, if they strategically standardize less on those *specific* image attributes *on which* there do not exist high cross-market consensus of importance ratings. Using the prior literature on cross-cultural values' importance, we identify those life values that are relatively most equal in their cross-national importance (UNIVERSALISM, BENEVOLENCE, SELF-DIRECTION, ACHIEVEMENT) versus not (HEDONISM, POWER). Thus, we argue, multi-country brands positioned consistently on image attributes reflecting the former should gain in brand attitudes, while those positioned consistently on the latter should in fact be hurt by it.

Our unique global field-data set allowed us to put this key hypothesis to an empirical test, and it found substantial support for the part dealing with more-varying values. The fact that our data set uses perception and preference data from over 64,000 consumers, in 22 widely-dispersed countries, on 1,723 multi-country brands in 27 product categories, adds considerable empirical weight to these findings. Thus, our results do support the common managerial belief that global brands marketed in a more consistent, standardized way also ought to reap the benefits of higher

consumer attitudes (in addition to possible cost savings and launch-speed efficiencies) – but with a vital new, added qualification. We show that this is more likely *if* the specific *type* of brand attribute, on which the brand is more consistent worldwide, is also *not* the kind of attribute that consumers across the world are likely to *disagree on*, in terms of relative desirability. Interestingly, analogous results are *not* found for an *increase* in brand attitudes from consistent positioning on brand attributes that *are* consistently valued everywhere. This may be because consumers consider brand information that seems negative to be more diagnostic, and overweight it in their brand judgments, compared to positive information (Skowronski and Carlston 1989) -- so that a brand is hurt more by being consistently positioned on attributes disliked in some markets, than it is helped by being consistently positioned on equally-liked attributes.

Our use of image attributes and life-values allowed us to tap into the rich theoretical and empirical streams of prior work on the existence, and evolution, of cultural differences on their importance (Schwartz 1992, 2004). This gave us a strong basis for developing expectations regarding the values for which there is (or is not) cross-cultural variation in importance (Schwartz and Bardi 2004), and for what theoretical reason (the evolution of societies over time: Inglehart and Oyserman 2004). Our results therefore also make a useful contribution to the literature on how cross-national cultural differences impact global marketing strategy. They add to the recent work by Torelli et al. (2012) that show the importance of congruity between the cultural value priorities of a country, and the abstract meanings embodied by particular multi-country brands. Unlike Torelli et al. (2012), who explore a related but different research question, we do not limit ourselves to just the cultural dimension of individual-collectivism, and

we use a large field data set from a broad cross-section of the population rather than rely on lab studies among college students.

Our second contribution concerns the impact of a varying competitive environment. Here, our results using the Hellinger Index measure of competitive set similarity put to a rarely-found test the proposition that if a global brand faces dissimilar major competitors in its many markets – as is often the case – it may make more sense for that global brand to customize (localize) its competitive positioning, rather than pursue the same one, consistently, worldwide. It is interesting that the issue of competitive similarity is one rarely discussed in the international marketing strategy literature (e.g., Jain 1989; Ryans et al. 2003; Zou and Cavusgil 2002); our result suggests that it perhaps deserves more attention.

Note that we have assumed, in our test of this relationship, a sequence wherein greater independently-determined brand image consistency leads to (causes) greater brand attitudes, with that relationship being moderated by the degree of competitive set consistency (measured via the Hellinger Index (HI), with greater competitive set consistency strengthening the consistency-to-attitudes relationship. It could be argued that a different sequence is at work: when firms observe greater competitive set consistency, they increase the image consistency of their brands, leading to greater consumer preference for those brands. In this latter sequence, the degree of brand image consistency is no longer independently determined, but is itself determined by competitive set consistency. We tested these two possible sequences via tests of mediation to see which of them is more consistent with the observed data. In these tests, we used the same SD41 variable as before as a summary statistic of brand image consistency. They showed that the data are consistent with our proposed moderation hypothesis H2, but do not support, even partially, the mediation by SD41 of the effect of HI upon brand attitudes.

Managerial Implications. In a world today that is characterized *both* by the sweeping

forces of globalization (e.g., Alden, Steenkamp and Batra 1999), *and* consumer desires for

localization (e.g., Ger 1999), multi-country marketers have to find a way to *combine* local appeal

with global efficiency. Hollis writes "Today's global brands must leverage their advantages of

scale *and* adapt their offering to ensure local relevance" (2008, p.82). The only way to do both of

these, he adds (p.165-166), "is to identify a promise that works across countries." Citing Simon

Clift, the CMO of Unilever, he stresses that it is much more critical to find a brand appeal that

works across borders – so that brand assets can be created on a one-size-fits-all basis – than it is

to use a common brand name. "*A global promise is the most important global brand asset, way*

more important than the same name or formulation or graphics" (p.174).

Therefore, just as brands planning to extend into other product categories are advised to

position themselves on abstract (rather than concrete) imagery and benefits (Batra, Lenk and

Wedel 2010), so also brands intending to become global need to incorporate into themselves as

many universally-desired needs and values as possible. Finding such globally-appealing brand

promises requires clever consumer market research because "the real trick lies in looking for

commonalities, not differences" (Hollis 2008, p.156). Our research above has focused precisely

on this question -- of identifying those life-values that represent the commonalities rather than

the differences -- to facilitate the consistent cross-market positioning by global brands on those

image attributes that will yield economies of scale without jeopardizing local-market appeal.

While in some cases there may be natural limits on which image attributes a multi-

country brand can be positioned on in its many markets (as pointed out by Torelli et al. 2012),

most often brands do have the flexibility to modify their brand imagery in different countries.

Hollis gives the example of McDonald's, which is able to position itself on convenience and

being economical in developed countries, while emphasizing aspirational and up-market imagery in many developing countries. Similarly, Jack Daniels whisky uses its core American values of authenticity, masculinity and fraternalism successfully in other English-speaking countries like the UK, Australia and South Africa, but is now conducting research in China, where the culture is more collectivist than individualist, to see how best to re-position the brand there.

Multi-country brands thus already undergo considerable reinterpretation of their promises and values as they seek success in different cultures. Global marketers like Unilever and Procter & Gamble create and market their multi-country brands today with input from multiple markets, using organizational mechanisms such as multi-country brand development teams that strategically select the positioning strategies that are most likely to work best across the world (Neff 1999). As global branding teams and managers actively create their global brands, they naturally seek to (or should seek to) create global brands that have as many elements in common as possible "a priori" across markets, given the demands and constraints of the specific category, geographies and consumer targets, for that is how scale economies will be realized. Thus, these companies already seek to maximize cross-market acceptance for their global brands. However, they have not previously been provided evidence of how *specific* cross-cultural values' importance might impact on the success of their positioning decisions, as done here.

There is clear evidence (Hollis 2008), for example, that national attitudes to luxury and status – or even to prestigious brands -- vary enormously across countries, being much more favorable in Russia, China, and Mexico than in Western Europe, the U.S., U.K., Canada and Australia. Thus the egalitarian "Campaign for Real Beauty" for Dove was much more successful in the latter set of countries than in the former (Hollis 2008 pp.62, 223). This example shows that a multi-country brand consistently positioned on status will do well in some markets but not in

others – yielding scale economies of consistency but sacrificing market share in some markets. Alternatively, it can choose to prioritize local market relevance, using a status appeal in some markets but not others – growing demand, but sacrificing economies of scale from consistency.
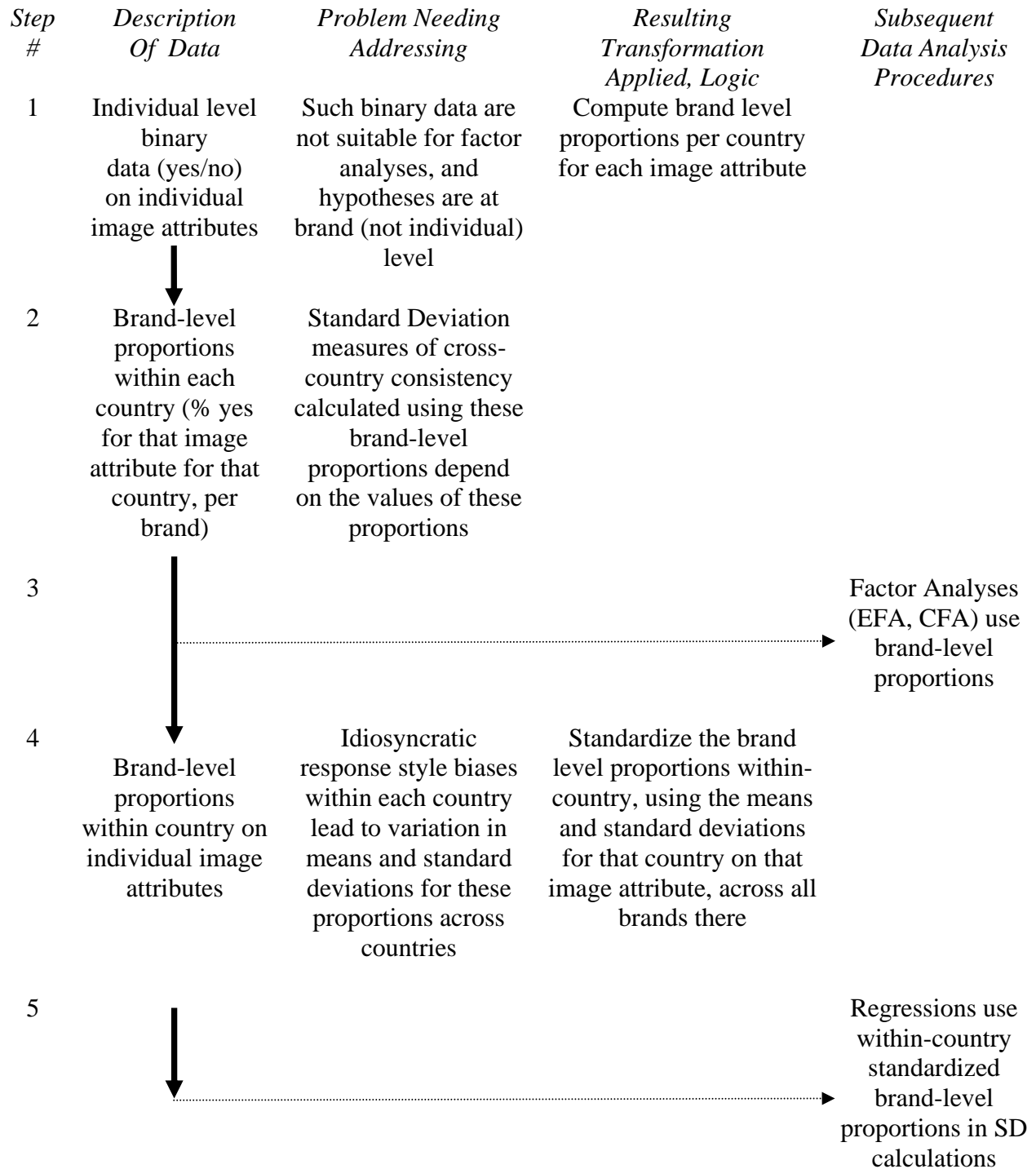
But why choose status at all? Could the multi-country brand not position itself on a different image attribute altogether, something less divisive, to avoid being side-swiped in its search for global scale? Thus, to go back to our Mac vs. PC ad campaign of Apple discussed in the Introduction, Apple's ads might have been received equally well in Japan and the US if they had, in both countries, downplayed Mac's "hedonistic" benefits (of pleasure, enjoyment, etc.) – something not equally desired everywhere -- and instead focused on its greater ability to facilitate self-direction (creativity and independent thought), which is much more universally sought. The findings and implications in this paper thus ought to be of considerable value in the development processes for global brands.

Limitations and Future Research. We were unable, in this paper, to systematically study the variations in results across product categories (varying on perceived risk, social signaling value, hedonic/utilitarian character, etc.), since we had no external data on these variations. This might be an interesting avenue for future research (see Web Appendix D). Further, given that we were studying 27 product categories at once, we were limited to brand image attributes, as opposed to functional attributes (specific to each category); future research needs to study these as well. It should also attempt to model dependent variables such as actual sales or market share.

Legitimate questions could also be asked about the extent to which our theory, data, and analyses support the 'causal' sequences we have stated or implied in much of this analysis. While we have in some places tested alternative sequences, we concede that no causal statements can be definitively made on the basis of our correlational analysis of survey data. In addition to

examining causal sequences more thoroughly (e.g., by using cross-lagged panel data), future

work might also delve more deeply into how societal values – and thus a preference for more

consistent multi-country brands – evolve over time.

Figure 1
Schematic of Data Transformations: Rationale and Procedure
(Details in Web Appendix A)

Step #	Description Of Data	Problem Needing Addressing	Resulting Transformation Applied, Logic	Subsequent Data Analysis Procedures
1	Individual level binary data (yes/no) on individual image attributes	Such binary data are not suitable for factor analyses, and hypotheses are at brand (not individual) level	Compute brand level proportions per country for each image attribute	
2	Brand-level proportions within each country (% yes for that image attribute for that country, per brand)	Standard Deviation measures of cross-country consistency calculated using these brand-level proportions depend on the values of these proportions		
3				Factor Analyses (EFA, CFA) use brand-level proportions
4	Brand-level proportions within country on individual image attributes	Idiosyncratic response style biases within each country lead to variation in means and standard deviations for these proportions across countries	Standardize the brand level proportions within-country, using the means and standard deviations for that country on that image attribute, across all brands there	
5				Regressions use within-country standardized brand-level proportions in SD calculations

Table 1

Variable Descriptions[+]

Variable Name / Variable Group	Explanation	Measurement
Knowledge/Familiarity**	Consumers' overall awareness of the brand. Extent of understanding of what the brand stands for.	7-point scale question. ('never heard of' to extremely familiar')
Esteem/Regard**	How highly consumers think and feel about the brand. Extent to which consumers like a brand and hold it in high regard.	7-point scale question. ('extremely low regard' to 'extremely high regard')
Relevance**	The breadth of a brand's appeal. Extent to which a brand is perceived to be appropriate for a respondent's needs.	7-point scale question. ('not at all relevant' to 'extremely relevant')
Brand Image Attributes *Items appearing in Aaker's 1997 list (with exact or very similar wording) are shown with an* *	Arrogant / Authentic* / Carefree / Cares about Customers / Charming* / Daring* / Down to Earth* / Distinctive / Dynamic / Energetic* / Friendly* / Fun / Gaining in Popularity / Glamorous* / Good Value** / Healthy / Helpful / Independent* / Innovative / Intelligent* / Kind / Obliging / Original* / Prestigious* / Progressive / Restrained / Rugged* / Sensuous / Simple* / Social / Socially Responsible / Straightforward / Stylish / Tough* / Traditional / Trendy* / Unapproachable / Up to Date* / Upper Class */	0 (No) or 1 (Yes). (Checklist type response style). Items treated individually or as multiple-item composites (see text and Table 2 for details).
Brand Attitudes	Best Brand / Worth More / Leader / High Performance / Reliable / Trustworthy / High Quality	0 (No) or 1 (Yes). Items combined into a 7-item composite (See Table 2)

** These variables were not used in testing our hypotheses, but instead only as control variables since models using BAV data typically include them. Their cross-country consistency did not significantly affect brand attitudes in our models either as a main effect or in their interaction with brand image consistency.

[+] Note that most of these variables are modeled using measures of their cross-country consistency (standard deviations) in the tests of hypotheses (see Table 4). Note also that some of those tests of hypotheses also use calculations of the Hellinger Index of Competitive Set Consistency, and of the brand's overall image attribute consistency (see text, and Web Appendix C, for details).

Table 2

CFA: Convergent and Discriminant Validity Statistics for Factor Constructs

(Matrix with Phi Squared in the cells, and Column Construct AVEs in the diagonals)

	DV Attits.	Mome.	Elit.	Frie.	Rugg.	Help.
DV (Brand Attitudes) Alpha = 0.88 (Best brand, high performance, high quality, reliable, trustworthy, worth more, leader)	**0.52**					
F-Momentum Alpha = 0.90 (Daring, dynamic, energetic, gaining in popularity, innovative, progressive, up to date)	0.29	**0.55**				
F-Elite Style Alpha = 0.87 (Glamorous, prestigious, stylish, upper class)	0.30	0.17	**0.62**			
F-Friendly Alpha = 0.70 (Friendly, carefree)	0.34	0.41	0.08	**0.56**		
F-Rugged Alpha = 0.71 (Rugged, tough)	0.01	0.04	0.01	0.29	**0.56**	
F-Helpful Alpha = 0.82 (Helpful, socially responsible, cares about customers, obliging)	0.29	0.29	0.17	0.20	0.01	**0.54**

TABLE 3

Correspondence Between Schwartz' Values and Our BAV Data

SCHWARTZ Value-Types (1992, 2004)	S.D.*	SCHWARTZ Items	BAV Attribute Correspondence***		
			Attribute**	Study 1	Study 2
HEDONISM	.59/.65	Pleasure, enjoying life, self-indulgence	Sensuous	.54	.57
			Healthy[+]	(FN. 9)	
POWER	.55/.43	Status and prestige (public image), authority, social power, wealth	Arrogant, Unapproachable+	.63	
			F-Elite style[+]	.57	
			Gaining in popularity (part of F-Momentum)[+]	.48	.48
			F-Rugged[+]	.45	
CONFORMITY	.47/.48	Obedience, self-discipline, honoring parents and elderly, politeness	Restrained	.66	
			Trendy (negative)[-]	.38	
			(not) Distinctive/ Authentic		.71
TRADITION	.45/.48	Respect for tradition, devout, moderate accepting my position in life, humble	Traditional	.96	
STIMULATION	.41/.34	Excitement, daring, a varied life	Energetic (part of F-momentum)[+]	.68	.72
			Fun[-]	.46	
SECURITY	.39/.36	Safety, social order, family security, national security, reciprocation of favors			
ACHIEVEMENT	.34/.30	Successful, ambitious, influential, capable			
SELF-DIRECTION	.31/.31	Independent thought, creativity, freedom, choosing own goals, curious	Independent	.89	.87
			Unique	.74	
			Original[-]	.63	
UNIVERSALISM	.31/.29	Equality, unity with nature, protecting the environment, broad minded, a world at peace, wisdom, a world of beauty, social justice	Down-to-earth[+]	.54	
			Social[-]	.37	
BENEVOLENCE	.28/.25	Helpful, honest, forgiving, loyal, responsible	F-Helpful/Obliging[+]	.68	
			F-Friendly[-]	.62	

* From Table 3 in Schwartz and Bardi (2001): standard deviations in the importance ratings (across countries) of these value-types (teacher/student samples across 56/54 countries respectively).
** Superscripted signs of +/- indicate significant relationships in our Table 4 estimates, indicating positive or negative direction of relationship.
*** Proportion of "matches" from studies reported in the text (which Schwartz category best matches this BAV item/factor, with more than one selection allowed). Those below 0.30 are omitted.

Table 4

Test of Hypothesis 1:
OLS and HLM Estimates (Unstandardized Coefficients)**

Variable	OLS	HLM	
		Fixed (Means)	Random (S.D.)***
Intercept	-.473* (.042)	-.452* (.043)	.295 (.027)
Hellinger Index	.839* (.070)	.724* (.075)	.245 (.152)
Knowledge_SD	-.061 (.045)	-.108* (.045)	.210 (.042)
Esteem_SD	-.012 (.068)	-.020 (.076)	.486 (.057)
Relevance_SD	.077 (.064)	.106 (.072)	.315 (.041)
Sensuous_SD	-.054 (.028)	-.073* (.026)	.029 (.019)
Healthy_SD	.156* (.028)	.172* (.031)	.163 (.037)
Arrogant_SD	.020 (.031)	.039 (.034)	.136 (.031)
Unapproachable_SD	.147* (.032)	.151* (.032)	.138 (.029)
F_Elite Style_SD	.459* (.046)	.477* (.046)	.083 (.039)
F-Momentum_SD	.150* (.055)	.169* (.049)	.141 (.097)
F-Rugged_SD	.351* (.034)	.356* (.035)	.140 (.064)
Restrained_SD	-.009 (.029)	.000 (.029)	.041 (.015)
Trendy_SD	-.098* (.036)	-.113* (.037)	.028 (.032)
Distinctive_SD	.001 (.036)	.012 (.036)	.077 (.051)
Authentic _ SD	-.046 (.036)	-.071 (.037)	.040 (.030)
Traditional_SD	.027 (.033)	.033 (.035)	.057 (.025)
Fun_SD	-.486* (.039)	-.534* (.044)	.154 (.055)
Independent_SD	.038 (.032)	.031 (.029)	.063 (.018)
Unique_SD	-.007 (.035)	-.004 (.036)	.070 (.023)
Original_SD	-.092* (.034)	-.090* (.036)	.167 (.031)
Down-to-Earth_SD	.081* (.036)	.112* (.043)	.239 (.045)
Social_SD	-.128* (.035)	-.132* (.033)	.070 (.035)
F_Helpful_SD	.221* (.049)	.228* (.050)	.038 (.035)
F-Friendly_SD	-.141* (.042)	-.162* (.047)	.213 (.087)
Good Value_SD	-.147* (.039)	-.151* (.044)	.131 (.043)
First Factor of Means	.606* (.012)	.596* (.012)	

* p<.05; # Standard errors in parentheses. n=1723 brands, OLS R^2=.724 with 1699 d.f.. The variables are listed in the order in which they are discussed in the text (Results section). **SD=cross-country standard deviation, F=multi-item factors per Table 2; all ipsatized within-country using the approach detailed in Web-Appendix A. **Note that these random (Standard Deviation) values are always positive, and so their signs should not be compared with those in the other two columns.

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APPENDIX

Variation in the Cross-National Importance of Individual Value Types

(Table 3 from Schwartz and Bardi 2001)

Value Type	REPRESENTATIVE (13 Nations)		TEACHERS (56 Nations)		STUDENTS (54 Nations)		
	Mean Rating (sd)	Mean Rank	Mean Rating (sd)	Mean Rank	Mean Rating (sd)	Mean Rank	Difference Teach - Stud
BENEVOLENCE	4.72 (.27)	1	4.68 (.28)	1	4.59 (.25)	1	.09
SELF-DIRECTION	4.42 (.27)	2.5	4.45 (.31)	2	4.58 (.31)	2	-.13*
UNIVERSALISM	4.42 (.18)	2.5	4.41 (.31)	3	4.25 (.29)	3	.16*
SECURITY	4.38 (.42)	4	4.25 (.39)	4	3.99 (.36)	5	.26**
CONFORMITY	4.19 (.47)	5	4.17 (.47)	5	3.98 (.48)	6	.19*
ACHIEVEMENT	3.85 (.39)	6	3.85 (.34)	6	4.02 (.30)	4	-.17*
HEDONISM	3.73 (.52)	7	3.41 (.59)	7	3.82 (.65)	7	-.41**
STIMULATION	3.08 (.39)	8	2.92 (.41)	9	3.43 (.34)	8	-.51**
TRADITION	2.85 (.55)	9	3.02 (.45)	8	2.73 (.48)	9	.29**
POWER	2.35 (.41)	10	2.38 (.55)	10	2.39 (.43)	10	.01

**p < .001, *p < .05, 2-tailed. Scale numbers are on seven-point scales.

WEB APPENDIX A

Transformation and Standardization of the Raw BAV Data:

Rationale and Procedures

a. Hypothesis and Required Test. Our main hypothesis H1 states that for *brands* marketed in multiple countries, higher cross-national consistency on individual image attributes will relate positively (or negatively) to overall consumer preference depending on the degree to which there is cross-cultural heterogeneity in the desire for the life values underlying those image attributes. Clearly, therefore, the test of this hypothesis itself has to be done at the *brand* level of analysis.

Further, the measure of cross-country consistency/variation on each image attribute used for the hypothesis test needs to use data from each country that are comparable (equivalent) across countries (de Vijver and Leung 1997). Given the specific goals of our study – in which absolute scores are not being compared across countries – this requires first that the factors/items used for these image attribute measurements need to mean the same thing in each country i.e. they must have the same pattern of zero and nonzero factor loadings, evidence of configural equivalence (Steenkamp and Baumgartner 1998, p.80-82). Factor analytic procedures (de Vijver and Leung 1997, pp.90-106) are required to demonstrate such configural invariance. Second, it requires that the measures should be used in equivalent ways by consumers in each country: the stylistic response effects on them (due to patterns of acquiescence, extreme responding, overuse of the middle category, socially desirable responding, etc.) must also be equivalent. When "response range" bias is evident, in which consumers seem to be using narrower or wider ranges of response categories around the means across countries, or when the means themselves are different, the scale scores need to be purified prior to analysis (Baumgartner and Steenkamp 2001, pp.143-155). Such

purification is commonly done by standardizing the scales on a within-country basis, using within-country means and standard deviations (Fischer 2004).

b. Other Problems with the Raw Binary data. The raw BAV data are yes/no binary responses by individuals responding to the presence/absence of different perceptual attributes of each brand. These binary data possess many well-known measurement limitations; in particular, they cannot be used in their raw form in the factor analyses we need to do (to refine our measures and assess their configural equivalence across countries). Thus they first need to be converted into data more amenable to factor analyses, as was done via the procedures in 'c' and 'd' that follow (see also 'e' below).

c. Computing Intra-Country Brand-level Proportions on each perceptual attribute. In order to create comparable measures at the needed brand-level within each country, we first aggregated the data by brand in each country. This allowed us to compute the proportion of "Yes" responses for each brand on each imagery attribute, in each country, on a 0-to-1 scale that can be treated as continuous (e.g., Brand X might get a 0.25 (=25% 'Yes') "fun" imagery rating in Sweden). These brand-level proportions were calculated (i) because our hypotheses are framed in terms of the brand-level preference consequences of the degree of brand-level imagery standardization (see 'a' above); (ii) because such prior brand-level aggregation has frequently been conducted in the literature (e.g., Holbrook and Batra 1987); and (c) because they help reduce some of the effects of non-independent observations that might arise in an individual-level analysis.

d. Brand-level Proportion Data Used in Factor Analyses. The factor analyses of the BAV data were performed at this brand-level (after the raw individual data were converted into within-country proportions). No further standardization/ipsatization was done prior to these

factor analyses, because ipsatization procedures can lead to the extraction of spurious factors in factor analyses (Fischer 2004, p.273).

*e. **Within-country Standardization prior to Regression Analyses***. It is well-accepted in cross-cultural data analysis that consumers in different countries can possess different 'response styles,' making raw cross-cultural data non-comparable, and requiring various standardization/ipsatization procedures necessary prior to data analysis (de Vijver and Leung 1997, p.60; Fischer 2004; Baumgartner and Steenkamp 2001). In our context, in certain countries, because of culturally-based response biases such as yea-saying or nay-saying tendencies, people may perceive and/or report certain brand attributes at consistently higher (or lower) levels, for all brands, compared to respondents from other countries.

Preliminary analysis of our data showed that respondents were indeed applying different standards in rating brands on these imagery characteristics. While the average "check rate" (proportion) for all the imagery attributes, across all brands and countries, was 10.4%, this across-attribute average varied from 7-8% levels in countries like Sweden, Japan, Poland, Uruguay and Italy, to levels of 12.4% in Brazil and 15.5% in Mexico and Peru. Individual imagery attributes such as "friendly" were yes-rated by only 6.9% of respondents in Sweden across the brands there, but by 29.1% in Japan; "trustworthy" incidence varied from a low of 10.8% in Japan to 31.5% in Canada and 41% in Peru. Variations across countries were also noted in the within-country across-brand standard deviations for several attributes: for example, these tended to be about 20% higher in Mexico and Peru, and 13-18% lower in Japan and Sweden, than the all-country average. While some of these differences may be due to the way in which these brands are marketed across countries, it is more likely that many of these differences are for non-substantive (i.e., cultural) reasons.

To address these across-country comparability issues, we next performed the commonly-accepted standardizing transformation prior to our regression analyses (but after our factor analyses), strongly recommended in cross-cultural research (Fischer 2004; Steenkamp and Baumgartner 2001), called "ipsitization" (de Vijver and Leung 1997). Fischer (2004) argues that (a) such ipsatization/standardization is clearly warranted (p.263) and typical (p.272), and that it can be done in a variety of ways (such as standardization within-subject, within-group, and within-cultures, using means and/or standard deviations, etc.: see his Table 1, p.265), with each having positives and negatives. In reviewing the statistical properties of these different types of ipsatization procedures, Fischer concludes that ipsatization can yield spurious factors in factor analyses (p.273), but that regression analyses using data ipsatized (standardized) not within-subject, but instead by within-group or within-culture adjustments, do yield meaningful estimates of effects at individual and group/culture levels (p.277). "In contrast to ipsative scores produced by within-subject and double standardization, within-group or within-culture standardization can be used for correlational techniques such as regression," he concludes (p.279). For this reason our ipsatization procedure does not make within-subject adjustments, but only within-country ones; and our ipsatized data are not used in our factor analyses, but in our (OLS/HLM) regressions.

Therefore, to reduce any possible effects on our analyses from such non-substantive across-country "response style" reasons, we standardized each brand level dependent and independent variable within each country, subtracting from each brand's proportion for that country, *that country's* mean for that imagery attribute across all brands, and then dividing the result by *that country's* standard deviation for that imagery attribute across all brands, separately

for each variable. In other words, we re-expressed the brand preference and imagery data onto this intra-country standardized scale for each imagery attribute:

$$\frac{\sqrt{X_{ij}} - mean[\sqrt{X_j}]}{SD[\sqrt{X_j}]} \quad \text{for brand i, in country j.}$$

It is also possible that in certain countries, for similar cultural or 'brand context' reasons, particular brands may be especially salient, or not, on certain image attributes. Note that, as stated in our derivation of H1, our theory concerns the degree of variation across countries in a brand's distributional position across countries on specific image attributes: the multi-country brand needs to be perceived within each specific market as being high or low on that image attribute, implying that, *relative to other brands in that same country*, its imagery on that attribute is seen as being especially salient, or not. The procedure above, using within-country means and standard deviations on each image attribute, also corrects for such 'brand context' differences across countries. Hollis (2008, p.199) states that commercial brand strength and health services that seek to measure brands in different countries in comparable ways – such as Millward-Brown's BrandZ measures – therefore assess each brand's *relative standing* (within a country) on relevant attributes, "facilitating an apples-to-apples comparison."

Since such within-country standardized (ipsatized) data are suitable for regression-type analyses that use data from multiple countries/cultures (Fischer 2004, p.279), these data were therefore used in our computation of the independent and dependent variables used in our regressions (OLS and HLM) reported in Table 4.

Formal Statistical Tests of BAV:Schwartz Correspondence

It was critical to assess the correspondence between Schwartz's (1992, 2004) value types and our data. This involves testing, singly and in an aggregate "omnibus" sense, the match-up between the 10 Schwartz value types and the BAV attribute labels, in the manner hypothesized in Table 3. The empirical data described previously falls naturally, therefore, into a 31 BAV items-by-10 Schwartz types matrix, with entries made up of observed cell counts. For example, Table 3 suggests that UNIVERSALISM should "load high" on down-to-earth, and on social: there should be a greater number of responses recorded in those three cells than a purely multiplicative model – using row and column frequencies alone – would predict.

We can test for this greater-than-multiplicative abundance by using standard discrete choice techniques, specifically, a log-linear formulation via logistic regression. For example, for any hypothesized correspondence, we can estimate two models: one that allows any subset of tested cells to be "free" (that is, have more responses than a null model), and a "null" model that restricts them (based on their row and column proportions, and any other "free" cells in the test). Because any such pair of models is nested, and because our samples are large, the correspondences we seek can be tested via likelihood ratio tests. There are two distinct ways one can enact such tests: to assess whether specific BAV attributes individually "load high" on the hypothesized Schwarz value-types, and to assess whether the Schwartz value-types load high on the (1-5, depending on the value-type tested) hypothesized BAV attributes.

The latter set of tests, of the Schwartz constructs, are the appropriate ones for the theory proposed here, but the fully disaggregated former tests, for the BAV attributes separately, are nonetheless instructive. These former tests indicate a very strong correspondence: of 31 BAV

attributes, 22 are significant at α = .0001, 24 at α = .001, 27 at α = .01, and 28 at α = .05. Only three BAV attributes, {charming, straightforward, healthy}, fail to load significantly greater than predicted by the "null" model on the specified Schwartz value type. For theoretical purposes, however, the critical tests are of the ten Schwarz value-types themselves. Here, the evidence is overwhelming: all 10 are significant at α = .001, and all but one (Achievement) at α = .000001. The "omnibus" test, for the match-up between all 10 Schwartz value-types and the 31 BAV attributes taken together, is overwhelmingly significant (with ln(p-value) < -500). As a check, we conducted a test of replication equality for the three Schwarz value-types (HEDONISM, STIMULATION, SELF-DIRECTION) and associated BAV attributes (respectively: sensuous, energetic, independent). All resulted in p > 0.5, suggesting the replications of these items revealed similar "loading" patterns.

WEB APPENDIX C

Calculation of Hellinger Indices

If a multi-country brand operates in two countries, it can face identical competitors in both (perfect competitive consistency), a unique set of competitors in each (no consistency), or some intermediate degree of consistency. Originating in information theory, the *Hellinger Affinity* (HA) measures the degree to which two probability distributions "overlap", by computing where their masses co-occur (see Lee 1999 for technical details). Because probabilities in a discrete *pmf* must add to one, their square roots are unit vectors, and the confluence (angle) between any two such distributions can be measured by their inner product. That is, given *n* items with observed proportions (p_1, ..., p_n) and (q_1,..., q_n) in two different contexts, $HA(p,q) = \sum_{i=1}^{n} \sqrt{p_i q_i}$. HA lies on a zero-one scale, rather like the familiar R^2, U^2, or likelihood-ratio statistic, except that it is appropriate for *nominal* data; HA = 1 when the two distributions are identical, and HA = 0 when they fail to overlap.

To calculate HA, we first focus on a given pair of countries; we then calculate the vector of competitors it faces in each of the two countries, and normalize them to stand in for (p_1, ..., p_n) and (q_1,..., q_n). If a brand operates in only two countries, HA can be used 'out of the box'; if the brand operates in multiple countries, we need to weight across them, which can be accomplished via each brand's usage data (i.e., the proportion of the respondents who report using that brand). Our final measure, the *Hellinger Index* (HI), is computed as follows: for each *pair* of countries in which the target brand competes, the HA value for the pair was further weighted by an index proportional to those countries' GDPs in purchasing power parity (PPP) (IMF 2000). This accounts for the fact that overlapping (high HA) in, say, the US simply "counts" more than doing so in Uruguay. This yields an HI score for each brand in a category, for all 27 categories.

WEB APPENDIX D:

HLM MODEL, RESULTS, AND COMMENTARY

Hierarchical Linear Modeling (HLM), also referred to as multilevel, mixed effects, or random coefficient models (see Goldstein 1991), was initially implemented through both the HLM 6.05 software program (Bryk and Raudenbush 2002) and checked by analogous SAS procedures. Due to the large number of heterogeneous coefficients, the final models presented in the paper were estimated via Bayesian (MCMC) methods in MLwiN, using minimally informative priors for all parameters. Because of their hierarchical structure (brands nested within categories), our brands serve as "level-1" variables, and the product categories (27 in number) became "level-2" in our HLM analyses.

Given these level-2 product categories, in HLM the estimated "fixed effect" coefficients tell us the "mean" (pooled across categories) effects, while the "random effect" (standard deviation) estimates indicate the degree of variation of the effect across categories, avoiding the assumption that the "mean" fixed effect applies uniformly across the product categories. If OLS made such a distinction, it too would provide both a fixed and random coefficient, but restrict the random part to zero standard deviation (SD). Therefore, the *average* coefficient would be applied to each of the categories in OLS. In HLM, by contrast, the average would retain its interpretation, but would be a normal distribution of coefficient values, varying by product category, around that average. Since our questions of interest pertain to population-average effects, we focus in the HLM results below only on the fixed effects, noting that the results themselves have not made any presumptions of effects homogeneity.

In our two-level HLM structure, our equations were:

Brand Attitudes$_{ij}$ = π_{0i} + π_{1i} Hellinger$_{ij}$ + π_{2i} Knowledge$_{ij}$ + π_{3i} Esteem$_{ij}$ + π_{4i} Relevance $_{ij}$ +

$$[\pi_{5i} \text{ DownToEarth }_{ij} + \ldots + \pi_{18i} \text{ Arrogant }_{ij} + \pi_{19i} \text{ Unapproachable }_{ij}] +$$

$$[\pi_{20i} \text{ F-Momentum }_{ij} + \ldots + \pi_{24i} \text{ F-Rugged}_{ij} + \pi_{25i} \text{ GoodValue}_{ij}] + \varepsilon_{ij} \qquad (1)$$

$$\pi_{0i} = \beta_{00} + u_{0i}, \ \pi_{1i} = \beta_{10} + u_{1i}, \ \ldots, \pi_{25i} = \beta_{250} + u_{25i} \qquad (2)$$

In Equation (1), Attitudes$_{ij}$ represents consumer attitudes for brand j in category i, with coefficients π_{1i} through π_{25i}. Independent variables Knowledge, Regard (Esteem), and Relevance are standard BAV variables included simply as control variables; their effects are not relevant to our hypotheses and are not discussed further. The brand image item of "good value" is also included as a control variable. In particular, π_{5i} through π_{19i} correspond to the 15 single-item brand image variables {DownToEarth,…, Unapproachable}, π_{20i} through π_{24i} to the five multi-item image factors {F-Momentum, …, F-Rugged}, and π_{25i} to the control variable Good Value. (To facilitate readability, the order in which these variables and Factors are presented in Table 4 has been changed, to correspond to the results presentation.) Equation (2) is a model for the coefficients themselves, and estimates the *variation*, across *categories*, of the impact of each of the Eq. (1) variables (and intercept) on consumer preference. Each parameter (e.g., π_{0i}) thus has both a "fixed" and a "random" component (e.g., β_{00} and u_{0i}). As is standard in applications of hierarchical models, we assume that these random components {u_{0i}, …, u_{25i}} have a joint multivariate normal distribution, whose covariance matrix is estimated along with model fixed effects {β_{00}, …, β_{25}}. Diagonal covariance elements near zero (if they emerge empirically) indicate small variation in parameters of Eq. 1 (across categories), suggesting that OLS may be appropriate for those elements. As per Table 4, we also included the first principal factor of the means as a fixed-effect "control", which would enter only Equation (1)

The HLM estimates in Table 4 – which separately estimate the pooled fixed effects and the category-varying random effect deviations from these fixed effects – yielded one more fixed

effects of interest (for 'sensuous') significant at p<.05 than those in the OLS estimates. All of these significant HLM relationships are also significant in the OLS results just described, in the same directions as discussed above. Thus the interpretation of their results parallels the one just offered above for the OLS results.

In addition to these fixed effects estimates, the HLM results also indicated significant random effects (i.e., a significant (p<.05) difference across product categories for the relationships between the image independent variables and overall brand preference) for most of them; this simply means that categories vary on these coefficients. Note that these random effects are *correlated*. So, even if the variance for a particular category does not appear significant, the entire pattern of variation, taken as a whole, clearly is. There is a paucity of prior theory on the product-category related factors that ought to lead to variations in the importance of each attribute in determining overall brand preference. Therefore, we will not discuss these across-category variations here in any detail. We do note, however, that there is some prior literature that suggests that higher brand-globalness perceptions (which increase with a brand's image consistency across markets: Kapferer 2008) might be especially influential in more expensive or more technically complex categories (where perceived risk is higher), or in ones where consumption is more socially visible (Alden, Steenkamp and Batra 1999; Batra et al. 2000). In contrast, such consistency-created globalness perceptions might be less important in categories such as locally-rooted foods, beverages and personal hygiene, which are more symbolic of local cultural traditions (Ger 1999; Quelch and Hoff 1986). Future Research needs to study these category variations in more detail.