

# A Cross-National and Cross-Cultural Approach to Global Market Segmentation: An Application Using Consumers' Perceived Service Quality

James Agarwal, Naresh K. Malhotra, and Ruth N. Bolton

## ABSTRACT

*The spread of global culture is being facilitated by the proliferation of transnational corporations, the rise of global capitalism, widespread aspiration for material possessions, and the homogenization of global consumption. The extent of convergence of cultural values across nations has been debated by international marketing researchers. However, from a practical standpoint, transnational firms require a cross-national, cross-cultural approach to market segmentation that can be used to guide the development of global marketing strategies. In this study, the authors investigate the application of cross-national versus cross-cultural approaches to market segmentation through a rigorous empirical investigation in the context of banking services. Although services constitute the fastest growing sector of the world economy, few studies have examined global market segmentation strategies for them. The authors develop theory-based cross-national hypotheses and test them by estimating a structural model of consumers' perceived service quality using survey data from two countries: the United States and India. They test cross-cultural hypotheses by estimating the same model on culture-based clusters. They demonstrate that there are distinctive differences between cross-national and cross-cultural models of perceived service quality and highlight the growing relevance of cross-cultural research approaches. More generally, the cross-national, cross-cultural approach to market segmentation can guide the development of global marketing strategies for services and improve business performance.*

**Keywords:** cross-national research, cross-cultural research, global market segmentation, perceived service quality, structural equation modeling

Given the rapid pace of globalization, turbulent economic and political changes, and the dominance of multinational corporations, values of global culture—such as a free market economy, democ-

racy and freedom of choice, individual rights, acceptance and tolerance of diversity, and openness to change—are steadily sweeping global markets (Gupta and Govindarajan 2000; Leung et al. 2005). The spread of global culture has been facilitated through the proliferation of transnational corporations, the rise of global capitalism, the widespread aspiration for material possessions, and the homogenization of global consumption (Ger and Belk 1996). Despite doubts about cultural convergence across countries as a result of globalization

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(e.g., Bhagat et al. 2003; Greider 1997), we believe that global trends have increased the heterogeneity of attitudes and behaviors of consumers within countries and, at the same time, increased commonalities across countries (Ter Hofstede, Wedel, and Steenkamp 2002). Although national cultures endure over time and they are still valid as collective identities (Hofstede 1991), there will be similarities across nations in culture-specific beliefs and attitudes related to work practices and consumption patterns. In this study, we highlight the growing relevance of networks of communities across countries that create culture and share similar values and lifestyles (Adams and Markus 2004). Our goal is to develop a cross-national, cross-cultural approach to market segmentation that can be used to guide the development of global marketing strategies.

The distinction between country and culture as a unit of analysis has managerial implications in global marketing, in which organizations must effectively distinguish between vertical market segments, which exist within national borders or a region (i.e., cross-national analysis), and horizontal market segments, which exist across a group of countries that share certain characteristics (i.e., cross-cultural analysis) (Bolton and Myers 2003; Ter Hofstede, Steenkamp, and Wedel 1999; Tung 2008; Yavas, Verhage, and Green 1992). Thus, international market segmentation must address the possibility of behavioral heterogeneity and homogeneity within and across countries and cultures (Broderick, Greenley, and Mueller 2007; Tung 2008; Yavas, Verhage, and Green 1992). Cultural groups and phenomena across countries are subject to global culture's continual influence, which reshapes individuals' "personal" cultures, thereby strengthening the etic validity of horizontal global segments (Eckhardt and Houston 2007; Kjeldgaard and Askegaard 2006; Malhotra, Agarwal, and Peterson 1996). For example, Heuer, Cummings, and Hutabarat (1999) find that continuous economic development over a period of 30 years in Indonesia resulted in an unprecedented sociocultural transformation: Namely, the cultural difference between U.S. and Indonesian managers in terms of individualism and power distance declined over time. If cultures and values of the various locales of the world are indeed converging (Ralston 2008), horizontal market segments should become increasingly prevalent, and global marketing strategies should become more similar across nations.

In this research, we explore the cross-national versus cross-cultural research debate through an empirical

investigation in the domain of international services marketing—with specific application to consumers' perceived service quality (PSQ). Global services marketing requires that organizations customize their marketing activities to meet the common needs and preferences of market segments or homogeneous consumer groups. Services (rather than goods) are especially good candidates for customization, but international services pose special challenges for marketing managers because of the intangibility of services, difficulties in standardizing services across national borders, and the extent of differences in perceptions of and preferences for customized services across countries and cultures (Szymanski, Bharadwaj, and Varadarajan 1993). Therefore, customization of services in global markets requires that organizations develop a deep understanding of how consumer perceptions of service quality differ across and within regions, countries, and cultures.

In general, prior research on PSQ has adopted a cross-national perspective in which countries have been used as proxies for national cultures without specifically incorporating the role of culture (e.g., Brady et al. 2005; Keillor, Hult, and Kandemir 2004; Laroche et al. 2004). Only a few studies have examined the role of cross-cultural influences on PSQ (e.g., Donthu and Yoo 1998; Malhotra et al. 2005; Mattilla 1999; Winsted 1997). However, even in these studies, although cultural dimensions have been measured and used in assessing PSQ, the unit of analysis has largely remained at the country level. To address this gap, we investigate whether there are significant differences in conducting cross-national versus cross-cultural research using PSQ as an illustrative example to highlight its significance as a basis for global segmentation.

The article is organized in the following way: In the next section, we briefly discuss cross-national and cross-cultural research, as well as their theoretical underpinnings. Then, we develop hypotheses regarding how the dimensions and consequences of consumers' PSQ differ in importance in both cross-national and cross-cultural research paradigms. Next, we test the cross-national hypotheses by estimating a structural model of consumers' PSQ for banks with consumer survey data from the United States and India. We also test the cross-cultural hypotheses by estimating the same model on culture-based clusters instead of countries. The study shows that there are distinctive differences between cross-national and cross-cultural models of PSQ. Our findings highlight the growing relevance of cross-

cultural research. We show how our results can be used to derive managerial insights into the identification of vertical and horizontal market segments based on differences in consumer perceptions across countries and cultures.

## **CROSS-NATIONAL VERSUS CROSS-CULTURAL RESEARCH**

Leung and colleagues (2005) define national culture as the values, beliefs, norms, and behavioral patterns of a national group. Until recently, most international business research has focused on cross-national research in which national culture, based on group membership in a nation-state, is used as a grouping variable to study cultural variation among countries (Adams and Markus 2004). In this national culture–centric approach, the emphasis is essentialist in nature, with fixed notions of national culture—namely, that national cultures are stable—thus discounting the idea that cultural identities within the nation-state are continuously constructed. In line with Hofstede’s (2001) argument that culture changes very slowly, national culture has been treated as a relatively stable construct (i.e., static entity) that reflects a shared knowledge structure within a nation-state and that attenuates variability in values, behavioral norms, and patterns of behaviors (Erez and Earley 1993).

One major argument in favor of cultural stability is that traditional values, such as group solidarity, interpersonal harmony, paternalism, and familism, can coexist with modern values of individual achievement and competition (Smith and Bond 1998). For example, Chang, Wong, and Koh (2003) find that the Chinese in Singapore endorsed traditional values of moderation and social power denoting deference to authority and face-saving along with modern values such as prudence, industry, civic harmony, and moral development. Moreover, Hofstede (2001) asserts that the mental programs of people around the world do not change rapidly; therefore, national culture, particularly individualism–collectivism, endures over time and is consistent within countries. Even when countries are culturally diverse, members share the same cultural foundation; thus, according to cross-national research, nationality can be considered a viable proxy for culture (Beaudreau 2006; Dawar and Parker 1994).

Although cultural stability reflects broadly shared national-cultural values, its assumptions are challenged

when environmental changes and situational contingencies precipitate adaptation and cultural change. During these contingencies, national culture fails to adequately account for either intracultural or global-level variables that influence national culture (Adams and Markus 2004). In contrast to the cross-national perspective, cross-cultural research views culture as a distinct web of significance or meaning that involves sense making, meaning making, or production that goes beyond the constraints of group membership (Adams and Markus 2004). The theoretical notion of culture as a dynamic rather than static construct (as in cross-national research) is borrowed primarily from the work of Erez and Gati (2004), Gould and Grein (2009), and Kitayama (2002). Kitayama views culture and individual psychological processing as evolving adaptations to ecological and sociopolitical influences and proposes a system view of culture in which each person’s cognitive structures (i.e., frames, schemas, and scripts) are dynamically organized and their behavior coordinated with the pertinent cultural systems of practices and meanings.

In their comprehensive model, Erez and Gati (2004) propose culture as a multilevel, multilayered construct in which global culture shapes national culture (i.e., macro level), which in turn shapes nested cultural units at the organizational and group levels (i.e., meso level), which then permeates to the individual level (i.e., micro level). As cultural values are transmitted from national culture to the individual, a set of core common values at each level are retained while unique values reflecting heterogeneity are introduced (Leung et al. 2005). In addition to top-down processes, bottom-up processes take place, emerging at the individual level and then permeating the group and organizational levels, and when the new cultural norms are further shared by most organizations in a geographical region, it becomes a national-level culture. Gould and Grein (2009) construe culture as a pivotal and holistic construct, distinct from national culture, and position culture-centric research as a constructivist process of meanings and patterns of practices that are rooted in the processes of culture itself. Unlike national culture, the formation and evolution of culture involves a social construction of practices and experiences that puts emphasis on meaning, context, and process. Furthermore, a culture-centric view proposes a network of communities at the local level where culture is produced (based on, e.g., lifestyles and personal characteristics), defined by the salience of each community rather than by hierarchy, as Erez and Gati (2004) and Leung and colleagues (2005) espouse.

Culture is embodied in the transfer and construction of meaning and involves processes such as identity formation, hybridization, and glocalization (Gould and Grein 2009). For example, global culture—embodied as global flows of ideas, people, images, capital, technology, and brands—constitutes the glocalization process through the global–local dialectic (Kjeldgaard and Askegaard 2006), which can lead to changes at both the national and the individual level (i.e., self-identity and social identity). A new global identity is formed that enables people to develop a sense of belongingness to a global culture, often manifested by adopting global values, beliefs, lifestyles, and consumption practices (Arnett 2002). This type of “elective identity” that consumers are able to self-fashion from the world around them fills a void left by national culture (Cornwell and Drennan 2004). However, this is not to say that national culture would disappear but rather that people would likely construct their own elective identities (Arnett 2002; Leung et al. 2005).

### **CROSS-NATIONAL AND CROSS-CULTURAL HYPOTHESES: DIMENSIONS OF PSQ**

In cross-national analysis, prior research has departed from Hofstede’s (1991) original conceptualization in two ways. First, most researchers have exclusively focused on individualism–collectivism; they have not considered the other four cultural dimensions Hofstede identifies: power distance, masculinity, uncertainty avoidance, and long-term orientation (Oyserman, Coon, and Kimmelmeier 2002; Triandis 1995). Second, Hofstede’s individualism–collectivism scales were originally designed for country-level analysis, and yet cross-national researchers have used them at the individual level of analysis. Therefore, conflicting findings in prior research can be attributed to the disparity between the theoretical and methodological underpinnings of Hofstede’s conceptualization inherent in the two levels of analysis (Kirkman, Lowe, and Gibson 2006; Oyserman, Coon, and Kimmelmeier 2002).

To overcome this limitation, we draw on Markus and Kitayama’s (1991, 1994) theoretical work, which explains cultural dimensions of individualism–collectivism at the country level by considering independent versus interdependent self-construal at the individual level. Similar to individualism–collectivism at the national level, independent self-construal is constructed with primary reference to one’s own internal repertoire of thoughts, feelings, and actions; the self in interdepen-

dent self-construal is viewed as interdependent with the surrounding context, and it is the “other” or the “self-in-relation-to-other” that is focal in individual experience (Markus and Kitayama 1991). Cross-national research is based on the assumption that people from individualist national cultures are more likely to possess independent self-construal at the individual level, while those from collectivist countries are more likely to have more interdependent self-construal (Gudykunst et al. 1996; Oyserman, Coon, and Kimmelmeier 2002).

In contrast, our approach is based on the belief that there is considerable within-country variation on cultural values (Au 1999; Kirkman, Lowe, and Gibson 2006; Tung 2008) because the ever-growing hegemony of the global culture influences the “elective identity” of consumers within nation-states to yield significant heterogeneity (Arnett 2002; Cornwell and Drennan 2004). Studies have shown that people in one country can be more individualist and collectivist, on average, than people from another country and that cultural values can vary within, as well as among, countries (Bochner and Hesketh 1994; Oyserman, Coon, and Kimmelmeier 2002). In comparing several countries, Au (1999) finds that intracultural variation on certain variables is greater than intercultural variation. These variables include demographics, rigidity of rules and social structures, cultural tightness and looseness, moral discipline, and government policies that reinforce the dominant behavior (Au 1999; Hofstede 1991). Moreover, significant cultural differences have been shown between regions or subcultures within a single nation-state (Kirkman, Lowe, and Gibson 2006). Therefore, by identifying global segments that transcend national boundaries and share more commonalities than differences, we expect cross-cultural research to yield greater homogeneity in global segmentation than cross-national research.

Because we recognize the difficulty of identifying (a priori) culture-based segments on the basis of theory, the empirical portion of this article identifies culture-based global segments using a clustering technique. We posit that culture-based global segments in cross-cultural analysis will result in greater homogeneity in consumers’ PSQ, and consequently we predict nonsignificant differences in the importance assigned to the dimensions and consequences of PSQ. That is, we predict that cross-cultural analysis will reveal greater similarity than cross-national analysis in the importance (i.e., similarity in the magnitude of factor loadings) of PSQ dimensions and its consequences. In the remainder of this section, we frame our hypotheses in terms of the five dimensions of PSQ

that Parasuraman, Zeithaml, and Berry (1988) conceptualize and measure: tangibility, reliability, responsiveness, assurance, and empathy.

### **Tangibility**

Tangibility refers to the physical evidence of the service, consisting of physical facilities and technology, appearance of personnel, tools or equipment, and physical presentation of the service, which can influence consumers on physiological, sociological, cognitive, and emotional levels (Parasuraman, Zeithaml, and Berry 1985). Research in self-construal and self-regulatory focus suggests that people with independent self-construal seek promotion goals that deliver achievement and efficiency and that minimize the discrepancy between their current and desired end states (Higgins 1998; Markus and Kitayama 1991). Such promotion-focused people view tangibility as a culmination of their achievement and desired end state as well as a means to enhance autonomy, enabling them to enter and leave social relations freely (Kwan, Bond, and Singelis 1997). Therefore, in the services sector, to manage consumers with higher promotion goals and lower tolerance for error (i.e., higher efficiency), individualists need to follow a relentless pursuit of continuous improvement in tangibility. In contrast, people with interdependent self-construal tend to focus on prevention goals because they are more concerned with stability and security and therefore are less open to change. That is, a preference for status quo tends to be stronger among collectivists as they seek to minimize potential losses that are important to them (Chernev 2004; Higgins 1998). One such potential loss is the deterioration of relationship harmony in a social network (Kwan, Bond, and Singelis 1997), which will likely occur because focus is centered on tangible accomplishments and lower tolerance for error. Therefore, consumers in collectivist countries are less concerned with tangibility, especially if it jeopardizes relationship harmony and people's dependence on networks of generalized social reciprocity. Therefore, we predict the following:

H<sub>1</sub>: Consumer perceptions of tangibles of the service organization (a) will be significantly different in importance in cross-national analysis of dimensions of PSQ (i.e., greater importance in individualist national culture than in collectivist national culture) but (b) will not be significantly different in cross-cultural analysis.

### **Reliability**

Service reliability means performing the service dependably, consistently, and accurately. Members of collectivist countries tend to construct interdependent self-construal in which important relationships, group memberships, and social roles define the self (Markus and Kitayama 1994). An interdependent self-construal cannot be characterized as a bounded whole, because it changes structure with the nature of the particular social context (Markus and Kitayama 1991). We expect human inconsistency across situations in collectivist societies because the norms and rules associated with situations vary and the ability to adapt one's behavior across situations smoothly is often considered a sign of a person's maturity (Cross, Gore, and Morris 2003). Because each self-defining relationship calls for unique sets of behaviors and expectations, the ability to detect and align the self spontaneously to the subtle expectations of different social situations is considered a critical social skill (Suh 2002). In contrast, members of individualist countries tend to construct an independent self-construal based on the real self. Consistent expression of traits, abilities, attitudes, and other personality characteristics helps validate the real self. For example, people with independent self-construal view themselves consistently across situations and display beliefs and value judgments that are consistent with past personal commitments (Petrova, Cialdini, and Sills 2007; Suh 2002). Therefore, individual consistency is reflective of maturity and self-integrity in individualist societies, and a lack of consistency poses a threat to the core authentic self (Cross, Gore, and Morris 2003). Consumers in individualist countries, because of the need to maintain and enhance a consistent "real" self, demand consistent and reliable service from employees. For this reason, we argue that the reliability of human service delivery is more salient in defining PSQ in individualist countries than in collectivist countries. Specifically, we predict the following:

H<sub>2</sub>: Consumer perceptions of reliability of the service employee (a) will be significantly different in importance in cross-national analysis of dimensions of PSQ (i.e., greater importance in individualist national culture than in collectivist national culture) but (b) will not be significantly different in cross-cultural analysis.

### **Responsiveness**

Responsiveness is demonstrated by employees' willingness to provide prompt service and to help consumers

substantively. Providing prompt and timely service is an important dimension of each service encounter (Taylor 1994). People with independent self-construal are promotion focused and strive for goal attainment and efficiency (Higgins 1998). They value autonomy and a strong work ethic and believe that “time is money” (i.e., a scarce resource); therefore, “saving time” means real-locating time across activities to achieve greater efficiency (Berry, Seiders, and Grewal 2002; Markus and Kitayama 1991). Furthermore, people with independent self-construal tend to use communication styles that focus on task constraints (i.e., conveying the message with maximum clarity and directness). Communication is geared toward achieving personal goals and is dominated by the instrumental function of maximizing the substantive outcome for the individual person (Kim, Sharkey, and Singelis 1994). Consequently, service employees in individualist countries should be willing and able to deliver timely and substantive responses to consumers’ inquiries and complaints. In contrast, people with interdependent self-construal are stability focused, emotional, and focused on the past. In such cultures, time orientation is polychronic: Multiple tasks are emphasized, and time is viewed as synchronous. Furthermore, people with interdependent self-construal tend to use communication styles that focus on social relation constraints (i.e., conveying the message in a way that avoids damage or imposition to the relationship or the hearer’s loss of face; Kim, Sharkey, and Singelis 1994). They often use indirect, ambiguous, and nonverbal aspects of communication and engage in conversational silence, which is often positively perceived in collectivist cultures (Kapoor et al. 2003; Markus and Kitayama 1994). The goal is to strive toward completing a job without detailed scheduling and communication while maintaining harmony and interpersonal sensitivity. This leads to the following hypothesis:

H<sub>3</sub>: Consumer perceptions of responsiveness of service employee (a) will be significantly different in importance in cross-national analysis of dimensions of PSQ (i.e., greater importance in individualist national culture than in collectivist national culture) but (b) will not be significantly different in cross-cultural analysis.

### Assurance

Assurance refers to the knowledge and courtesy of employees and their abilities to inspire trust and confidence. The competence of the service firm may be reflected by the organization as a whole or by the front-

line employees. In individualist countries, people base their perceptions of competence and trust on a person’s reliability and courtesy with respect to rights, beliefs, attitudes, and privacy (Hofstede 1991). In general, members of individualist countries strive to know and validate their unique real self. They derive confidence by behaving autonomously and resisting the influence of others (Markus and Kitayama 1991). Thus, the development of an independent self-construal seeks competence and confidence in an individual rather than the group, consistent with the individualist orientation. Consequently, consumers in individualist countries are more likely to demand that service employees be efficient and task oriented because self-confidence plays a crucial role (Furrer, Liu, and Sudharshan 2000). Members of collectivist countries view an individual as embedded in a social network, defined by their social roles and social positions (Markus and Kitayama 1994). The development of an interdependent self-construal through group membership helps define the self. Individual beliefs, attitudes, and abilities that are less important in self-definition are often subordinated to the “greater self” of commitment to family and in-groups (Wu 1994), implying greater confidence in the organization for the development of interdependent self-construal. Consequently, consumers in collectivist countries focus more on the competence, reputation, and skills of the organization rather than individual employees in assessing PSQ. Conversely, consumers’ perceptions of assurance from service employees, rather than organizations, are more salient in defining PSQ in individualist countries than collectivist countries. Thus, we predict the following:

H<sub>4</sub>: Consumer perceptions of assurance from service employee (a) will be significantly different in importance in cross-national analysis of dimensions of PSQ (i.e., greater importance in individualist national culture than in collectivist national culture) but (b) will not be significantly different in cross-cultural analysis.

### Empathy

Empathy refers to the caring and individualized attention a firm provides to its consumers. In the case of independent self-construal, self-knowledge is more distinctive and densely elaborated in memory than knowledge about other people (Markus and Kitayama 1991). This asymmetry diminishes the ready accessibility of knowledge of others, especially in a decontextualized setting, and consequently fosters a lack of sensitivity and empathy. In contrast, knowledge about others is rela-

tively more elaborated and distinctive than knowledge about the self for people with interdependent self-construal. As such, collectivists have more interpersonal knowledge and are more sensitive and empathetic toward others who are coparticipants in the relationship. However, Cross, Gore, and Morris (2003) examine self-construal in Western societies and offer an alternative explanation for the construction of relational self-construal: That is, it is an intermediate between independent self-construal and interdependent self-construal. In this self-construal, close relationships at the dyadic level are included in the self-space of individualists, and when representations of the self are activated, the representations of close others are also activated. They closely attend to (i.e., empathize with) emotional and informational self-disclosures of their relationship partners, resulting in relatively accurate and intimate knowledge of their beliefs, attitudes, and values (Cross and Morris 2003; Gore, Cross, and Morris 2006). Notwithstanding its merits, we argue that because knowledge about others is more elaborate and context dependent in collectivist than in individualist cultures, people characterized by interdependent self-construal are likely to view others with greater empathy than individualists. Therefore, we predict the following:

H<sub>5</sub>: Consumer perceptions of empathy from a service employee (a) will be significantly different in importance in cross-national analysis of dimensions of PSQ (i.e., greater importance in collectivist national culture than in individualist national culture) but (b) will not be significantly different in cross-cultural analysis.

## **CROSS-NATIONAL AND CROSS-CULTURAL HYPOTHESES: CONSEQUENCES OF PSQ**

### **Effect of PSQ on Attitude**

The literature on self-construal (Markus and Kitayama 1991) indicates that the memory of people with independent self-construal contains autonomous semantic contents of attitudes, traits, and abilities, whereas the interdependent self-construal memory contains social semantic contents that describe a person's affiliation to other people, including social contexts (Fiske et al. 1998; Hannover and Kuhnen 2004). People with independent self-construal aggregate information and integrate it into abstract categories using a context-independent mode of processing. Therefore, individualists who have higher levels of cognitive complexity tend

to cluster information at the abstract level and use less concrete and episodic descriptions (Klein and Loftus 1988), whereas those with interdependent self-construal aggregate information using a context-dependent mode of processing. In other words, collectivists perceive in a more field-dependent manner and are more likely to memorize contextual information containing episodic information (Hannover and Kuhnen 2004); that is, they tend to construct differentiated category structures with multiple subcategories, thus necessitating categorizing and processing at the dimensional level (Jain, Desai, and Mao 2007). Consequently, because PSQ is a higher-order construct, we predict that the magnitude of the effect on attitude will be greater in an individualist than in a collectivist national culture. That is:

H<sub>6</sub>: The magnitude of the effect of PSQ on attitude (a) will be significantly different in importance in cross-national analysis (i.e., larger in individualist national culture than in collectivist national culture) but (b) will not be significantly different in cross-cultural analysis.

### **Effect of PSQ on Satisfaction**

Overall satisfaction is a global affective construct based on feelings and emotions of the total purchase and consumption experience with a good or service over time. Prior research has indicated that the appraisal of cognitively oriented PSQ precedes affective-oriented satisfaction (Cronin and Taylor 1992). In individualist countries, the open expression of emotions is a significant source of well-being and life satisfaction, and through this process, it serves to validate the authentic self and self-serving motives of goal attainment (Markus and Kitayama 1991). Thus, we believe that poor PSQ will lead people to express their true feelings of dissatisfaction without reservation, allowing them to enter and leave relationships freely. Satisfaction and dissatisfaction can be expressed candidly without diminishing their importance and their likely influence on the long-term relationship.

In collectivist countries, relationships are built on trust and commitment within a system that values group harmony and cooperation. Life satisfaction is derived from successfully carrying out social roles and obligations and avoiding failures. Expression of emotions is significantly shaped by a consideration of the reaction of others, and self-serving motives are replaced by other-serving motives (Markus and Kitayama 1991; Oyserman, Coon, and Kimmelmeier 2002). Thus, true

feelings of dissatisfaction are often suppressed for the good of the group and the preservation of the long-term relationship. Consequently, when trust and commitment are strong as in collectivist countries, PSQ is less likely to lead to an expression of dissatisfaction or satisfaction. Therefore, we predict the following:

H<sub>7</sub>: The magnitude of the effect of PSQ on satisfaction (a) will be significantly different in importance in cross-national analysis (i.e., larger in individualist national culture than in collectivist national culture) but (b) will not be significantly different in cross-cultural analysis.

### Effects of Attitude and Satisfaction

The effect of satisfaction on behavioral intentions has been well established (Zeithaml, Berry, and Parasuraman 1996). Satisfaction is an important mediating construct between attitude and intention for low relational consumers (Garbarino and Johnson 1999). Finally, there is a long research tradition of the attitude-behavior linkage being mediated by behavioral intention (Cronin, Brady, and Hult 2000; Netemeyer and Bearden 1992). However, scholars have questioned the cross-cultural validity of some Western models (e.g., theory of reasoned action) on the grounds that cultural influences are directly transmitted through norms (Lee and Green 1991). Notwithstanding, it has been argued that the general behavioral intention models are etic in nature (i.e., standardized) (Malhotra and McCort 2001), and therefore we believe that the influence of attitude on satisfaction and attitude on patronage will be similar in this study for two reasons. First, we use global summary measures of attitude and satisfaction instead of multi-dimensional measures to test for nomological validity. Second, because we do not use the normative component that might transmit cultural influences (Lee and Green 1991), we expect the models to be similar in both samples. Thus, we predict the following:

H<sub>8</sub>: The magnitude of the effect of attitude on satisfaction (a) will not be significantly different in importance in cross-national analysis (i.e., no significant difference in individualist national culture compared with collectivist national culture) and (b) will not be significantly different in cross-cultural analysis.

H<sub>9</sub>: The magnitude of the effect of attitude on patronage intention (a) will not be significantly different in importance in cross-

national analysis (i.e., no significant difference in individualist national culture compared with collectivist national culture) and (b) will not be significantly different in cross-cultural analysis.

However, given that individualists are likely to express their satisfaction and dissatisfaction candidly and more likely to leave the relationship in the event of dissatisfaction (Markus and Kitayama 1991; Oyserman, Coon, and Kimmelmeier 2002), we expect satisfaction to have a stronger influence on future patronage in people with independent self-construal than in those with interdependent self-construal. Therefore, we believe that the influence of satisfaction on patronage intention will be significantly greater in an individualist than in a collectivist national culture:

H<sub>10</sub>: The magnitude of the effect of satisfaction on patronage intention (a) will be significantly different in importance in cross-national analysis (i.e., larger in individualist national culture than in collectivist national culture) but (b) will not be significantly different in cross-cultural analysis.

### STUDY CONTEXT AND SURVEY MEASURES

For our cross-national research, we selected the United States and India to empirically investigate our hypotheses because of their difference on the individualism-collectivism dimension. The United States is representative of an individualist country in which, on average, people hold an independent self-construal. In contrast, India is representative of a collectivist country in which, on average, people hold an interdependent self-construal (Oyserman, Coon, and Kimmelmeier 2002). Both countries widely vary in terms of the other four cultural dimensions, reflecting heterogeneity across nations, and we control for this variation in our analyses.

#### Data Collection

We chose banking services for our study context because they are widely available in both countries, and the banking sector is an important part of the service economy in each nation. The investigation in each country focused primarily on domestic banks only: In the India sample, 100% of banks were domestic (i.e., Indian) with national or regional scope, and in the United States sam-

ple, approximately 75% of banks were domestic banks (i.e., American) with national or regional scope, and 25% had international scope. A structured questionnaire was prepared and administered in English in the United States and India (the largest English-speaking country in the world). We pretested the questionnaire in each country using personal interviews to identify and eliminate potential problems in question content, wording, difficulty, and instructions. The data were obtained from major metropolitan areas, and respondents in both countries were fluent in English. By using a single language, we avoided the problems associated with questionnaire translation and conceptual equivalence issues. The dominant method of survey administration in India is personal in-home interviews. Thus, for the sake of consistency, personal in-home interviews were conducted in both the United States and India. The data were collected by student interviewers, each of whom conducted eight interviews as part of the requirement for a marketing research course. Employing a large number of student interviewers enabled us to conduct the many in-home interviews in a reasonable amount of time. A total of 769 interviews were completed: 455 in the United States and 314 in India.<sup>1</sup>

## Scales and Measurement

We used the 21-item SERVQUAL nine-point scale (Parasuraman, Zeithaml, and Berry 1988, 1994), which taps performance perception measures along the five dimensions of PSQ following recent research (Dabholkar, Shepherd, and Thorpe 2000). To measure global attitude (Zanna and Rempel 1988), we used 4 items on a seven-point scale: favorable–unfavorable, good–bad, positive–negative, and pleasant–unpleasant. All attitude items were reverse coded for analysis. To measure overall satisfaction, we used both evaluative and emotion-based measures derived and adapted from Oliver (1997). We used the following 4 items using a nine-point scale: “I believe I am satisfied with my bank’s services” (“strongly disagree/strongly agree”); “Overall, I am pleased with my bank’s services” (“strongly disagree/strongly agree”); “Using services from my bank is usually an enjoyable experience” (“strongly disagree/strongly agree”); and “My feelings toward my bank’s services can best be characterized as ...” (“very dissatisfied/very satisfied”). Adapting from Zeithaml, Berry, and Parasuraman (1996) and Dabholkar, Thorpe, and Rentz (1996), we used 3 items to measure patronage intention using a nine-point scale: “The next time my friend needs the services of a bank, I will recommend my bank” (“strongly disagree/strongly agree”); “I have no regrets of

having patronized my bank in the past” (“strongly disagree/strongly agree”); and “I will continue to patronize the services of my bank in the future” (“strongly disagree/strongly agree”). Finally, we used the 20-item scale to measure (for each respondent) Hofstede’s five cultural dimensions (individualism–collectivism, power distance, masculinity, uncertainty avoidance, and long-term orientation; 4 items representing each cultural dimension) using a seven-point scale (adapted from Hofstede [1991] and Furrer, Liu, and Sudharshan [2000]).

Because common method variance (CMV)—that is, the amount of spurious covariance shared among variables because of the common method used in collecting data—might bias the investigation, we tested for it using two approaches: Harman’s single factor test and marker-variable technique (Lindell and Whitney 2001; Malhotra, Kim, and Patil 2006). We computed CMV-adjusted correlations, and such effects were found not to be problematic.<sup>2</sup> Therefore, we worked with the observed correlations to test for their psychometric properties. First, we conducted a confirmatory factor analysis that demonstrated support for the measurement model in both the United States and India (separately). Second, we tested for convergent and discriminant validity; the scale items used in this study were both reliable and valid for model testing. Last, our analyses established that the measurement models were equivalent across the two populations. We established measurement equivalence twice: for the “PSQ-only” model and for a “full” model, in which PSQ was embedded in a nomological net. Table 1 and the Appendix provide details of the analyses.

## ANALYSIS AND RESULTS

This study estimates a second-order reflective model of PSQ that uses five first-order dimensions: tangibility, reliability, responsiveness, assurance, and empathy (Parasuraman, Zeithaml, and Berry 1988). Marketing scholars agree that PSQ is a higher-order, multidimensional, and multilevel construct, though empirical validation has been rather limited and higher-order conceptualizations of PSQ have not always used the five dimensions of PSQ (see Brady and Cronin 2001; Dabholkar, Thorpe, and Rentz 1996).

### Cross-National Analysis

We tested the full PSQ structural model using a combined sample with five demographic covariates—

**Table 1.** PSQ Model: Psychometric Properties of Measurement Model

U.S. Sample													
Construct	M	SD	CR	AVE	Correlation Matrix								
					1	2	3	4	5	6	7	8	
1. TANG	4.82	1.00	.84	.57	.76								
2. REL	5.22	1.29	.90	.69	.74	.83							
3. RESP	4.22	1.05	.86	.66	.62	.78	.81						
4. ASSU	5.22	1.22	.88	.64	.66	.80	.91	.80					
5. EMP	4.62	1.18	.91	.71	.63	.78	.86	.92	.84				
6. ATT	3.83	1.36	.97	.90	.40	.49	.56	.60	.60	.95			
7. SAT	4.81	1.55	.95	.83	.49	.59	.68	.71	.69	.75	.91		
8. PAT	4.79	1.88	.92	.80	.45	.56	.62	.66	.65	.68	.89	.89	

  

India Sample													
Construct	M	SD	CR	AVE	Correlation Matrix								
					1	2	3	4	5	6	7	8	
1. TANG	3.46	.88	.84	.56	.75								
2. REL	3.29	.82	.83	.55	.83	.74							
3. RESP	3.38	.96	.79	.55	.87	.94	.74						
4. ASSU	3.63	.94	.83	.54	.80	.92	.90	.74					
5. EMP	3.71	.97	.85	.59	.79	.91	.91	.94	.77				
6. ATT	3.99	1.06	.90	.68	.37	.50	.50	.49	.47	.82			
7. SAT	3.73	.99	.88	.64	.45	.62	.63	.58	.57	.81	.80		
8. PAT	4.11	1.31	.87	.69	.45	.64	.61	.58	.56	.78	.97	.83	

Notes: TANG = tangibles, REL = reliability, RESP = responsiveness, ASSU = assurance, EMP = empathy, ATT = attitude, SAT = satisfaction, and PAT = patronage. CR = composite reliability, and AVE = average variance expected. Value on the diagonal of the correlation matrix is the square root of AVE.

namely, education, gender, marital status, age, and frequency of transaction. We also added a country dummy variable to control for the effect of differences in economic development on the five service dimensions. The results were as follows:  $\chi^2(570) = 1902.66$ , root mean square error of approximation (RMSEA) = .057, comparative fit index (CFI) = .94, nonnormed fit index (NNFI) = .93, and consistent Akaike information criterion (CAIC) = 2560.02. To test our cross-national hypotheses, we ran a two-group analysis and added four cultural covariates—namely, power distance, masculinity, uncertainty avoidance, and long-term orientation—to control for their potential confounding effects on the

five service dimensions. However, we did not control for individualism–collectivism because our cross-national model was based on this cultural dimension. The results for the fully unrestricted model were as follows:  $\chi^2(1332) = 2758.27$ , RMSEA = .053, CFI = .92, NNFI = .91, and CAIC = 4307.78. For the fully restricted model, they were as follows:  $\chi^2(1446) = 3545.37$ , RMSEA = .064, CFI = .88, NNFI = .88, and CAIC = 4330.24.<sup>3</sup> A chi-square difference test revealed a statistically significant difference ( $\Delta\chi^2(114) = 787.10$ ,  $p < .000$ ). Table 2 reports the comparison of factor means, second-order loadings, and structural coefficients between the two countries.

**Table 2.** Cross-National Analysis: Comparison of Factor Means, Loadings, and Structural Coefficients

Constructs	Factor Mean Estimates				Comments	
	India	United States	$\Delta\chi^2(1)$			
TANG	$\alpha_1$	0	1.29	139.63	( $p < .001$ )	Significantly different
REL	$\alpha_2$	0	.67	173.40	( $p < .001$ )	Significantly different
RESP	$\alpha_3$	0	1.34	126.50	( $p < .001$ )	Significantly different
ASSU	$\alpha_4$	0	1.72	188.95	( $p < .001$ )	Significantly different
EMP	$\alpha_5$	0	1.34	111.29	( $p < .001$ )	Significantly different
ATT	$\alpha_6$	0	-.12	1.00	( $p > .25$ )	Not significantly different
SAT	$\alpha_7$	0	.11	.46	( $p > .50$ )	Not significantly different
PAT	$\alpha_8$	0	.26	1.10	( $p > .25$ )	Not significantly different

  

Dimensions of Second-Order PSQ	Second-Order Loading Estimates				Hypotheses	Comments
	India	United States	$\Delta\chi^2(1)$			
TANG	$\gamma_{11}$	.77	.73	.25	( $p > .50$ )	H <sub>1a</sub> Not significantly different—H <sub>1a</sub> not supported
REL	$\gamma_{21}$	.73	.97	8.83	( $p < .005$ )	H <sub>2a</sub> Significantly different—H <sub>2a</sub> supported
RESP	$\gamma_{31}$	.91	.96	.35	( $p > .50$ )	H <sub>3a</sub> Not significantly different—H <sub>3a</sub> not supported
ASSU	$\gamma_{41}$	.81	1.08	10.85	( $p < .005$ )	H <sub>4a</sub> Significantly different—H <sub>4a</sub> supported
EMP	$\gamma_{51}$	.85	1.00	3.67	( $p > .05$ )	H <sub>5a</sub> Significantly different*—H <sub>5a</sub> not supported

  

Consequences of Second-Order PSQ	Structural Coefficient Estimates				Hypotheses	Comments
	India	United States	$\Delta\chi^2(1)$			
PSQ → ATT	$\gamma_{61}$	.46	.66	7.00	( $p < .005$ )	H <sub>6a</sub> Significantly different—H <sub>6a</sub> supported
PSQ → SAT	$\gamma_{71}$	.21	.49	19.34	( $p < .001$ )	H <sub>7a</sub> Significantly different—H <sub>7a</sub> supported
ATT → SAT	$\beta_{76}$	.57	.53	.28	( $p > .50$ )	H <sub>8a</sub> Not significantly different—H <sub>8a</sub> supported
ATT → PAT	$\beta_{86}$	.07	.01	.48	( $p > .50$ )	H <sub>9a</sub> Not significantly different—H <sub>9a</sub> supported
SAT → PAT	$\beta_{87}$	1.12	.87	4.51	( $p < .05$ )	H <sub>10a</sub> Significantly different—H <sub>10a</sub> not supported

\*Marginally supported at the  $p = .05$  significance level.

To test the hypotheses on the importance of PSQ dimensions, we compared second-order factor loadings in both country samples after fixing the variance of the second-order PSQ equal to 1. Of the five PSQ dimensions, tangibility and responsiveness were not significantly different ( $\Delta\chi^2(1) = .25$ ,  $p > .50$ , and  $\Delta\chi^2(1) = .35$ ,  $p > .50$ , respectively). Thus, H<sub>1a</sub> and H<sub>3a</sub> are not supported. However, the reliability and assurance dimensions were significantly different (i.e., greater for the U.S. sample:  $\Delta\chi^2(1) = 8.83$ ,  $p < .005$ , and  $\Delta\chi^2(1) = 10.85$ ,  $p < .005$ , respectively). Therefore, H<sub>2a</sub> and H<sub>4a</sub> were supported. We found a marginally significant dif-

ference for empathy, and so H<sub>5a</sub> was not supported ( $\Delta\chi^2(1) = 3.67$ ,  $p > .05$ ). We also tested for the factor means of the latent constructs by fixing alpha in the India sample and freeing it in the U.S. sample. Chi-square difference tests indicated that the factor means in the U.S. sample were significantly greater than those in the India sample for all five dimensions.

The magnitudes of the effect of second-order PSQ on attitude and satisfaction were also significantly different ( $\Delta\chi^2(1) = 7.00$ ,  $p < .005$ , and  $\Delta\chi^2(1) = 19.34$ ,  $p < .001$ , respectively). H<sub>6a</sub> and H<sub>7a</sub> were both supported. This

suggests that second-order PSQ has a significantly greater influence on both attitude and satisfaction in the U.S. sample than in the India sample. Both  $H_{8a}$  and  $H_{9a}$  were supported because the magnitudes of the effect of attitude on satisfaction ( $H_{8a}$ ) and patronage intentions ( $H_{9a}$ ) were not significantly different ( $\Delta\chi^2(1) = .28, p > .50$ , and  $\Delta\chi^2(1) = .48, p > .50$ , respectively). Finally, although the magnitude of the effect of satisfaction on patronage was significantly different, as we hypothesized, it was greater in the India sample than in the U.S. sample ( $\Delta\chi^2(1) = 4.51, p < .05$ ). Thus,  $H_{10a}$  was not supported.

### Cross-Cultural Analysis

To test consumers' PSQ using cross-cultural research, we used Furrer, Liu, and Sudharshan's (2000) Cultural Service Quality Index (CSQI) to evaluate the relative importance of each dimension of PSQ as a joint function of the five cultural dimensions. We gave each PSQ dimension a cultural weighting using the five cultural dimensions taken together. The CSQI is given by the following formula:  $CSQI_{si} = \frac{1}{5} \sum_c \rho_{sc} CDS_{ci}$ , where  $CSQI_{si}$  = CSQI for the PSQ dimension  $s$  ( $s = 1-5$ ) for individual  $i$ ;  $CDS_{ci}$  = the score on Hofstede's cultural dimension  $c$  ( $c = 1-5$ ), and  $\rho_{sc}$  = the coefficient of correlation between the relative importance of PSQ dimension  $s$  and the cultural dimension  $c$ . The CSQI score on each dimension gives an overall measure of the importance of that PSQ dimension for a person given his or her scores on the five cultural dimensions. Thus, in cross-cultural analysis, we estimate the joint contribution of cultural dimensions on PSQ dimensions rather than predicting them.

Following the CSQI that Furrer, Liu, and Sudharshan (2000) propose, we computed indexes as the average of the standardized scores for items loading onto each dimension of PSQ and culture. Next, we used the  $CSQI_{si}$  score on each PSQ dimension and performed k-means clustering on the combined sample (United States and India). This technique of clustering enables researchers to segment consumers effectively, yielding more homogeneity in cluster sizes (Krieger and Green 1996). According to the F-values and group sizes, a two-cluster solution gave us the best fit (with  $n_1 = 259$  and  $n_2 = 478$ ). Cluster 1 was significantly high on uncertainty avoidance (UAV), long-term orientation (LTO), and individualism (IDV), and Cluster 2 was significantly high on power distance (PD) and masculinity (MAS).<sup>4</sup> Similar to cross-national analysis, we ran a two-group cross-cultural model based on the two clusters obtained

and controlled for the five demographic covariates (education, gender, marital status, age, and frequency of transaction). The fully unrestricted model yielded the following results:<sup>5</sup>  $\chi^2(1080) = 2588.17$ , RMSEA = .063, CFI = .92, NNFI = .91, and CAIC = 3865.59. The fully restricted model yielded the following results:  $\chi^2(1170) = 3009.73$ , RMSEA = .065, CFI = .91, NNFI = .90, and CAIC = 3528.64. A chi-square difference test revealed a statistically significant difference ( $\Delta\chi^2(90) = 421.56, p < .000$ ). Table 3 summarizes the factor means, loadings, and structural coefficients for the cross-cultural model.

Regarding importance, as we hypothesized, reliability, responsiveness, assurance, and empathy were not significantly different ( $\Delta\chi^2(1) = .01, p > .90$ ;  $\Delta\chi^2(1) = 2.64, p > .10$ ;  $\Delta\chi^2(1) = 1.59, p > .20$ ; and  $\Delta\chi^2(1) = .26, p > .50$ , respectively). Thus  $H_{2b}$ ,  $H_{3b}$ ,  $H_{4b}$ , and  $H_{5b}$  were all supported. Tangibility ( $H_{1b}$ ) was the only dimension that was significantly different, with a chi-square difference of 7.10 at  $p < .01$ . The magnitude of the effect of PSQ on attitude was significantly different ( $\Delta\chi^2(1) = 4.24, p < .005$ ) but not significantly different with respect to satisfaction ( $\Delta\chi^2(1) = .08, p > .75$ ). Thus,  $H_{7b}$  was supported but not  $H_{6b}$ . Of the three effects of PSQ on attitude, satisfaction, and patronage, one was not significantly different: the effect of attitude on patronage intentions ( $\Delta\chi^2(1) = 3.35, p > .05$ ). This supports  $H_{9b}$ . Finally, factor mean estimates of all PSQ dimensions in Cluster 1 were significantly higher than the estimates in Cluster 2 according to the CSQI scores.

## DISCUSSION AND IMPLICATIONS

### Cross-National Research: More Differences in PSQ Dimensions

In terms of the importance of the five dimensions of PSQ, reliability and assurance have a significantly greater influence on overall PSQ assessment in an individualist (the United States) than in a collectivist (India) national culture. These results confirm that individualists consider reliability in service an extension of one's consistent portrayal of the "real" and "stable" self and assign critical importance to service employee assurance as a validation of their self-confidence. An implication of this finding is that multinational organizations in individualist countries should place greater emphasis on personal legitimacy of service employees than on institutional legitimacy. This means focusing more on training, motivating, and empowering service employees to actively take roles, display confidence, and provide

**Table 3.** Cross-Cultural Analysis: Comparison of Factor Means, Loadings, and Structural Coefficients

Constructs		CSQI Score				Comments
		Factor Mean Estimates			$\Delta\chi^2(1)$	
		Cluster 1	Cluster 2			
TANG	$\alpha_1$	0	-.92	88.25	( $p < .001$ )	Significantly different
REL	$\alpha_2$	0	-1.22	128.12	( $p < .001$ )	Significantly different
RESP	$\alpha_3$	0	-1.14	110.58	( $p < .001$ )	Significantly different
ASSU	$\alpha_4$	0	-1.17	123.75	( $p < .001$ )	Significantly different
EMP	$\alpha_5$	0	-1.11	92.45	( $p < .001$ )	Significantly different
ATT	$\alpha_6$	0	-.35	12.36	( $p < .005$ )	Significantly different
SAT	$\alpha_7$	0	-.61	36.45	( $p < .005$ )	Significantly different
PAT	$\alpha_8$	0	-.71	27.93	( $p < .005$ )	Significantly different

  

Dimensions of Second-Order PSQ		Second-Order Loading Estimates				Hypotheses	Comments
		Cluster 1	Cluster 2	$\Delta\chi^2(1)$			
TANG	$\gamma_{11}$	.66	.90	7.10	( $p < .01$ )	H <sub>1b</sub>	Significantly different—H <sub>1b</sub> not supported
REL	$\gamma_{21}$	.90	.91	.01	( $p > .90$ )	H <sub>2b</sub>	Not significantly different—H <sub>2b</sub> supported
RESP	$\gamma_{31}$	.86	1.00	2.64	( $p > .10$ )	H <sub>3b</sub>	Not significantly different—H <sub>3b</sub> supported
ASSU	$\gamma_{41}$	1.04	.94	1.59	( $p > .20$ )	H <sub>4b</sub>	Not significantly different—H <sub>4b</sub> supported
EMP	$\gamma_{51}$	.98	.94	.26	( $p > .50$ )	H <sub>5b</sub>	Not significantly different—H <sub>5b</sub> supported

  

Consequences of Second-Order PSQ		Structural Coefficient Estimates				Hypotheses	Comments
		Cluster 1	Cluster 2	$\Delta\chi^2(1)$			
PSQ → ATT	$\gamma_{61}$	.58	.41	4.24	( $p < .05$ )	H <sub>6b</sub>	Significantly different—H <sub>6b</sub> not supported
PSQ → SAT	$\gamma_{71}$	.28	.26	.08	( $p > .75$ )	H <sub>7b</sub>	Not significantly different—H <sub>7b</sub> supported
ATT → SAT	$\beta_{76}$	.75	.57	5.99	( $p < .025$ )	H <sub>8b</sub>	Significantly different—H <sub>8b</sub> not supported
ATT → PAT	$\beta_{86}$	.11	.06	3.35	( $p > .07$ )	H <sub>9b</sub>	Not significantly different—H <sub>9b</sub> supported
SAT → PAT	$\beta_{87}$	.77	1.01	5.42	( $p < .025$ )	H <sub>10b</sub>	Significantly different—H <sub>10b</sub> not supported

Notes: Cluster 1 is the conservative segment high on uncertainty avoidance and long-term orientation. Cluster 2 is the achievement-oriented segment high on power distance and masculinity.

explanations of behavior following image-threatening events. Although this concept is also important for organizations in collectivist countries, service employees should emphasize building institutional legitimacy to signal credibility to external stakeholders (Powell and DiMaggio 1991). Although the hypothesis involving empathy was partially supported due to marginal significance, the hypothesized direction was not. This is a curious finding, as it challenges conventional wisdom

that collectivists are more caring than individualists. Our findings imply that, perhaps, the relational self-construal at the dyadic level is more effective for demonstrating meaningful empathy and individualized care than the interdependent self-construal. People with high relational self-construal have well-organized cognitive networks for relationship information with individual people close to them rather than large groups (Cross and Morris 2003), which facilitates caring relationships.

Therefore, service organizations in individualist countries should effectively harness the relational potential of their service employees toward engaging in higher levels of relationship marketing with customers.

However, the magnitude of the effect of tangibility and responsiveness on PSQ is the same (i.e., a nonsignificant difference) in both countries. A plausible explanation is that consumers may tend to use tangibles as a proxy for evaluating service outcomes rather than service delivery—that is, technical quality rather than functional quality (Brady and Cronin 2001)—and this may be quite pronounced in India, where consumers are utilitarian driven. The other tenable explanation is that India has undergone substantial economic transformation in the past 20 years as a result of the liberalization of trade and foreign direct investment policies. The influence of global culture has accentuated the global-national dialectic (Kjeldgaard and Askegaard 2006), shaping the definition of self and national identity. Consumers, particularly in urban centers, are giving more importance to the tangible aspects of services (e.g., physical facilities, technology, appearance of personnel) and are becoming more demanding with regard to substantive and timely service delivery. Research has shown that globalization and economic development create a shift toward the material-cultural environment, in which the independent self-construal gradually takes greater significance over social obligations (Hannover and Kuhnen 2004; Inglehart and Baker 2000). For example, Inglehart and Baker (2000) conducted three waves of the World Values Surveys in 65 societies to examine cultural change and showed that economic development was associated with shifts away from traditional norms and values toward values that are increasingly rational and tolerant. The direction of sociocultural evolution during the modernization phase moves away from individual needs to rational organizations (i.e., to acquire modern technology and the need to be more competitive). With continued progress in economic development, the requirement of social conformity declines and postmodernization values of self-expression and individualism emerge (Tang and Koveos 2008). The assumption that India is a collectivist country relative to the United States, though still valid on the basis of meta-analytic study, should be periodically validated against the shifting cultural dynamics of the individual self as a result of economic development (Kirkman, Lowe, and Gibson 2006; Oyserman, Coon, and Kimmelmeier 2002). This is not just limited to India; growing evidence suggests a link between sustained affluence and individualism in countries such as Japan

and China, where there is fear that the younger generation is losing work ethic and a sense of collective obligation (Ahuvia 2002; Ralston et al. 1999).

### **Cross-Cultural Research: More Similarities in PSQ Dimensions**

This study suggests that distinctive differences exist between cross-national and cross-cultural models of PSQ. First, in cross-national research, on the basis of second-order factor loadings, reliability, assurance, and, to a lesser extent, empathy were distinctive dimensions with significant differences, whereas tangibles and responsiveness were common dimensions without significant difference. In cross-cultural research, tangibility was significantly different, whereas reliability, responsiveness, assurance, and empathy were common dimensions without any significant difference. Second, although factor mean estimates (alpha levels) were statistically significant between clusters in cross-cultural research, their differences in absolute terms were reduced as compared with differences in factor mean estimates in cross-national research (see Tables 2 and 3). These reductions in mean levels are noteworthy because they indicate convergence in perceptions of service quality even after we control for potential confounds, such as demographic, transaction, and firm-specific factors. Thus, the results of both factor importance and mean estimates provide sufficient evidence that global segmentation based on culture (i.e., cross-cultural research) rather than country (i.e., cross-national research) detects more similarities in the dimensions of PSQ than differences. The findings empirically validate what cross-cultural and international business scholars have maintained regarding the within-country heterogeneity on cultural values and the growing hegemony of global culture in bringing some convergence of global markets (Au 1999; Cornwell and Drennan 2004; Kirkman, Lowe, and Gibson 2006; Ralston 2008; Tung 2008).

After more than two and a half decades of controversial debate over Levitt's (1983) argument of the world converging toward a global market, this study suggests the growing relevance of culture-based global horizontal segments that transcend national boundaries instead of nation-based vertical segments. In the domain of international service quality, the study provides evidence of cultural convergence at the most external layer of behavior as a result of global culture permeating down to the individual cognitive level (Erez and Gati 2004; Leung et al. 2005). However, it should be noted that culture as a

multilayer construct (Schein 1992) is most easily influenced at the external layer of artifacts and behavior and gets progressively difficult to penetrate at the deeper levels of values and basic assumptions reflecting convictions about reality and human nature. Even so, although researchers have found empirical support for the existence of horizontal market segments for consumer products and services (Bolton and Myers 2003; Ter Hofstede, Steenkamp, and Wedel 1999), we believe that this study offers managerial insights on global market segmentation in the area of international PSQ. Our cross-national, cross-cultural model of PSQ can be used to segment global markets and guide global marketing strategies. Table 4 summarizes our key findings regarding vertical and horizontal market segmentation variables.

### **Implications for Global Market Segmentation**

We advocate an approach for segmenting global markets based on survey data that describe consumers' PSQ and their characteristics across countries and cultures. We believe that meaningful market segments can be derived from analyzing cross-national and cross-cultural differences. A horizontal market segmentation scheme for services can be derived from culture-based differences across countries and people. Specifically, our cluster analysis shows that bank consumers who are high on uncertainty avoidance and long-term orientation exhibit a significantly higher level of PSQ perceptions on all five PSQ dimensions, weigh tangibility less heavily in forming assessments of PSQ, and weigh PSQ more heavily in forming their attitudes than consumers who are high on masculinity and power distance. These observations suggest that there are two horizontal market segments representing markedly different cultures. The first segment comprises "conservative" consumers (i.e., characterized by high uncertainty avoidance and long-term orientation) who are service delivery conscious, valuing high levels of all dimensions of PSQ provided by the bank and believing that high overall PSQ (i.e., service delivery) is valuable to them in their overall attitude (e.g., favorable, pleasant). The second segment comprises "achievement-oriented" consumers (i.e., characterized by high power distance and masculinity) who are value conscious and apparently accept lower levels of all dimensions of PSQ, considering it less valuable to them (i.e., less positively). Moreover, tangibility is more important to them, perhaps because they use it as a proxy for evaluating service outcomes rather than service delivery (i.e., technical quality is more important than the quality of service delivery for this segment). The identification of these two market segments has significant implications for the development of

a bank's strategy, enabling it to standardize its positioning within and across countries and allocate resources to consumers in both countries accordingly.

A vertical market segmentation strategy for service offerings can be based on national characteristics, such as consumer preferences for different PSQ dimensions and demographic variables. In our banking study, the results of the hypothesis tests show that reliability, assurance, and empathy from service company employees are more important determinants of bank consumers' PSQ in the United States than in India. Therefore, bank managers in the United States should allocate more resources to recruiting and training knowledgeable service employees who can deliver reliable service and build trusting and caring relationships with consumers (compared with bank managers in India). For example, a strategy that emphasizes personal experiences with knowledgeable employees might include the assignment of a "personal banker" (who can deliver reliable and personalized service with assurance) to especially valued individual consumers. Furthermore, the levels of all five dimensions of PSQ are generally lower in India than in the United States; therefore, a bank's vertical market segmentation strategy for India should communicate and deliver improvements in overall PSQ at specific local banks in communities.

In short, developing a global strategy for service offerings that incorporates both horizontal and vertical market segments has two major benefits for service organizations. First, service delivery systems can be standardized to serve global, horizontal segments in ways that are cost-effective for the service organization. Second, revenues can be enhanced by creating specific offerings that attract and retain consumers in (vertical) national markets. For example, our banking study indicates that resources should be allocated to recruiting and training employees (and perhaps introducing personal bankers) to serve valued individual consumers in the United States more effectively, whereas they should be allocated to improving core banking services for communities of consumers in India.

### **A Managerial Tool for Segmenting Markets on the Basis of Consumers' PSQ**

Multinational organizations have become increasingly service oriented, so managers need strategies for segmenting global markets and marketing services. The effective identification of market segments is critical to the financial performance of multinational service

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**Table 4. Segmentation Results**

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**Vertical Market Segmentation Variables (Cross-National Analysis)**

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H<sub>1a</sub>: The importance attached to tangibles dimension of PSQ is not significantly different between an INC and a CNC.  
H<sub>2a</sub>: The importance attached to reliability dimension of PSQ is significantly different (i.e., greater for INC than CNC).  
H<sub>3a</sub>: The importance attached to responsiveness dimension of PSQ is not significantly different between an INC and a CNC.  
H<sub>4a</sub>: The importance attached to assurance dimension of PSQ is significantly different (i.e., greater for INC than CNC).  
H<sub>5a</sub>: The importance attached to empathy dimension of PSQ is significantly different (i.e., greater for INC than CNC).  
H<sub>6a</sub>: The magnitude of the effect of PSQ on attitude is significantly different (i.e., greater for INC than CNC).  
H<sub>7a</sub>: The magnitude of the effect of PSQ on satisfaction is significantly different (i.e., greater for INC than CNC).  
H<sub>8a</sub>: The magnitude of the effect of attitude on satisfaction is not significantly different between an INC and a CNC.  
H<sub>9a</sub>: The magnitude of the effect of attitude on patronage intention is not significantly different between an INC and a CNC.  
H<sub>10a</sub>: The magnitude of the effect of satisfaction on patronage intention is significantly different (i.e., greater for CNC than INC).  
Customers from INC exhibit a significantly higher level of service quality perception on all five dimensions than customers from CNC.

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**Vertical Covariates**

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In an INC, customers who are highly educated had higher levels of service satisfaction. Older customers had higher levels of attitude and patronage intentions. In a CNC, customers who are highly educated had lower levels of attitude and satisfaction. Older customers had lower levels of attitude but higher levels of patronage intentions. Customers with long-term orientation had lower perceptions of tangibility.

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**Horizontal Market Segmentation Variables (Cross-Cultural Analysis)**

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H<sub>1b</sub>: The importance attached to tangibles dimension of PSQ is significantly different (i.e., higher for AOS and lower for CS).  
H<sub>2b</sub>: The importance attached to reliability dimension of PSQ is not significantly different between AOS and CS.  
H<sub>3b</sub>: The importance attached to responsiveness dimension of PSQ is not significantly different between AOS and CS.  
H<sub>4b</sub>: The importance attached to assurance dimension of PSQ is not significantly different between AOS and CS.  
H<sub>5b</sub>: The importance attached to empathy dimension of PSQ is not significantly different between AOS and CS.  
H<sub>6b</sub>: The magnitude of the effect of PSQ on attitude is significantly different (i.e., higher for CS and lower for AOS).  
H<sub>7b</sub>: The magnitude of the effect of PSQ on satisfaction is not significantly different between AOS and CS.  
H<sub>8b</sub>: The magnitude of the effect of attitude on satisfaction is significantly different (i.e., higher for CS and lower for AOS).  
H<sub>9b</sub>: The magnitude of the effect of attitude on patronage intention is not significantly different between AOS and CS.  
H<sub>10b</sub>: The magnitude of the effect of satisfaction on patronage intention is significantly different (i.e., higher for AOS and lower for CS).

Customers from CS who are high on uncertainty avoidance and long-term orientation exhibited a significantly higher level of service quality perception on all five dimensions than customers from AOS who are high on masculinity and power distance.

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**Horizontal Covariates**

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Customers in CS who are more highly educated and married had higher levels of service satisfaction. Customers in AOS who are married had higher levels of satisfaction and attitude but lower levels of patronage intentions. Older customers had higher levels of patronage intentions. Customers with more frequent transactions had more positive attitudes.

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Notes: INC = individualist national culture, CNC = collectivist national culture, AOS = achievement-oriented segment, and CS = conservative segment.

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organizations for three reasons. First, as Bolton and Myers (2003) illustrate, organizations that customize their service offerings across global markets to match consumer preferences can charge price premiums. Second, organizations that standardize their offerings by identifying horizontal (i.e., cross-cultural) segments can allocate resources more efficiently, so that their costs decrease. Third, as Ter Hofstede, Steenkamp, and Wedel (1999) illustrate, when consumers (rather than countries) are used as the basis for identifying global market segments, the effectiveness of marketing strategies increases.

The current research provides a cross-national, cross-cultural model of PSQ that managers can use as a market segmentation tool for global services. Our approach is significantly different from prior approaches. Horizontal market segments for consumer products and services in global markets have typically been identified through use of numerical taxonomy methods (e.g., Helsen, Jedidi, and DeSarbo 1993; Yavas, Verhage, and Green 1992). Most research (with the exception of Bolton and Myers 2003) has identified horizontal market segments for goods, using survey data describing consumption patterns, attitudinal variables, and so on. Our approach provides a theory-based, empirically supported tool (or template) that will be particularly useful for service organizations that do not have a rich set of internal metrics for PSQ that are standardized across countries and regions, a situation that is unfortunately extremely common given the prevalence of information silos and legacy systems. Our approach, combined with recent advances in the management of marketing productivity and consumer equity, enables managers to evaluate investments in PSQ on a global basis.

Service delivery systems should be simultaneously customized to meet unique perceptions across segments and standardized on common service dimensions to meet organizational cost-effectiveness. Consequently, the standardization versus customization debate can be resolved in favor of a mixed strategy that uniquely tailors to the differentiating dimensions and yet standardizes on the nondifferentiating ones. This mixed strategy is similar to the crossvergence perspective in international business research, which aims to strike a balance between cultural convergence due to technological, economic, and political influences of globalization and cultural divergence, which argues for cultural imperative and the stability of national culture (Ralston 2008; Ralston et al. 2008). The choice of international market segmentation must address the possibility of perceptual

and behavioral heterogeneity within nation-states and homogeneity among culture-based segments.

## Limitations and Suggestions for Further Research

This research contributes to the international marketing literature by elucidating differences between cross-national and cross-cultural research and empirically validating the growing relevance of a culture-based approach to global market segmentation. Applying consumers' perceptions of service quality dimensions as a segmentation tool for global services marketers, we use rigorous methodology that enables us to test specific hypotheses. Nevertheless, there are unresolved issues regarding the generalizability of our findings. First, PSQ is a malleable construct that is culture specific but evolutionary in its configuration; therefore, a longitudinal tracking study could reveal convergence over time more effectively. Second, it is imperative for scholars to study when national culture matters; its role, not just as an independent (or grouping) construct but also as a dependent construct given bidirectional influences; and perhaps its role as a mediating construct between global culture and individual culture. Third, the study used only Hofstede's (2001) framework; future studies could examine novel dimensions of culture borrowed from alternative frameworks (e.g., GLOBE project) to establish the cross-national versus cross-cultural distinction. Although the debate between convergence and divergence of cultural values will continue, we believe that this research provides sufficient evidence toward convergence of global consumers and the need for more cross-cultural research by international marketing researchers.

## APPENDIX: MEASUREMENT MODEL

We performed confirmatory factor analysis by running measurement models separately on the U.S. and India samples. Initially, our measurement model included eight latent factors—tangibility (TANG), reliability (REL), responsiveness (RESP), assurance (ASSU), empathy (EMP), attitude (ATT), satisfaction (SAT), and patronage intent (PAT)—and 32 indicators. However, 2 items (TANG 5: convenience of operating hours) and (REL 2: sincere interest in solving customer problem) had loadings less than .60, and the overall model results were less than the recommended minimum requirement. Given that the loadings were low for these items and that they lacked convergent validity with their respective constructs (cross-loadings were high), we deleted these

two items and ran a modified measurement model with the same eight latent factors and 30 indicators—TANG (4 items), REL (4 items), RESP (3 items), ASSU (4 items), EMP (4 items), ATT (4 items), SAT (4 items), and PAT (3 items). The results were as follows: U.S. sample:  $\chi^2(377) = 841.83$ , RMSEA = .054, CFI = .96, NNFI = .95, and CAIC = 1428.39; India sample:  $\chi^2(377) = 631.90$ , RMSEA = .046, CFI = .96, NNFI = .95, and CAIC = 1210.69.

Both the composite reliability and average variance extracted values for the two samples were above the recommended minimum levels of .70 and .50, respectively, thus establishing the reliability of the measurement scales. Next, we tested for convergent and discriminant validity. Convergent validity is established if all item loadings are equal to or above the recommended cutoff level of .60. Of a total of 60 loadings in two samples, the lowest value was .69 (one item), and the rest were all above .70, thus confirming convergent validity. Discriminant validity is achieved if the square root of the average variance extracted is larger than the correlation coefficient. In the U.S. sample, we found that all the correlation estimates met the criterion except 3 of the 28 cases. These involved the dimensions of RESP, ASSU, and EMP. In the India sample, we found 11 of the 28 cases involving five dimensions (TANG, REL, RESP, ASSU, and EMP) to have high correlations. Given the size of the correlation matrix (28 estimates), although some violations can occur through chance, these results confirm prior reports of high intercorrelations across PSQ dimensions (Dabholkar, Thorpe, and Rentz 1996). We also checked for discriminant validity by examining whether a correlation between two constructs was significantly different from unity. We freely estimated the correlation of the two constructs in the first model but set it to 1 in the second model. We examined a chi-square difference to determine whether the two constructs were significantly different. The results of the 28 pairs in both samples indicate that all pairs of constructs had significant difference at  $p < .001$ , thus supporting discriminant validity. In summary, the scale items were both reliable and valid for model testing.

### Measurement Equivalence

We performed a series of measurement equivalence tests at different levels of invariance following the procedure that Steenkamp and Baumgartner (1998) suggest. We examined configural, metric, scalar, and variance-covariance equivalence. We conducted these equivalence tests separately and established measure-

ment equivalence for both (1) the PSQ model only and (2) the full model with nomological constructs. (We do not present details of the development of measurement equivalence procedures because of space constraints; however, they are available on request.)

### T-Test Results on Hofstede's Dimensions

We conducted t-tests to compare whether the U.S. and India samples differed significantly on the mean scores of all five cultural dimensions of PD, MAS, IDV, LTO, and UAV. The results indicate significant difference in each of the cultural dimensions: PD: India (3.89) versus United States (3.44),  $t = 7.78$ ,  $p = .000$ ; MAS: India (3.96) versus United States (3.68),  $t = 5.48$ ,  $p = .000$ ; IDV: India (3.62) versus United States (3.82),  $t = 3.47$ ,  $p = .001$ ; UA: India (3.96) versus United States (4.56),  $t = 13.69$ ,  $p = .000$ ; LTO: India (3.85) versus United States (4.13),  $t = 6.12$ ,  $p = .000$ . These scores indicate that India is significantly higher on power distance and masculinity and significantly lower on individualism, uncertainty avoidance, and long-term orientation than the United States.

### NOTES

1. The distribution of the two samples on key demographic variables is as follows: In the U.S. sample: education: 38% had a high school degree and some college experience, and 62% had a college degree; gender: 56% males and 44% females; marital status: single, 54%, married no children, 9%, and married with children 37%; age: 65% "less than 40 years" and 35% "over 40 years"; frequency of bank transactions: 32% "three or more times a week," 47% "once or twice a week," and 21% "once in two weeks or more." In the India sample: education: 26% had a high school degree and some college experience, and 74% had a college degree; gender: 70% males and 30% females; marital status: single, 13%, married no children, 9%, and married with children, 78%; age: 53% "less than 40 years" and 47% "over 40 years"; frequency of bank transactions: 27% "three or more times a week," 19% "once or twice a week," and 54% "once in two weeks or more." We conducted a K-S nonparametric test to test the significance of the difference in the distributions. All five variables were significantly different between the two samples: education:  $K-S(Z) = 6.07$ ,  $p = .000$ ; gender:  $K-S(Z) = 1.99$ ,  $p = .001$ ; marital status:  $K-S(Z) = 4.37$ ,  $p = .000$ ; age:  $K-S(Z) = 3.04$ ,  $p = .000$ ; and frequency

of transaction:  $K-S(Z) = 4.42, p = .000$ . Therefore, we decided to treat these five variables as covariates and control for their effects in the multigroup comparison of the structural model.

2. We conducted two tests to assess CMV: First, we performed Harman's single factor test using confirmatory factor analysis by specifying a hypothesized method factor underlying all the manifest variables. In both samples, the model fit was extremely unsatisfactory, indicating that CMV is not a problem. The results were as follows: U.S. sample:  $\chi^2(405) = 4647.05$ , RMSEA = .23, CFI = .64, NNFI = .61, and CAIC = 9019.96; India sample:  $\chi^2(405) = 2228.87$ , RMSEA = .19, CFI = .69, NNFI = .67, and CAIC = 5288.38. Second, we performed the marker variable test by estimating the marker variable post hoc to acquire a reliable estimate of CMV by selecting the second smallest positive correlation (Lindell and Whitney 2001) among the manifest variables— $r_M$  of .23 and .17 for the U.S. and India sample, respectively. Assuming that a method factor has a constant correlation with all measured items, we computed CMV-adjusted correlations (with t-statistics) and did not find such effects to be problematic. Therefore, using the preceding results, we worked with the observed correlations to test for their psychometric properties.
3. We found significant effects of the control variable (economic development) on all five first-order dimensions of tangibility ( $t = -16.38, p < .001$ ), reliability ( $t = -20.00, p < .001$ ), responsiveness ( $t = -17.32, p < .001$ ), assurance ( $t = -21.04, p < .001$ ), and empathy ( $t = -17.33, p < .001$ ). We also found few significant effects of demographic and culture-based control variables (cross-national analysis). In the U.S. sample, 3 of the 15 demographic controls (5 covariates  $\times$  3 nomological constructs) were significant. Education was positively related to satisfaction ( $t = 3.46, p < .01$ ), and age was positively related to both attitude and patronage ( $t = 4.24, p < .005$ , and  $t = 2.56, p < .025$ , respectively). None of the culture-based controls were significant. In the India sample, 4 of the 15 demographic controls (5 covariates  $\times$  3 nomological constructs) were significant. Education was negatively related to both attitude and satisfaction ( $t = -2.64, p < .005$ , and  $t = -2.35, p < .01$ , respectively), and age was negatively related to attitude and positively related to patronage ( $t = -2.09, p < .025$ , and  $t = 2.35, p < .01$ , respectively). Only 1 of the 20 culture-based controls (4 covariates  $\times$  5 first-order dimensions) was significant. Long-term orientation

was negatively related to tangibility ( $t = -2.90, p < .025$ ).

Furthermore, to test whether differences in bank type had any influence on the results in Table 2, we added bank type as a control variable to the previously mentioned set of covariates (1 = bank with international scope, 2 = bank with national scope, and 3 = bank with regional scope). For the U.S. sample, we found no significant effect of bank type on the five first-order dimensions of tangibility ( $\beta_{1,18} = -.08, t = -1.62$ ), reliability ( $\beta_{2,18} = -.01, t = -.04$ ), responsiveness ( $\beta_{3,18} = -.01, t = .18$ ), assurance ( $\beta_{4,18} = .03, t = .72$ ), and empathy ( $\beta_{5,18} = .02, t = .42$ ). Similarly, for the India sample, we found no significant effects of bank type on the dimensions of tangibility ( $\beta_{1,18} = -.10, t = -1.44$ ), reliability ( $\beta_{2,18} = -.04, t = -.66$ ), responsiveness ( $\beta_{3,18} = -.04, t = -.51$ ), assurance ( $\beta_{4,18} = -.10, t = -1.56$ ), and empathy ( $\beta_{5,18} = -.02, t = -.35$ ).

4. For Cluster 1 ( $n = 259$ ), cluster means (standard deviations) on CSQI scores are as follows: PD: 3.04 (.87), IDV: 3.97 (.80), MAS: 3.32 (.71), UAV: 4.86 (.51), and LTO: 4.34 (.64). For Cluster 2 ( $n = 478$ ), cluster means (standard deviations) on CSQI scores are as follows: PD: 3.96 (.56), IDV: 3.61 (.61), MAS: 4.04 (.55), UAV: 4.02 (.55), and LTO: 3.85 (.52). F-values (partial  $\eta^2$ ) between clusters are as follows: PD: 304.88 (.29), IDV: 43.86 (.06), MAS: 227.43 (.24), UAV: 414.92 (.36), and LTO: 126.53 (.15). All F-values are significant at  $p < .001$ .
5. With respect to the role of covariates (cross-cultural analysis), 2 of the 15 covariates were significant in Cluster 1. Education was positively related to satisfaction ( $t = 2.22, p < .025$ ), and marital status was positively related to satisfaction ( $t = 2.50, p < .01$ ). For Cluster 2, 5 of the 15 covariates were significant. Marital status was positively related to attitude and satisfaction ( $t = 3.30, p < .005$ , and  $t = 2.67, p < .005$ , respectively) but negatively related to patronage ( $t = -2.68, p < .005$ ). Age was positively related to patronage ( $t = 2.91, p < .005$ ), and frequency was positively related to attitude ( $t = 2.57, p < .005$ ).

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