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Does Country or Culture Matter in Global Marketing? An Empirical Investigation of Service Quality and Satisfaction Model with Moderators in Three Countries

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Abstract The increased importance and acceleration of service globalization during the first decade and a half of the twenty-first century has resulted in multinational firms serving customers with divergent needs and expectations shaped by different cultural background and values. This divergence in consumer perceptions across countries may be attributed to cultural differences. Yet, several cross-cultural studies in services marketing have assumed cultural homogeneity within countries, i.e., country and culture are assumed to be synonymous. In this study, we investigate the influence of cultural values in shaping consumers' perception of service quality and satisfaction through cross-national vs. cross-cultural analysis. We also analyze the moderating role of the cultural values of individualism/collectivism and uncertainty avoidance on service quality dimensions and the relationship between perceived service quality and satisfaction. We present the conceptual background on service quality, customer satisfaction, and cultural values and develop our hypotheses by integrating these domains. Both cross-national vs. cross-cultural models are empirically tested using customer survey data in three countries. We discuss our SEM-based methodology, present our results, and discuss research implications. Our study makes a number of theoretical, methodological, and managerial contributions that highlight the shifting paradigm in global marketing.

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Introduction

During the 1990s, the growth of services in international markets was driven by declining trade barriers, globalization of businesses and markets, and the emergence of modern information technologies which facilitated cost-effective international services operations (Knight 1999). The acceleration of service globalization during the first decade of the twenty-first century has resulted in multinational firms serving customers with divergent needs and expectations shaped by different cultural background and values (Wong 2004). The growth of global firms across services including banking, insurance, retailing, hospitality, healthcare, telecom, transportation, consulting, etc. with presence in several countries also catalyzed research focusing on how consumers in different countries and cultures form attitudes, assess performance, and perceive the quality of service offerings. Research on consumer perceptions of service quality, satisfaction, and behavioral intentions indicate great divergence in perceptions of service quality among consumers belonging to different nations and cultures (Malhotra et al. 1994; Winsted 1997; Donthu and Yoo 1998; Mattila 1999; Furrer et al. 2000; Brady and Robertson 2001; Van Birgelen et al. 2002; Raajpoot 2004; Voss et al. 2004; Malhotra et al. 2005; Agarwal et al. 2010). This divergence in consumer perceptions across countries may be an artifact of their cultural differences. As the importance of service quality in improving customer satisfaction is very well established in extant literature (Parasuraman et al. 1985, 1988; Brady et al. 2005), the impact of culture on consumer perceptions assumes relevance for theory as well as practice.

Several cross-cultural studies in services marketing have assumed cultural homogeneity within countries, i.e., country and culture are assumed to be synonymous (Leung et al. 2005). But culture refers to any form of social environment which shares common values and does not automatically correspond to country borders or ethnic groups (Steenkamp 2001). Emerging evidence points to the spread of global culture facilitated by globalization, growth of transnational firms, and homogenization of global consumption (Ger and Belk 1996; Agarwal et al. 2010). As a result of this global culture permeating down to the individual cognitive level, cultural convergence is taking place at the external layer of behavior (Erez and Gati 2004; Leung et al. 2005) thus underscoring the need to explore the homogeneity of cultural values across countries while simultaneously recognizing the heterogeneity across consumers belonging to a country.

A related issue is the specific role played by culture in influencing consumer perceptions, attitudes, and behavioral intentions. Van Birgelen et al. (2002) stated that the theoretical and empirical foundations of culture's consequences for services are fluid and advocated for further research on the interaction between culture and consumers' perceptions of service performance. Similarly, Liu et al. (2001) had called for research to be directed toward empirically testing the indirect and moderating effects of cultural factors to aid theoretical development in cross-cultural services marketing. However, the moderating role of cultural values in the relationship between service quality and customer satisfaction is not fully understood as limited

studies have analyzed culture as a moderator (Van Birgelen et al. 2002; Reimann et al. 2008; Schumann et al. 2010). Our research aims to fill this void and contribute to a greater understanding of the moderating role of cultural values in influencing consumer perceptions.

The objectives of this study are twofold. First, we investigate the influence of cultural values in shaping consumers' perceptions of service performance through cross-national and cross-cultural analysis. Second, we analyze the moderating role of individualism/collectivism and uncertainty avoidance on service quality dimensions and the relationship between perceived service quality and satisfaction. This fits in with the growing need for understanding systematic variations in service quality and satisfaction across nations and cultures (Liu et al. 2001). The article is organized as follows: in the next section, we present the conceptual background on service quality, customer satisfaction, and cultural values and develop our hypotheses by integrating these domains. We discuss our methodology, present our results, and discuss research implications. Finally, our study makes a number of theoretical, methodological, and managerial contributions that are identified.

Conceptual Background

Service Quality and Satisfaction

Service quality plays a key role in satisfying and retaining customers (Parasuraman et al. 1985, 1988). Perceived service quality is defined as the degree and direction of discrepancy between consumers' perceptions and expectations (Parasuraman et al. 1988). It is conceptualized and operationalized as a multidimensional construct comprising of the dimensions of reliability, responsiveness, assurance, empathy, and tangibles.[1] Service quality is an overall evaluation similar to attitude, while satisfaction is a global affective construct based on feelings and emotions related to the buying and consumption experience over time. Prior research showed that the cognitively oriented service quality is an antecedent to the affective-oriented satisfaction which in turn precedes behavior (Cronin Jr. et al. 2000; Spreng and Mackoy 1996). This cognitive-affective-behavioral sequence is consistent with Bagozzi's (1992) appraisal → emotional response → coping framework, drawn from Lazarus (1991). Applying this framework, service quality, a cognitive and appraisal-oriented construct (Bolton and Drew 1991), leads to both an evaluative state (attitude) and an

[1] Reliability means performing the service dependably, consistently, and accurately. Responsiveness refers to prompt and substantive service offered to customers by frontline employees. Empathy refers to caring and individualized attention provided to customers. Assurance refers to the knowledge and courtesy of frontline employees and their ability to inspire trust and confidence on customers. Finally, tangibility refers to the physical evidence of the service including physical facilities, technology, and appearance of personnel, tools, or equipment, as well as physical presentation of the service.

affective state (satisfaction) (Oliver 1997). When affective states are not favorable, problem-solving or emotional coping is undertaken at the behavioral intentions stage to reduce conflict (Bagozzi 1992). However, when affective states are favorable, behavioral intentions are positively reinforced through future patronage. Service quality and customer satisfaction determine the long-term success of service businesses (Parasuraman et al. 1994).

Cultural Values

Culture is defined as "the collective programming of the mind, which distinguishes the members of one group or category of people from another" (Hofstede 2001). The cultural context is often expressed in shared norms and value systems as highlighted by Hill (1997, p. 67) who defined culture as "a system of values and norms that are shared among a group of people and that when taken together constitute a design for living." These shared cultural values influence individual cognitions. This influence on the underlying cognitive constructs (Triandis 1972) and cognitive processing (McCort and Malhotra 1993) often results in shared behavioral patterns among people belonging to a culture or subculture.

Hofstede (1980) identified values as the basic manifestations of culture and defined them as "broad tendencies to prefer a certain state of affair over others." Based on his seminal work on cultural differences in values, Hofstede (1980/1991) identified five dimensions of culture on which people belonging to different countries diverge in their orientations. These dimensions are power distance, individualism/collectivism, masculinity/femininity, long-term orientation, and uncertainty avoidance. Values are programmed early in people's lives, and these values shape subjective attitudes and preferences and form the basis for comparisons used by customers to evaluate a service experience (Lovelock and Yip 1996; Van Birgelen et al. 2002).

Culture, Service Quality, and Satisfaction

The cultural context, often expressed in shared norm and value systems (Hofstede 1980), is known to influence consumer cognitions and behavior (McCort and Malhotra 1993). Empirical studies have explored the impact of culture on consumer expectations, perceptions, and satisfaction based on the service quality (SERVQUAL) framework (Parasuraman et al. 1985, 1988) and dimensions of cultural values (Hofstede 2001, 2011). Despite several years of research in cross-cultural differences in the evaluation of services, several issues elude complete understanding, so there is increased research interest in cross-cultural studies (Zhang et al. 2008). Many of the earlier studies focused on relationship between dimensions of cultural values and service quality (Furrer et al. 2000) and differences in the perception of

service quality dimensions between developed and developing economies (Malhotra et al. 2005). Recent studies have started examining the moderating role of culture on consumer's beliefs and attitudes. Reimann et al. (2008) analyzed the moderating role of uncertainty avoidance in the relationship between perceived service quality and customer satisfaction. Schumann et al. (2010) tested a model of the moderating effects of cultural values on trustworthiness beliefs about service providers' ability, benevolence, predictability, and integrity which drive consumer trust. Similarly, Agarwal et al. (2010) investigated the application of cross-national versus cross-cultural approaches to segmenting markets by estimating a country-based model and cluster-based model of consumers' perceived service quality. Their research identified distinctive differences between cross-national and cross-cultural models of perceived service quality, thus reinforcing the relevance for more cross-cultural research.

In our research, we focus on the relative importance of the dimensions of perceived service quality vis-à-vis reliability, responsiveness, assurance, empathy, and tangibles and the impact of perceived service quality on satisfaction across (a) three countries, i.e., USA, India, and Philippines, and (b) across segments of customers who belong to similar clusters based on their similarities in cultural values. We also explore the moderating role of individualism/collectivism and uncertainty avoidance on service quality dimensions and in the relationship between perceived service quality and satisfaction. Our research follows in the spirit of the earlier studies and extends recent research on service quality and satisfaction through a cross-national and cross-cultural empirical study.

Hypotheses Development

Cross-National Versus Cross-Cultural Models

Hofstede (2001) argued that as the mental programs of people do not change rapidly, so culture changes slowly, endures over time, and is consistent within countries. Thus national culture is seen as a relatively stable construct reflecting a shared knowledge within a country. In line with this thinking, many research in international services marketing focused on cross-national research wherein national culture is used as a grouping variable to study cultural divergence across countries (Adams and Markus 2004). Even in culturally diverse countries, people share a common cultural foundation, and thus, nationality is adopted as a viable proxy for culture in cross-national research (Beaudreau 2006; Dawar and Parker 1994). 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 et al. (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.

However, assumptions about the stability of national cultural values become a bit tenuous during rapid changes in the environment leading to adaptation and cultural change. Despite the backlash of globalization in recent years (e.g., Brexit, populism in nation-states), globalization in the last quarter century has given birth to free market economies, democracy, and freedom of choice, individual rights, acceptance and tolerance of diversity, and openness to change (Leung et al. 2005). Hence, the assumption of absence of change in cultural dimensions across nations, and therefore, stability of cultural distance measures between countries across time is unrealistic. For example, Heuer et al. (1999) found that continuous economic development over a period of 30 years in Indonesia resulted in an unprecedented socio-cultural transformation. The authors found a narrowing over time of the differences between Indonesian and American managers in terms of individualism/collectivism and power distance, thus suggesting crossvergence (Ralston 2008). Drawing from dialectical thinking and the yin-yang principle, Fang (2005–2006) uses the "ocean" metaphor to explain the "paradoxical nature" of culture, the "moment" of culture, and the "new identity" of national culture in the era of globalization.

Erez and Gati (2004) view culture as a dynamic construct. Culture and individual psychological processing are seen as evolving and adapting to ecological and sociological influences (Kitayama 2002). Erez and Gati (2004) using the "onion" metaphor view 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 are introduced that reflect heterogeneity (Leung et al. 2005). In addition to top-down processes, bottom-up processes also take place that emerge at the individual level and then permeate the group and organizational levels, and over time new cultural norms become national-level culture. Gould and Grein (2009) interpret culture to be distinct from national culture and as a holistic and pivotal construct whose formation and evolution involves a social construction of practices and experiences highlighting meaning, context, practices and process. The transfer and construction of meaning involves processes like glocalization, hybridization, and identity formation.

Drawing on the concepts of poly-contextualization (Von Glinow et al. 2004), culture as a multilevel, multilayer dynamic construct (Erez and Gati 2004; Leung et al. 2005), and multicultural status of nation-states (Naylor 1996), it is clear that there is considerable within-country variation on cultural values because the ever-growing hegemony of global culture influences the "elective identity" of customers within nation-states to yield significant heterogeneity (Au 1999; Arnett 2002; Cornwell and Drennan 2004; Kirkman et al. 2006). In comparing several countries, Au (1999) found that intra-cultural variation on certain variables was greater than intercultural variation. These variables ranged from demographics, rigidity of rules and social structures, cultural tightness and looseness, moral discipline, and

government policies that reinforce the dominant behavior. Emerging evidence also shows considerable within-country variation on cultural values and the existence of significant cultural differences between regions or subcultures within a country (Kirkman et al. 2006; Tung 2008).

On the other hand, there is growing support for cultural homogeneity across countries, driven by global culture's continual influence which alters and influences individuals' personal cultures (Broderick et al. 2007; Eckhardt and Houston 2007; Kjeldgaard and Askegaard 2006). Cultural differences across countries are declining, and a convergence of cultures and values is taking place (Ralston 2008). By identifying culture-based segments which transcend national boundaries and share more commonalities than differences, we expect cross-cultural research to detect more homogeneity. Thus, culture-based segments will show greater homogeneity in consumers' perceptions and attitudes as compared to cross-national groupings that will reveal greater differences (Agarwal et al. 2010). Based on these discussions, we propose:

H1 *Cross-national model will reveal greater differences than cross-cultural model in the importance of service quality dimensions assigned by customers and the impact of service quality on satisfaction.*

Moderating Effects in Cross-National and Cross-Cultural Analysis

Individualism/Collectivism

Individualism/collectivism reflects a culture's relation to individual goals and accomplishments (Hofstede 2001). The ties between individuals are loose in individualistic societies, and everyone is expected to look after him-/herself and his/her immediate family. Individualists are characterized by a strong "I" consciousness, and their identity is independent from institutions and organizations. Collectivists are characterized by a "we" consciousness, and their identity is based on the social system in which they are embedded. Thus the self is always defined in the context of social networks. Hofstede's individualism/collectivism scales were originally designed for country-level analysis, and yet cross-national researchers have utilized them at the individual level of analysis. Consequently, such disparity between the theoretical and methodological underpinnings of Hofstede's conceptualization inherent in the two levels of analysis has resulted in equivocal findings slowing down the accumulation of research findings into a generalizability template and hence the advancement of the field (Kirkman et al. 2006; Oyserman et al. 2002).

To alleviate this limitation, we borrow from the work of Markus and Kitayama (1991, 1994) who proposed the concept of independent versus interdependent self-construal which is seen as an alternative explanation for individualism/collectivism. Markus and Kitayama (1991, 1994) and others (e.g., Triandis 1995) have argued

that individuals possess both independent and interdependent self-construal and that cultural contexts typically promote the development of one or the other self-construal more strongly. Self-construal refers to how individuals define and make meaning of the self and is conceptualized as a constellation of thoughts, feelings, and actions concerning one's relationship to *others* and the degree to which the self is distinct or *separate* from others or *connected* with others. That is, self-construal is typically defined as how individuals see the self in relation to others.

Independent self-construal is defined as a "bounded, unitary, stable" self that is separate from social context. The constellation of elements includes an emphasis on (a) internal attributes, thoughts, and feelings, (b) being unique and expressing the self, (c) realizing internal attributes and promoting one's own goals, and (d) being direct in communication (Markus and Kitayama 1991; Singelis 1994). Individuals with highly developed independent self-construal consider their own (or others') attributes and characteristics as referents when thinking about themselves (or others) rather than relational or contextual factors. On the other hand, interdependent self-construal is defined as a "flexible, variable" self that emphasizes (a) external roles and relationships, (b) belongingness to a group, (c) engaging in appropriate action, and (d) being indirect in communication and "reading others' minds" (Markus and Kitayama 1991; Singelis 1994).

Independent self-construal and interdependent self-construal are typically identified as corresponding to individualism and collectivism, although the latter is used to describe national cultures whereas self-construal refers to at the individual level (Gudykunst et al. 1996; Oyserman et al. 2002). Individualists, with independent self-construal, strive to know and validate their unique real self by behaving autonomously and resisting the influence of others (Markus and Kitayama 1991). Individuals with independent self-construal view themselves consistently across situations and display beliefs and value judgments that are consistent with past personal commitments (Petrova et al. 2007). Individual consistency is therefore reflective of maturity and self-integrity in individualistic societies and a lack of consistency poses a threat to the core authentic self (Cross et al. 2003). Individualists are more independent and self-centered and, due to their drive and self-responsibility ethic, will demand others to be efficient and are more demanding than people in more collectivistic cultures. Because they are promotion focused and strive for goal attainment and efficiency (Higgins 1998), individualists want prompt service, and these services must be provided right the first time. Individualists base their perceptions of competence and trust on a person's reliability and courtesy with respect to rights, attitudes, and privacy (Hofstede 1991). Thus individualists are expected to differ from collectivists on the service quality dimensions of reliability and responsiveness, i.e., individualists give higher importance to reliability and responsiveness than collectivists (Furrer et al. 2000; Agarwal et al. 2010).

During a service interaction, individualists will also prefer to maintain a distance between themselves and the service provider. Tangibles are a mean to maintain this distance and offers autonomy allowing one to freely enter and leave social relations (Furrer et al. 2000; Kwan et al. 1997). Therefore, individualists give higher importance to tangibility. Further, due to self-confidence, an individualist is expected to

seek more assurance (i.e., knowledge and courtesy) from individual frontline service employees and less from service providers and hence likely to assign lower importance to assurance from service providers. Also, individualists have greater self-knowledge that are more distinctive and elaborate in memory and fewer others-knowledge; as a result, accessibility of others-knowledge is reduced in a decontextualized schema resulting in lack of sensitivity and empathy. Thus individualists assign lower importance to empathy. Finally, for the service quality-satisfaction link, individualists express true feelings of satisfaction/dissatisfaction without reservation, allowing people to freely enter and leave relationships. Expression of feelings of satisfaction is not shaped by a consideration of the reaction of others, and hence it is candidly expressed to safeguard the authentic self (Markus and Kitayama 1991). Based on these discussions, we propose:

H2a *Customer perceptions of the importance of service quality dimensions and the impact of service quality on satisfaction are moderated by individualism/collectivism in both cross-national model and cross-cultural model.*

H2b *However, based on the arguments presented in H1, cross-national model will reveal greater differences than cross-cultural model in the importance of service quality dimensions assigned by customers and the impact of service quality on satisfaction.*

Uncertainty Avoidance

Uncertainty avoidance (UA) refers to the tolerance for unstructured, ambiguous, or unpredictable future events (Hofstede 2001). The degree of UA can be used to distinguish societal norms related to beliefs, attitudes, and behavior (Hofstede 1980, 2001). A high UA indicates higher anxiety, greater stress levels, more propensity to display emotions, and a tendency for aggressive behavior when challenged. There is less tolerance and acceptance of unclear situations, less acceptance of dissent, and a strong need for consensus, clarity, and structure. There is a strong belief in expertise and knowledge for problem-solving, commitments are long-lasting, and there is a strong need for adherence to rules and regulations to make behavior predictable (Reimann et al. 2008). In contrast, a low UA refers to low levels of stress and anxiety, weaker superegos and less showing of emotions, greater tolerance and acceptance of diversity and uncertain situations, and a general approach and common sense to problem-solving. Commitments are less binding, rules and regulations are adaptive and changed if they don't work, there is greater acceptability of dissent, and a willingness to take unknown risks (Reimann et al. 2008).

In a service context, customers of high UA culture have a much lower tolerance for ambiguity as they find it difficult to accept unclear situations and deviations from norms. High UA cultures are characterized by a need to reduce ambiguity and risk through strict rules and regulations (Kale and Barns 1992) and by seeking to minimize service defect potentials (Wong 2004). People high on UA perceive life

more as a threat and experience higher levels of anxiety. They would be motivated to reduce the perceived ambiguity and uncertainty of life to lower this anxiety (Doney et al. 1998). Seeking advice or assurance from others is one way to lower this anxiety. People reduce their inherent uncertainty by technology, law, and general rituals (Hofstede 2001). Thus, tangibles will be used as a surrogate for service quality as they are visible evidence of service quality in high UA cultures (Donthu and Yoo 1998). Uncertainty and ambiguity from unknown situations can also be reduced through close relationships with a service provider who is responsive and empathetic and by seeking advice or assurance from trusted others. However, a caveat is worth noting in that when a frontline employee engages in employee interaction, there is a good chance that high uncertainty avoidance (i.e., narrow tolerance zone) may lead to significant service defect. Providing clear structure and accuracy in the service process, i.e., reliable service, may help ease customers from high UA cultures. Furrer et al. (2000) proposed that the uncertainties are higher in infrequent service situations, and therefore all dimensions of service quality are important in cultures with higher UA, i.e., individuals from higher UA cultures give greater importance to all dimensions of service quality than individuals from lower UA cultures. Finally, for the service quality-satisfaction link, because of the narrow tolerance zone of high UA individuals, the higher the degree of uncertainty avoidance, the less satisfied the customer will be when a service is defective (Reimann et al. 2008). Based on these discussions, we propose:

H3a *Customer perceptions of the importance of service quality dimensions and the impact of service quality on satisfaction are moderated by uncertainty avoidance in both cross-national model and cross-cultural model.*

H3b *However, based on the arguments presented in H1, cross-national model will reveal greater differences than cross-cultural model in the importance of service quality dimensions assigned by customers and the impact of service quality on satisfaction.*

The research model, incorporating our hypotheses, is shown in Fig. 3.1.

Methodology

We chose banking services for our study context because they are widely available in all three countries, namely, the USA, India, and the Philippines, and the banking sector is an important part of the service economy in each nation. A structured questionnaire was prepared and administered in English to bank customers by marketing research professionals. The questionnaire was pretested in each country using personal interviews to identify and eliminate potential problems in question content, wording, difficulty, and instructions. The survey data were obtained from major metropolitan areas, and the respondents in each of the countries were fluent in English, thereby avoiding the need for questionnaire translation. A total of 1069

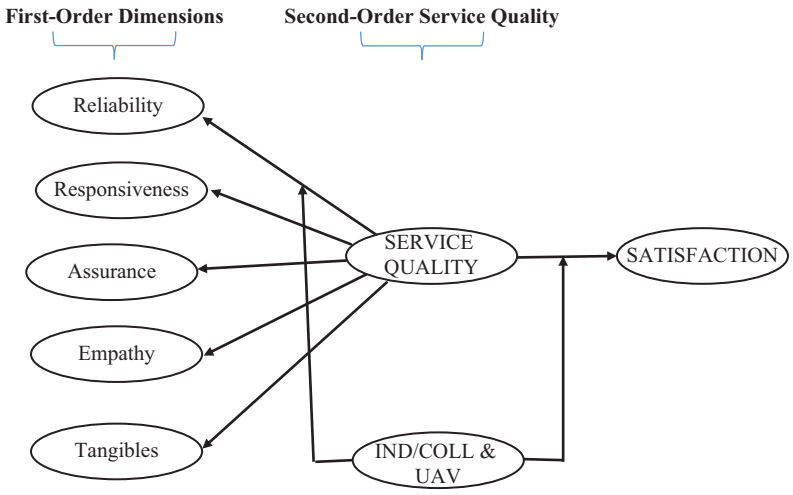

Fig. 3.1 Second-order service quality➔satisfaction model with moderators: cross-national vs. cross-cultural analysis

interviews were completed: 455 in the USA, 314 in India, and 300 in the Philippines. We used the 21-item SERVQUAL 9-point scale (Parasuraman et al. 1988, 1994) tapping performance perception measures along the five dimensions of perceived service quality following recent research (Dabholkar et al. 2000). To measure overall satisfaction, we used both evaluative and emotion-based measures derived and adapted from the work of Oliver (1997). Finally, we used Hofstede's 7-point Likert-type scale to measure the cultural dimensions of individualism/collectivism and uncertainty avoidance with four items for each cultural dimension (adapted from Hofstede 1991; Furrer et al. 2000).

Results and Analysis

Modeling of Service Quality

We developed and estimated a second-order reflective model of perceived service quality. Service quality has typically been conceptualized as a first-order factor, antecedent, one-factor model, and/or multi-item summary construct (e.g., Brady and Cronin 2001). For example, Brady and Cronin (2001) include three primary dimensions and nine subdimensions in a hierarchical structure. Their three primary dimensions – interaction quality, physical environment quality, and outcome quality are modeled as antecedents to SQ (measured as a two-item global construct) rather than dimensions reflecting higher-order SQ. However, theoretical work predicts that SQ is a higher-order, multidimensional, and multilevel construct.

We tested for alternative conceptualizations of service quality: Rindskopf and Rose (1988) proposed a hierarchy of models for factor structure comparisons specifically when testing for a second-order factor model. The least restricted model is a bi-factor model consisting of one general factor plus group factors. The next nested model is the group factor model which is equivalent to first-order correlated factor model without the general factor (i.e., loadings for the general factor are set to zero). Next in the hierarchy of nested models is the second-order model which is a special case of group factor model. The second-order reflective model puts a structure on the pattern of correlations among the first-order group factors. Finally, the one-factor model is a special case of the second-order model where the unique variances of the first-order factors are set equal to zero. The one-factor model is the most restrictive model in the hierarchy. Based on factor structure models and nomological net comparison, model fit results confirmed that service quality is best conceptualized as a second-order reflective construct, with five dimensions with reflective constructs at the first-order level. Details of the development of measurement equivalence procedures are not presented due to space constraints but are available from the authors upon request.

Based on psychometric theory, a reflective model is appropriate because its indicators share a common theme, are expected to covary with each other, and are manifestations of the construct (Jarvis et al. 2003). Prior research is consistent with this notion; Dabholkar et al. (1996) report high internal consistency reliability of service quality factors and high intercorrelations across first-order factors – implying a high degree of shared variance. From a causal perspective, the association between the first-order dimensions (as reflective indicators) and second-order service quality is fairly stable over time. Such association tends to generally remain stable in reflective models as opposed to formative models where the association between the measures and the construct depends upon the composite that best predicts the dependent variable (Edwards and Bagozzi 2000). Further, an important advantage of modeling service quality as a second-order reflective construct is that it is possible to determine the measurement error (or reliability) at both the individual item level as well as the first-order factor level – thereby allowing for prescriptive measures for scale improvement (Bagozzi and Heatherton 1994). The full model was tested using cross-national and cross-cultural analysis as in Fig. 3.1.

Measurement Model

We performed confirmatory factor analysis (using LISREL) by running measurement models separately on each sample – the USA, India, and the Philippines. Initially our measurement model included six latent factors, i.e., tangibility (TANG), reliability (REL), responsiveness (RESP), assurance (ASSU), empathy (EMP), and satisfaction (SAT) and 25 indicators. However, two items (TANG 5 – convenience of operating hours) and (REL 2 – sincere interest in solving customer problem) had loadings less than 0.60, 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 six latent factors and 23 indicators – TANG (four items), REL (four items), RESP (three items), ASSU (four items), EMP (four items), and SAT (four items). The results were as follows: *USA sample* χ^2 (215) = 565.13, RMSEA = 0.061, SRMR = 0.034, CFI = 0.96, NNFI = 0.95, and CAIC = 983.15; *India sample* χ^2 (215) = 392.21, RMSEA = 0.053, SRMR = 0.044, CFI = 0.96, NNFI = 0.95, and CAIC = 804.17; and *Philippines sample* χ^2 (215) = 546.98, RMSEA = 0.075, SRMR = 0.030, CFI = 0.96, NNFI = 0.95, and CAIC = 956.66.

CMV and Measurement Equivalence Test

We also tested for common method variance (CMV), i.e., the mount of spurious covariance shared among variables because of common method used in collecting data. We utilized 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; Malhotra et al. 2006) among the manifest variables – rM of 0.23, 0.17, and 0.14 for the USA, India, and Philippines samples, respectively. Assuming that a method factor has a constant correlation with all measured items, we computed CMV-adjusted correlations [rA = (rU − rM)/(1 − rM)], where rA is the adjusted correlation and rU is the unadjusted correlation and their corresponding t-statistics denoted by $t\left(a/2\right),n-3=\left(\mathrm{rA}/\sqrt{\left(1-\mathrm{rA}^2\right)}\right)/\left(n-3\right)$ where n is the sample size. We did not find such effects to be problematic. Therefore using the preceding measurement model results, we worked with the observed correlations to test for their psychometric properties. In addition, we also performed a series of measurement equivalence tests at different levels of invariance following the procedure suggested by Steenkamp and Baumgartner (1998). We examined configural, metric, scalar, and variance-covariance equivalence (Malhotra et al. 1996). These equivalence tests were conducted separately and measurement equivalence was established. Details of the development of measurement equivalence procedures are not presented due to space constraints but are available from the authors upon request.

Reliability and Validity

We further tested for reliability and convergent and discriminant validity of the measurement model, and the results were found acceptable. Both the construct reliability (CR) and average variance extracted (AVE) values for the three samples were above the recommended minimum levels of 0.70 and 0.50, respectively (Hair et al. 2010; Malhotra 2010). This established the reliability of the measurement scales.

We next tested for convergent and discriminant validity. Convergent validity is established if all item loadings are equal to or above the recommended cutoff level of 0.60. Of a combined total of 69 loadings in three samples, only one item had a loading less than 0.70, and the rest were above 0.70. The distribution of all loadings was 25 items (0.70 – <0.80), 25 items (0.80 – <0.90), and 18 items (≥0.90) with one loading equaling 0.69, thus confirming convergent validity. Table 3.1 contains the psychometric properties of the measurement model and the correlation matrices of for each of the three samples.

Discriminant validity is achieved if the square root of the AVE is larger than correlation coefficient. In the *USA sample*, we found all of the correlation estimates met the criterion except in 3 out of the 15 cases. These involved the dimensions of RESP, ASSU, and EMP. In the *India sample*, 10 out of the 15 cases involving five dimensions of TANG, REL, RESP, ASSU, and EMP were found to have high correlations. In the *Philippines sample*, all correlation estimates met the criterion except for 1 out of the 15 cases (REL and ASSU). Given the size of the correlation matrix while some violations can occur through chance, these results confirm earlier reports of high intercorrelations found across service quality dimensions (Dabholkar et al. 1996). First, theoretical work predicts that perceived service quality is a higher-order, multidimensional, and multilevel construct (Brady and Cronin 2001; Carman 1990; Dabholkar et al. 1996). Because our study models perceived service quality as a second-order reflective construct, significant intercorrelations at the first-order level are conceivable. In order to further test the robustness of our findings on discriminant validity, we checked for it by examining whether a correlation between two constructs is significantly different from unity. The correlation of the two constructs was freely estimated in the first model but set to one in the second model. A chi-square difference was examined to determine whether the two constructs were significantly different. Results of the 15 pairs in all three samples indicate that all pairs of constructs had significant difference at $p < 0.001$, thus supporting discriminant validity. In summary, the scale items were both reliable and valid for model testing.

Hypothesis 1 Cross-National Versus Cross-Cultural Models

First, we tested for the fit of the service quality structural model in all three countries by running a three-group simultaneous cross-national analysis. The model fit for each sample was satisfactory and above the recommended level. These were as follows: *USA sample* χ^2 (224) = 611.44, RMSEA = 0.063, SRMR = 0.041, CFI = 0.95, NNFI = 0.95, and CAIC = 970.01; *India sample* χ^2 (224) = 410.97, RMSEA = 0.054, SRMR = 0.045, CFI = 0.95, NNFI = 0.95, and CAIC = 766.84; and *Philippines sample* χ^2 (224) = 613.44, RMSEA = 0.079, SRMR = 0.043, CFI = 0.95, NNFI = 0.94, and CAIC = 956.74. Further, we found significant difference between the unrestricted model and the fully restricted model in the three-group analysis at $p < 0.05$. Results were unrestricted model χ^2 (672) = 1635.85, RMSEA = 0.065, SRMR = 0.043, CFI = 0.95, NNFI = 0.95, and CAIC = 2867.81 and fully restricted model χ^2 (776) = 3363.01, RMSEA = 0.093, SRMR = 0.14, CFI = 0.87, NNFI = 0.88, and CAIC = 3425.44.

Table 3.1 Psychometric properties of measurement model and correlation matrix

Constructs				*USA sample*						
					Correlation matrix					
	Mean	SD	CR	AVE	1	2	3	4	5	6
1. TANG	6.85	1.22	0.85	0.59	0.77					
2. REL	7.10	1.41	0.90	0.70	0.77	0.84				
3. RESP	6.90	1.36	0.86	0.68	0.65	0.81	0.83			
4. ASSU	7.08	1.32	0.92	0.64	0.70	0.83	0.92	0.80		
5. EMP	6.83	1.45	0.91	0.72	0.67	0.81	0.87	0.93	0.85	
6. SAT	6.69	1.67	0.95	0.82	0.52	0.61	0.68	0.71	0.70	0.91
Constructs				*India sample*						
					Correlation matrix					
	Mean	SD	CR	AVE	1	2	3	4	5	6
1. TANG	5.48	1.09	0.84	0.56	0.75					
2. REL	5.37	1.04	0.83	0.55	0.83	0.74				
3. RESP	5.45	1.09	0.79	0.55	0.87	0.94	0.74			
4. ASSU	5.33	1.00	0.83	0.54	0.80	0.92	0.91	0.73		
5. EMP	5.41	1.08	0.85	0.59	0.80	0.91	0.92	0.95	0.77	
6. SAT	6.61	1.32	0.88	0.65	0.45	0.61	0.63	0.57	0.57	0.81
Constructs				*Philippines sample*						
					Correlation matrix					
	Mean	SD	CR	AVE	1	2	3	4	5	6
1. TANG	7.03	1.14	0.93	0.76	0.87					
2. REL	6.99	1.21	0.95	0.82	0.81	0.91				
3. RESP	7.17	1.19	0.93	0.82	0.77	0.83	0.91			
4. ASSU	7.12	1.22	0.95	0.82	0.71	0.76	0.93	0.91		
5. EMP	7.13	1.20	0.96	0.86	0.74	0.79	0.85	0.83	0.93	
6. SAT	7.13	1.29	0.96	0.85	0.24	0.21	0.17	0.24	0.21	0.92

Value on the diagonal of the correlation matrix is the square root of AVE
TANG tangibles, *REL* reliability, *RESP* responsiveness, *ASSU* assurance, *EMP* empathy, *SAT* satisfaction, *SD* standard deviation, *CR* composite reliability, *AVE* average variance extracted

The mean (standard deviation) of cultural dimensions for each country is *power distance* [USA(1) 3.45 (0.94), India(2) 3.90 (0.46), Philippines(3) 3.01 (0.96). Scheffe's multiple range comparison: (1)–(2) = −0.449*, (1)–(3) = 0.433*, and (2)–(3) = 0.883*], *individualism* [USA(1) 3.79 (0.68), India(2) 4.10 (0.44), Philippines(3) 3.95 (0.65). Scheffe's multiple range comparison: (1)–(2) = −0.316*, (1)–(3) = −0.159*, and (2)–(3) = 0.156*], *masculinity* [USA(1) 3.68 (0.80), India(2) 3.96 (0.48), Philippines(3) 3.60 (0.78). Scheffe's multiple range comparison: (1)–(2) = −0.278*, (1)–(3) = 0.080, and (2)–(3) = 0.359*]; *uncertainty avoidance* [USA(1) 4.56 (0.67), India(2) 3.96 (0.48), Philippines(3) 4.39 (0.60). Scheffe's multiple range comparison: (1)–(2) = 0.607*, (1)–(3) = 0.172*, and (2)–(3) = −0.435*], and *long-term orientation* [USA(1) 4.13 (0.68), India(2) 3.86 (0.47), Philippines(3) 4.07 (0.54). Scheffe's multiple range comparison: (1)–(2) = 0.273*, (1)–(3) = 0.057, and (2)–(3) = −0.216*].

To identify specific differences in the structural links, we also compared three pair-wise differences (i.e., USA versus India, USA versus Philippines, and India versus Philippines) across each structural link in the first-order dimensions of service quality and the service quality→satisfaction link. The top portion of Table 3.2 contains the structural coefficients and the differences in structural links between each pair of countries. As is evident, except for tangibility and responsiveness, each of the dimensions of service quality is structurally different in terms of second-order factor loadings in at least one paired comparison with all three comparisons significantly different for the service quality→satisfaction link. On the service quality→satisfaction link, it is also interesting to find that the impact of second-order service quality was the strongest in the USA sample (0.84), followed by India sample (0.46), and the lowest in the Philippines sample (0.22).

To test hypothesis 1, we compared the cross-national findings with that of cross-cultural analysis. We performed cluster analysis using Ward's method on the aggregate sample (i.e., all three country samples) using Hofstede's cultural dimensions and generated a 3-cluster solution with the best fit. Based on F-values and group sizes, a three-cluster solution gave us the best fit (with n_1 = 370, n_2 = 394, and n_3 = 291). The mean (standard deviation) of cultural dimensions for each cluster is *power distance* [Cluster(1) 3.53 (0.79), Cluster(2) 3.30 (0.98), Cluster(3) 3.58 (0.89). Scheffe's multiple range comparison: (1)–(2) = 0.229*, (1)–(3) = −0.050, and (2)–(3) = −0.281*], *individualism* [Cluster(1) 3.92 (0.59), Cluster(2) 4.01 (0.62), Cluster(3) 3.82 (0.64). Scheffe's multiple range comparison: (1)–(2) = −0.092, (1)–(3) = 0.0.98, and (2)–(3) = 0.191*], *masculinity* [Cluster(1) 3.82 (0.64), Cluster(2) 3.63 (0.77), Cluster(3) 3.79 (0.75). Scheffe's multiple range comparison: (1)–(2) = 0.198*, (1)–(3) = 0.034, and (2)–(3) = −0.164*], *uncertainty avoidance* [Cluster(1) 4.29 (0.62), Cluster(2) 4.32 (0.67), Cluster(3) 4.40 (0.65). Scheffe's multiple range comparison: (1)–(2) = −0.037, (1)–(3) = −0.114, and (2)–(3) = −0.076], and *long-term orientation* [Cluster(1) 4.04 (0.62), Cluster(2) 4.03 (0.57), Cluster(3) 4.00 (0.61). Scheffe's multiple range comparison: (1)–(2) = 0.007, (1)–(3) = 0.037, and (2)–(3) = 0.029].

Subsequently, we ran the SQ structural model across these three clusters by using a three-group simultaneous LISREL. Here again, the model fit for each cluster was satisfactory and above the recommended level. These were as follows: *Cluster1* χ^2 (224) = 474.76, RMSEA = 0.059, SRMR = 0.043, CFI = 0.97, NNFI = 0.96, and CAIC = 856.85; *Cluster2* χ^2 (224) = 475.96, RMSEA = 0.057, SRMR = 0.030, CFI = 0.97, NNFI = 0.97, and CAIC = 847.61; and *Cluster3* χ^2 (224) = 602.71, RMSEA = 0.079, SRMR = 0.051, CFI = 0.94, NNFI = 0.93, and CAIC = 951.83. Similar to country analysis, we also compared three-way cluster differences across each structural link in the first-order dimensions of perceived service quality and the service quality-satisfaction link. Results for the unrestricted model were χ^2 (672) = 1553.43, RMSEA = 0.065, SRMR = 0.051, CFI = 0.96, NNFI = 0.96, and CAIC = 2828.99 and for the fully restricted model χ^2 (776) = 1860.00, RMSEA = 0.069, SRMR = 0.087, CFI = 0.95, NNFI = 0.95, and CAIC = 2419.32. The bottom portion of Table 3.2 contains the structural coefficients and the differences in structural links between each pair of countries. Results

Table 3.2 Service quality structural model: cross-national vs. cross-cultural analysis

Dimensions of second-order SQ		*3G cross-national analysis*			*3G cross-national analysis*		
		Second-order loading estimates					
		USA(1)	*India(2)*	*Philippines (3)*	*(1)–(2)*	*(1)–(3)*	*(2)–(3)*
TANG	γ_{11}	0.75	0.73	0.89	[$\Delta\chi^2$ (1) = 0.08] NSD	[$\Delta\chi^2$ (1) = 2.62] NSD	[$\Delta\chi^2$ (1) = 3.60] NSD
REL	γ_{21}	1.01	0.70	0.84	[$\Delta\chi^2$ (1) = 16.48] **SD**	[$\Delta\chi^2$ (1) = 4.16] **SD**	[$\Delta\chi^2$ (1) = 3.66] NSD
RESP	γ_{31}	0.99	0.88	0.97	[$\Delta\chi^2$ (1) = 1.72] NSD	[$\Delta\chi^2$ (1) = 0.03] NSD	[$\Delta\chi^2$ (1) = 1.39] NSD
ASSU	γ_{41}	1.06	0.79	0.97	[$\Delta\chi^2$ (1) = 12.21] **SD**	[$\Delta\chi^2$ (1) = 1.19] NSD	[$\Delta\chi^2$ (1) = 5.75] **SD**
EMP	γ_{51}	1.01	0.82	0.91	[$\Delta\chi^2$ (1) = 6.40] **SD**	[$\Delta\chi^2$ (1) = 1.66] NSD	[$\Delta\chi^2$ (1) = 1.57] NSD
SQ→SAT	γ_{61}	0.84	0.46	0.22	[$\Delta\chi^2$ (1) = 25.91] **SD**	[$\Delta\chi^2$ (1) = 53.92] **SD**	[$\Delta\chi^2$ (1) = 9.46] **SD**
Dimensions of second-order SQ		*3G cross-cultural analysis*			*3G cross-national analysis*		
		Second-order loading estimates					
		CLUS(1)	*CLUS(2)*	*CLUS(3)*	*(1)–(2)*	*(1)–(3)*	*(2)–(3)*
TANG	γ_{11}	0.89	0.84	0.79	[$\Delta\chi^2$ (1) = 0.38] NSD	[$\Delta\chi$2 (1) = 1.25] NSD	[$\Delta\chi$2 (1) = 0.36] NSD
REL	γ_{21}	0.93	0.92	0.89	[$\Delta\chi$2 (1) = 0.01] NSD	[$\Delta\chi$2 (1) = 0.23] NSD	[$\Delta\chi$2 (1) = 0.14] NSD
RESP	γ_{31}	0.93	0.99	0.97	[$\Delta\chi$2 (1) = 0.72] NSD	[$\Delta\chi$2 (1) = 0.22] NSD	[$\Delta\chi$2 (1) = 0.09] NSD
ASSU	γ_{41}	0.92	0.99	1.00	[$\Delta\chi$2 (1) = 1.05] NSD	[$\Delta\chi$2 (1) = 1.23] NSD	[$\Delta\chi$2 (1) = 0.04] NSD
EMP	γ_{51}	0.92	0.97	0.95	[$\Delta\chi$2 (1) = 0.52] NSD	[$\Delta\chi$2 (1) = 0.13] NSD	[$\Delta\chi$2 (1) = 0.07] NSD
SQ→SAT	γ_{61}	0.49	0.44	0.71	[$\Delta\chi$2 (1) = 0.36] NSD	[$\Delta\chi$2 (1) = 6.72] **SD**	[$\Delta\chi$2 (1) = 10.76] **SD**

3G three-group simultaneous estimation. *SD* significantly different at $p < 0.05$, *NSD* not significantly different i.e., $p > 0.05$, *SQ* service quality, *TANG* tangibles, *REL* reliability, *RESP* responsiveness, *ASSU* assurance, *EMP* empathy, *SAT* satisfaction

indicate that with the exception of two pairs in the service quality→satisfaction link, all of the second-order loadings were *not* significantly different across the three clusters. These findings suggest that cross-cultural model across segments exhibit more similarities than cross-national model across countries, thus supporting hypothesis H1.

Hypothesis 2 Individualism/Collectivism as Moderator of Service Quality in Both Cross-National and Cross-Cultural Models

To test for the moderating role of individualism (high versus low), we ran a two-group analysis in each of the three countries (cross-national) and three clusters (cross-cultural). For the *country-level analysis*, the results were as follows: *USA* χ^2 (448) = 1049.19, RMSEA = 0.078, SRMR = 0.073, CFI = 0.93, NNFI = 0.92, and CAIC = 1754.90; *India* χ^2 (448) = 709.94, RMSEA = 0.059, SRMR = 0.067, CFI = 0.94, NNFI = 0.93, and CAIC = 1379.32; and *Philippines* χ^2 (448) = 1003.42, RMSEA = 0.088, SRMR = 0.049, CFI = 0.93, NNFI = 0.92, and CAIC = 1600.96. Empathy was significantly different between low and high individualism in all the three samples. Further, assurance was significantly different in the USA sample (low IND 1.04, high IND 0.81), and tangibility was significantly different in the India sample (low IND 0.97, high IND 0.69). For the *culture-level analysis*, the results were as follows: *Cluster1* χ^2 (448) = 820.06, RMSEA = 0.070, SRMR = 0.067, CFI = 0.95, NNFI = 0.95, and CAIC = 1544.07; *Cluster2* χ^2 (448) = 815.74, RMSEA = 0.066, SRMR = 0.052, CFI = 0.96, NNFI = 0.95, and CAIC = 1511.45; and *Cluster3* χ^2 (448) = 1038.97, RMSEA = 0.097, SRMR = 0.089, CFI = 0.91, NNFI = 0.90, and CAIC = 1698.39. Here also, empathy was significantly different between low and high individualism in two clusters (2 and 3), while assurance was significantly different in cluster 3. Respondents low in individualism (or high collectivism) attached greater importance to empathy and assurance than respondents high in individualism. In clusters 1 and 3 the SQ-SAT link was found significant implying that perceived service quality has a greater impact in collectivists than individualists. Table 3.3 contains the results for the moderating role of individualism in both cross-national and cross-cultural analyses.

Hypothesis 3 Uncertainty Avoidance as Moderator of Service Quality in Both Cross-National and Cross-Cultural Models

Similarly, to test for the moderating role of uncertainty avoidance (high versus low), we ran a two-group analysis in each of the three countries (cross-national) and three clusters (cross-cultural). The results for the *country-level analysis* were as follows: *USA* χ^2 (448) = 926.50, RMSEA = 0.069, SRMR = 0.051, CFI = 0.94, NNFI = 0.94, and CAIC = 1628.22; *India* χ^2 (448) = 704.45, RMSEA = 0.060, SRMR = 0.058, CFI = 0.94, NNFI = 0.93, and CAIC = 1385.57; and *Philippines* χ^2 (448) = 933.89, RMSEA = 0.083, SRMR = 0.050, CFI = 0.94, NNFI = 0.93, and CAIC = 1561.01. Tangibility emerged significantly different between low and high uncertainty avoidance only in the USA sample (low UA 1.03, high UA 0.61) but not in India and the Philippines sample. For the *culture-level analysis*, the results were as follows: *Cluster1* χ^2 (448) = 770.98, RMSEA = 0.064, SRMR = 0.052, CFI = 0.96, NNFI = 0.95, and CAIC = 1475.13; *Cluster2* χ^2 (448) = 765.44, RMSEA = 0.063, SRMR = 0.031, CFI = 0.96, NNFI = 0.96, and CAIC = 1490.32; and *Cluster3* χ^2 (448) = 927.30, RMSEA = 0.087, SRMR = 0.072, CFI = 0.93, NNFI = 0.92, and CAIC = 1594.14. While there were no significant differences in cluster 1 and cluster 2, four dimensions were found to significantly differ in cluster 3. These were

Table 3.3 Moderating role of individualism: cross-national analysis vs. cross-cultural analysis

Dimensions of second-order SQ		*2G cross-national analysis*			*2G cross-national analysis*			*2G cross-national analysis*		
		Second-order loading estimates			*Second-order loading estimates*			*Second-order loading estimates*		
		USA(1)			*India(2)*			*Philippines(3)*		
		Individualism			*Individualism*			*Individualism*		
		Low	*High*	*Low–high*	*Low*	*High*	*Low–high*	*Low*	*High*	*Low–high*
TANG	γ_{11}	0.72	0.80	[$\Delta\chi^2$ (1) = 0.43] NSD	0.97	0.69	[$\Delta\chi^2$ (1) = 4.24] **SD**	0.86	0.70	[$\Delta\chi^2$ (1) = 1.77] NSD
REL	γ_{21}	0.89	0.81	[$\Delta\chi^2$ (1) = 0.61] NSD	1.05	0.86	[$\Delta\chi^2$ (1) = 1.86] NSD	0.87	0.84	[$\Delta\chi^2$ (1) = 0.04] NSD
RESP	γ_{31}	0.96	0.85	[$\Delta\chi^2$ (1) = 0.95] NSD	1.06	0.86	[$\Delta\chi^2$ (1) = 2.63] NSD	0.99	0.92	[$\Delta\chi^2$ (1) = 0.29] NSD
ASSU	γ_{41}	1.04	0.81	[$\Delta\chi^2$ (1) = 4.03] **SD**	1.02	0.88	[$\Delta\chi^2$ (1) = 1.15] NSD	1.00	0.78	[$\Delta\chi^2$ (1) = 3.35] NSD
EMP	γ_{51}	1.04	0.65	[$\Delta\chi^2$ (1) = 13.45] **SD**	1.08	0.79	[$\Delta\chi^2$ (1) = 5.17] **SD**	0.96	0.71	[$\Delta\chi^2$ (1) = 5.23] **SD**
SQ→SAT	γ_{61}	0.80	0.51	[$\Delta\chi^2$ (1) = 7.23] **SD**	0.68	0.48	[$\Delta\chi^2$ (1) = 2.50] NSD	0.22	0.23	[$\Delta\chi^2$ (1) = 0.01] NSD
Dimensions of second-order SQ		*2G cross-cultural analysis*			*2G cross-cultural analysis*			*2G cross-cultural analysis*		
		Second-order loading estimates			*Second-order loading estimates*			*Second-order loading estimates*		
		CLUS(1)			*CLUS(2)*			*CLUS (3)*		
		Individualism			*Individualism*			*Individualism*		
		Low	*High*	*Low–high*	*Low*	*High*	*Low–high*	*Low*	*High*	*Low–high*
TANG	γ_{11}	0.80	0.93	[$\Delta\chi^2$ (1) = 1.30] NSD	0.94	*H*0.75	[$\Delta\chi^2$ (1) = 3.39] NSD	0.85	*H*0.74	[$\Delta\chi^2$ (1) = 0.66] NSD
REL	γ_{21}	0.95	0.88	[$\Delta\chi^2$ (1) = 0.47] NSD	1.00	0.87	[$\Delta\chi^2$ (1) = 1.58] NSD	0.87	0.88	[$\Delta\chi^2$ (1) = 0.01] NSD
RESP	γ_{31}	0.94	0.97	[$\Delta\chi^2$ (1) = 0.04] NSD	1.01	0.90	[$\Delta\chi^2$ (1) = 1.48] NSD	1.01	0.85	[$\Delta\chi^2$ (1) = 1.58] NSD
ASSU	γ_{41}	0.97	1.01	[$\Delta\chi^2$ (1) = 0.11] NSD	1.02	0.88	[$\Delta\chi^2$ (1) = 1.99] NSD	1.06	0.67	[$\Delta\chi^2$ (1) = 8.32] **SD**
EMP	γ_{51}	0.97	0.87	[$\Delta\chi^2$ (1) = 0.79] NSD	1.05	0.83	[$\Delta\chi^2$ (1) = 5.75] **SD**	1.02	0.70	[$\Delta\chi^2$ (1) = 5.71] **SD**
SQ➔SAT	γ_{61}	0.58	0.36	[$\Delta\chi^2$ (1) = 3.98] **SD**	0.60	0.42	[$\Delta\chi^2$ (1) = 2.98] NSD	0.68	0.32	[$\Delta\chi^2$ (1) = 7.25] **SD**

2G two-group simultaneous estimation. *SD* significantly different at $p < 0.05$, *NSD* not significantly different i.e., $p > 0.05$, *SQ* service quality, *TANG* tangibles, *REL* reliability, *RESP* responsiveness, *ASSU* assurance, *EMP* empathy, *SAT* satisfaction

tangibility (low UA 1.04, high UA 0.62), *reliability* (low UA 1.03, high UA 0.73), *responsiveness* (low UA 1.15, high UA 0.82), and *empathy* (low UA 1.11, high UA 0.82). These results indicate that high UA respondents in cluster 3 tend to assign lower importance to SQ dimensions than low UA respondents. Table 3.4 contains the results for the moderating role of uncertainty avoidance in both cross-national and cross-cultural analyses.

Discussion and Implications

Cross-National Research

With regard to hypothesis 1, our study suggests that there are distinctive differences between cross-national and cross-cultural models of perceived service quality. In the cross-national study, *reliability*, *assurance*, and *empathy* were distinctive dimensions with significant differences in at least one paired comparison among the three countries (USA, India, and Philippines). Similarly, perceived service quality linkage with satisfaction was significantly different across all three pairs of comparisons in cross-national analysis. These findings indicate that significant cross-national differences in the study of service quality and satisfaction emerge pointing to a need for an emic-centered research methodology whereby the assumption of more differences than similarities becomes the default standard (Malhotra et al. 1996). That is, in cross-national research, national culture is 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). Hofstede (2001) has been a strong proponent of cultural stability in that 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 and thus according to cross-national research nationality may be considered a viable proxy for culture (Beaudreau 2006; Dawar and Parker 1994).

However, *tangibility* and *responsiveness* dimensions showed nonsignificant difference in all three countries. One plausible explanation is that customers across countries may tend to use tangibility as a substitute for evaluating service outcomes as opposed to service delivery. That is, given the impact of globalization and rising consumer expectations of services worldwide, technical quality of services as exemplified by technology and tangible servicescape (Brady and Cronin 2001) becomes the "differentiating" factor rather than functional quality of services which has reached competitive parity. This is quite pronounced in India and the Philippines where customers have historically been utilitarian driven but now are aspiring for better service quality and delivery. Both economies, in particular India, have undergone substantial economic transformation in the last 25 years as a result of the liberalization of trade and foreign direct investment policies. The influence of global

Table 3.4 Moderating role of uncertainty avoidance: cross-national analysis vs. cross-cultural analysis

Dimensions of second-order SQ		*2G cross-national analysis*			*2G cross-national analysis*			*2G cross-national analysis*		
		Second-order loading estimates			*Second-order loading estimates*			*Second-order loading estimates*		
		USA(1)			*India(2)*			*Philippines (3)*		
		Uncertainty avoidance			*Uncertainty avoidance*			*Uncertainty avoidance*		
		Low	*High*	*Low–high*	*Low*	*High*	*Low–high*	*Low*	*High*	*Low–high*
TANG	γ_{11}	1.03	0.61	[$\Delta\chi^2$ (1) = 10.33] **SD**	0.93	*H*0.74	[$\Delta\chi^2$ (1) = 1.75] NSD	0.90	0.74	[$\Delta\chi^2$ (1) = 1.90] NSD
REL	γ_{21}	0.97	0.81	[$\Delta\chi^2$ (1) = 2.08] NSD	1.04	0.80	[$\Delta\chi^2$ (1) = 2.87] NSD	0.96	0.79	[$\Delta\chi^2$ (1) = 2.03] NSD
RESP	γ_{31}	1.03	0.90	[$\Delta\chi^2$ (1) = 1.37] NSD	0.99	0.95	[$\Delta\chi^2$ (1) = 0.10] NSD	1.00	0.94	[$\Delta\chi^2$ (1) = 0.34] NSD
ASSU	γ_{41}	0.98	0.98	[$\Delta\chi^2$ (1) = 0.00] NSD	0.98	0.91	[$\Delta\chi^2$ (1) = 0.27] NSD	1.01	0.87	[$\Delta\chi^2$ (1) = 1.59] NSD
EMP	γ_{51}	1.04	0.90	[$\Delta\chi^2$ (1) = 1.57] NSD	1.01	0.85	[$\Delta\chi^2$ (1) = 1.52] NSD	0.97	0.84	[$\Delta\chi^2$ (1) = 1.57] NSD
SQ→SAT	γ_{61}	0.66	0.74	[$\Delta\chi^2$ (1) = 0.53] NSD	0.65	0.54	[$\Delta\chi^2$ (1) = 0.63] NSD	0.35	0.15	[$\Delta\chi^2$ (1) = 2.59] NSD
Dimensions of second-order SQ		*2G cross-cultural analysis*			*2G cross-cultural analysis*			*2G cross-national analysis*		
		Second-order loading estimates			*Second-order loading estimates*			*Second-order loading estimates*		
		CLUS(1)			*CLUS(2)*			*CLUS (3)*		
		Uncertainty avoidance			*Uncertainty avoidance*			*Uncertainty avoidance*		
		Low	*High*	*Low–high*	*Low*	*High*	*Low–high*	*Low*	*High*	*Low–high*
TANG	γ_{11}	0.93	0.76	[$\Delta\chi^2$ (1) = 2.40] NSD	0.88	*H*0.84	[$\Delta\chi^2$ (1) = 0.15] NSD	1.04	0.62	[$\Delta\chi^2$ (1) = 10.09] **SD**
REL	γ_{21}	0.95	0.91	[$\Delta\chi^2$ (1) = 0.20] NSD	0.85	1.00	[$\Delta\chi^2$ (1) = 2.34] NSD	1.03	0.73	[$\Delta\chi^2$ (1) = 5.87] **SD**
RESP	γ_{31}	0.96	0.94	[$\Delta\chi^2$ (1) = 0.04] NSD	0.98	0.95	[$\Delta\chi^2$ (1) = 0.12] NSD	1.15	0.82	[$\Delta\chi^2$ (1) = 7.54] **SD**

(continued)

Table 3.4 (continued)

Dimensions of second-order SQ		*2G cross-cultural analysis*			*2G cross-cultural analysis*			*2G cross-national analysis*		
		Second-order loading estimates			*Second-order loading estimates*			*Second-order loading estimates*		
		CLUS(1)			*CLUS(2)*			*CLUS (3)*		
		Uncertainty avoidance			*Uncertainty avoidance*			*Uncertainty avoidance*		
		Low	*High*	*Low–high*	*Low*	*High*	*Low–high*	*Low*	*High*	*Low–high*
ASSU	γ_{41}	0.98	0.99	[$\Delta\chi^2$ (1) = 0.01] NSD	0.96	0.97	[$\Delta\chi^2$ (1) = 0.02] NSD	1.05	0.89	[$\Delta\chi^2$ (1) = 1.75] NSD
EMP	γ_{51}	0.93	0.93	[$\Delta\chi^2$ (1) = 0.00] NSD	1.00	0.94	[$\Delta\chi^2$ (1) = 0.33] NSD	1.11	0.82	[$\Delta\chi^2$ (1) = 6.21] **SD**
SQ➔SAT	γ_{61}	0.44	0.51	[$\Delta\chi^2$ (1) = 0.43] NSD	0.49	0.49	[$\Delta\chi^2$ (1) = 0.00] NSD	0.59	0.6	[$\Delta\chi^2$ (1) = 0.06] NS

2G two-group simultaneous estimation. *SD* significantly different at $p < 0.05$, *NSD* not significantly different i.e., $p > 0.05$, *SQ* service quality, *TANG* tangibles, *REL* reliability, *RESP* responsiveness, *ASSU* assurance, *EMP* empathy, *SAT* satisfaction

culture has accentuated the global-national dialectic (Kjeldgaard and Askegaard 2006) shaping the definition of self and national identity. Customers, particularly in urban centers, are giving more importance to the tangible aspects of services (i.e., physical facilities, technology, appearance of personnel, etc.) and are becoming more demanding with regard to substantive and timely delivery of services. Some research has validated that economic development creates a shift toward the individualistic material-cultural environment and away from the collectivist and social obligations (Heuer et al. 1999; Inglehart and Baker 2000). For instance, the link between sustained affluence and the development of individualistic culture can be seen in countries like Japan and Singapore, where there is fear that the younger generation is losing work ethic and the sense of collective obligation (Ahuvia 2002). With continued progress in economic development, the requirement of social conformity declines and post-modernization values of self-expression and individualism emerges (Tang and Koveos 2008).

In summary, results from cross-national research suggest that despite globalization, national borders continue to have important meaning although not in the way cross-national research or values-based research tradition might suggest. An argument can be made based on Gelfand et al. (2011) study that found country-level factor, namely, degree of "cultural tightness," i.e., countries that have strong social norms and enforcement and low tolerance for deviant behavior, may influence "country effect." Thus, rather than abandoning country-level research, both country-level and intra-country-level cultural values research must be integrated for fine-grained analysis (Beugelsdijk et al. 2017). Although, culture resides at different levels, e.g., organizations, teams, professional associations, and nation-states, Beugelsdijk et al. (2017) argue that to abandon country as the unit of analysis may

be too farfetched as suggested by Kirkman et al. (2017), similar in spirit to throwing the baby with the bath water. Having said that, Taras et al. (2016) found that every possible container of culture (e.g., socioeconomic status, globalization index, economic freedom, etc., to name a few) outperformed country as a criterion for setting boundaries for cultural entities. They found that only a maximum of 20% of variance in cultural values resides between countries, which of course means that 80% resides within countries, indicating wide intra-country variability. There is a need to explore other containers of culture and break out of the dominant "country equals culture" paradigm.

Cross-Cultural Research

In contrast, in cross-cultural research, no service quality dimension was significantly different across the three clusters, that is, tangibility, reliability, responsiveness, assurance, and empathy were all common dimensions of service quality. Our 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; Kirkman et al. 2006; Ralston 2008; Tung 2008). In contrast to cross-national research, 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). 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 on the processes of culture itself. Unlike national culture, the formation and evolution of culture involves a social construction of practices and experiences which puts emphasis on meaning, context, and process. Our 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.

For international marketing scholars, these findings indicate a need for an etic-centered research methodology (albeit in combination with emic-centered methodology) which assumes more similarities than differences in perceived service quality and satisfaction (Malhotra and McCort 2001). This has implications for global market segmentation in that segmentation based on individual-level cultural values as opposed to nation-states detects more similarities in the dimensions of perceived service quality and satisfaction. While researchers have found empirical support for the existence of horizontal market segments for consumer products and

services (Bolton and Myers 2003; Hofstede et al. 1999), we believe this study offers managerial insights on the efficacy of international market segmentation based on common segments that transcend national boundaries. Service delivery systems should be simultaneously customized to meet unique perceptions across segments and standardized on common service dimensions to meet organizational cost-effectiveness (see Agarwal et al. 2010).

Individualism/Collectivism as Moderator

With regard to hypothesis 2a, there are two implications. *First*, assurance and empathy emerged as the two most critical service quality dimensions which were significantly moderated by individualism/collectivism in both cross-national and cross-cultural models. Assurance refers to the knowledge and courtesy of employees and their abilities to inspire trust and confidence, and empathy refers to the caring and individualized attention and understanding a firm provides to its customers. Collectivists assign greater weights to assurance and empathy than individualists. This is because collectivists generally have interdependent self-construal, as opposed to independent self-construal, in which knowledge about others are relatively more elaborate and distinctive than knowledge about the self and as such they seek assurances from people rather than from technology, and are more sensitive and empathetic toward others (Gudykunst et al. 1996; Markus and Kitayama 1991, 1994; Oyserman et al. 2002). *Second*, we also find that collectivists draw greater service satisfaction arising from perceived service quality than do individualists. This finding is rather curious as one might have expected that individualists prefer open expression of emotions as a validation of their authentic self and that satisfaction and dissatisfaction can be expressed candidly. In contrast, for collectivists, one might expect that the expression of emotions is significantly shaped by a consideration of the reaction of others, and thus true feelings of dissatisfaction are often suppressed for the preservation of long-term relationship. Perhaps, one plausible explanation to this aberration is the apparent asymmetry between satisfaction and dissatisfaction and that collectivists voice their satisfaction for a high perceived service quality as a signal to reinforce their long-term relationship. This however may not be the case for voicing dissatisfaction. More research is warranted here.

Uncertainty Avoidance as Moderator

With regard to hypothesis 2b, there are two implications. *First*, tangibility emerged as the only service quality dimension which was significantly moderated by uncertainty avoidance (UAV) in both cross-national (i.e., USA sample) and cross-cultural analyses (i.e., cluster 3). 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 at physiological, sociological, cognitive, and emotional levels (Parasuraman et al. 1985). Research on uncertainty avoidance suggests that people reduce their uncertainty by technology, law, and rituals and people who are high on UAV tend to display less tolerance for unclear situations and greater proclivity toward consensus, structure, reliability, and long-term relationships (Hofstede 2001; Reimann et al. 2008). While technology and tangibility (i.e., high tech) can address the inherent narrow zone of tolerance of high UAV customers through efficiency, our study shows that customers that are high on UAV tend to assign less importance to tangibility. This is perhaps because a high-tech environment can also generate anxiety and stress especially when social interactions and personal connectivity (i.e., high touch) are compromised. Therefore, global marketers need to strike the right balance between "high tech" and "high touch" especially in cross-cultural market segments, as evidenced in our cross-cultural findings. *Second*, we also find that, in general, UAV with the exception of tangibility, does not significantly moderate dimensions of SQ in cross-national analysis. In contrast, the role of UAV as a moderator is pronounced in cross-cultural analysis in one of the clusters (cluster 3) in which it significantly moderates tangibility, reliability, responsiveness, and empathy. This implies that in international marketing studies, a cross-cultural analysis which yields more homogeneity within segments is a better unit of analysis to detect the influence of moderators when the moderator is relevant for a given segment with an expected effect size (Kirkman et al. 2006; Beugelsdijk et al. 2017). The impact of moderators gets more refined and pronounced in cross-cultural analysis as extraneous noise is eliminated and greater homogeneity is attained. Thus a better way to capture the effects of moderators in international business research is to model its influence on global segments that transcend national boundaries (i.e., cross-cultural research) rather than on nation-states (i.e., cross-national research) as conducted historically.

Contributions and Conclusion

In conclusion, our study makes a number of theoretical, methodological, and managerial contributions. Theoretically, our research contributes to the international marketing literature by demonstrating differences between cross-national and cross-cultural research and empirically validating the growing relevance of culture-based approach to global market segmentation. Until recently, most international business research has focused on cross-national research where national culture, based on group membership in a nation state, has been used as a grouping variable to study cultural variation among countries. We also investigate the moderating role of individualism/collectivism and uncertainty avoidance in the relationship between perceived service quality and satisfaction and find some insightful results in both sets of analyses. Cross-cultural analysis yields more homogeneity within segments and is a better unit of analysis to detect the refined influence of moderators for a relevant segment.

In terms of methodological contributions, we (1) collect data from large and representative samples from three countries; (2) we test for common method variance bias using the recent methodology proposed by Malhotra et al. (2006); (3) we estimate measurement models and establish the reliability, convergent, and discriminant validity of all our measures; (4) we examine configural, metric, scalar, and variance-covariance equivalence (Malhotra et al. 1996; Steenkamp and Baumgartner 1998); and (5) we employ structural equation modeling to test our hypotheses.

Our hypotheses and the resulting findings also have useful managerial implications. With regard to hypothesis 1, there are implications for global market segmentation in that segmentation based on culture as opposed to nation-states detects more similarities in the dimensions of perceived service quality and satisfaction. Thus, our study offers managerial insights on the efficacy of global market segmentation based on common segments that transcend national boundaries. Service delivery systems should be customized to meet "emic" peculiarities by adopting vertical segmentation strategies and simultaneously standardized to meet "etic" universals by adopting horizontal segmentation strategies on common service dimensions to meet organizational cost-effectiveness. In terms of hypothesis 2a, collectivists assign greater weights to assurance and empathy than individualists. Thus, marketers should emphasize assurance and empathy-based strategies and mechanisms in collectivist cultures. With regard to hypothesis 2b, global marketers need to strike the right balance between "high tech" and "high touch" to alleviate concerns related with uncertainty avoidance especially in cross-cultural market segments, as evidenced in our cross-cultural findings.

In conclusion, this research is not without limitations. Because service quality is a malleable construct contingent on personal, cultural, and institutional factors, a longitudinal study tracking its evolving nature would better detect convergence over time. Further, in this study, we only used the Hofstede framework; future studies test our model using alternative frameworks such as the GLOBE project. Notwithstanding these limitations, we believe our preliminary empirical results shed new light to an old debate that was first sparked by Levitt in 1983 in his classic published article that appeared in *Harvard Business Review*. While the debate between convergence and divergence of cultural values will continue into the future, we believe our research provides sufficient evidence for more cross-cultural research by international marketing researchers and the need for using culture both as a grouping variable and a moderating variable.

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Questions:

Discuss the following in bullet points:

1. Justify why the article fits in a global marketing perspective.
2. The problem statement.
3. Justification of doing research in that particular area of industry/area of research
4. Recommendations to managers/policymakers and practitioners made by the author.
5. Methodology, Data collection techniques techniques used.
6. your suggestions/recommendations on how the study's model can be replicated in the context of Pakistan and your justification for that.