

The Relationships Between Culture and Service Quality Perceptions

Basis for Cross-Cultural Market Segmentation and Resource Allocation

Olivier Furrer

University of Illinois at Urbana–Champaign

Ben Shaw-Ching Liu

Butler University

D. Sudharshan

University of Illinois at Urbana–Champaign

The authors argue that perceptions of service quality vary across cultural groups, as defined by each culture's position on Hofstede's dimensions. They explicitly map the relationship between service quality perceptions and cultural dimension positions and draw the implications for international service market segmentation. They also test the hypotheses constituting their theoretical analysis. They show that the importance of SERVQUAL dimensions is correlated with Hofstede's cultural dimensions. They also used the correlation coefficients to compute a Cultural Service Quality Index that could be used to segment international service markets and allocate resources across segments.

ter of the book on service quality edited by Rust and Oliver. One of the research questions they suggested was the investigation of systematic variation in satisfaction across nations. More specifically, they asked, "How does culture affect the level of satisfaction?" The answer to this question, they argued, would have important implications on how firms might allocate resources in different parts of the global economy. Since Anderson and Fornell asked their question, the relationship between culture and service quality/satisfaction has received increasing interests as suggested by the recent articles by Winsted (1997), Donthu and Yoo (1998), and Mattila (1999). These studies began to establish the links between cultural dimensions and service quality dimensions by studying a subset of possible relationships. In this article, we provide and test a conceptual link between all five cultural dimensions developed by Hofstede (1980, 1991) and variations in the relative importance of all five service quality dimensions

In 1994, Anderson and Fornell proposed "a customer satisfaction research prospectus" in the concluding chap-



The authors thank Luis Toral and Gui Rakotoarijaonina from the University of Neuchâtel for collecting data in Switzerland.

developed by Parasuraman, Zeithaml, and Berry (1985, 1988; Parasuraman, Berry, and Zeithaml 1991b; Zeithaml, Berry, and Parasuraman 1988, 1993). We also develop a Cultural Service Quality Index (CSQI) that evaluates the relative importance of each SERVQUAL dimension as a function of the five cultural dimensions and that can be used to segment multicultural markets and allocate resources across cultural segments.

In the areas of services marketing and relationships marketing, the concept of service quality plays a central role in understanding customer satisfaction and retention (Parasuraman, Zeithaml, and Berry 1985). In this article, we develop and test hypotheses on the influence of cultural factors on perceived service quality. An example of this influence, shown by Mattila (1999), is that customers with Western cultural backgrounds are more likely to rely on the tangible cues from the physical environment to evaluate service quality than their Asian counterparts. An estimation of the effects of the cultural factors would provide valuable input for international market segmentation and resource allocation across the service quality dimensions. If the relative importance of the service quality dimensions to customers is likely to vary depending on their culture, resource allocation on different dimensions of service quality should be contingent on the importance attached to them by customers. This argument is also supported by Heskett, Sasser, and Hart (1990), who stress the importance of emphasizing psychographics in understanding service quality, that is, the way people think, feel, and behave. In a multicultural environment, psychographics are strongly dependent on cultural elements. Engel and Blackwell (1982) provide a clear pictorial representation of the relationship between culture and subculture and buyer behavior. They discuss how culture shapes social interaction and through it the values, lifestyles, and personalities (which are measured as psychographics) of individuals in a society. More recently, differences between cultures have been shown to limit the ability of service multinationals to expand their activities internationally (Kogut and Singh 1988; Li 1994; Li and Guisinger 1991, 1992). These studies explained these expansion problems in terms of managerial cultural differences. We believe that these problems also arise from differences in customer cultures. Thus, understanding the relationship between culture and perceived service quality is likely to be fruitful.

As stated by Kotler (1997), "A market segment consists of a large identifiable group within a market" (p. 250). Thus, "segmentation is the process of partitioning markets into groups of potential customers with similar needs and/or characteristics who are likely to exhibit similar purchase behavior" (Weinstein 1994, p. 2). Over the past several decades, segmentation has become a core process in the practice of marketing.

In the international marketing literature, international segmentation was the center of a controversy over the degree to which marketing activities could or should be standardized globally and the degree to which they should be tailored to national groups (Douglas and Wind 1987; Levitt 1983). The advocates of globalization argued that standardization leads to cost reductions and economies of scale, whereas advocates of adaptation stressed differences in national preferences. Although for some products, for example Coca-Cola, the existence of global markets cannot be denied, the characteristics of services can create some problems for their globalization. Examples of such characteristics are the nature of the output—a performance rather than an object—customer involvement in production, people participation to the service experience, likelihood of quality control problems, difficulties for customers to evaluate service quality, lack of inventories, great importance of the time factor, and availability of electronic channels of distribution (Lovelock 1996). However, not every service is equally affected by these characteristics. Lovelock and Yip (1996) distinguish between three categories of services: (a) *people-processing services* that involve tangible actions to customers in person, (b) *possession-processing services* that involve tangible actions to physical objects, and (c) *information-based services* that depend on collecting, manipulating, interpreting, and transmitting data to create value. People-processing services necessarily involve a high degree of contact with service personnel and facilities (Lovelock and Yip 1996); therefore, there is a need for segmentation to adapt these services to local cultures. On the contrary, possession-processing and information-based services have the potential to be much lower contact in nature (Lovelock and Yip 1996), so they can be standardized at the global level. That is, it is when services involve a high degree of interaction between customers and service personnel that cultural elements have the greatest influence. Therefore, the arguments developed in this article are oriented toward service activities with a high degree of customer interaction and thus need to be adapted to local preferences.

A second controversy involving international segmentation concerns the homogeneity of national segments. Although earlier work in the area suggested the development of segments based on clustering countries, later work has suggested that segmentation should consider both differences within countries and similarities across countries (Kale and Sudharshan 1987). As noticed by Farley and Lehmann (1994), differences in behavior, which are culturally based, would exist even if the world were not organized into nation states. They are not due to mechanical or controllable factors but rather due to life experience of people from different cultures. Country and culture are not

synonymous. Only a few small countries may be culturally homogenous, and different countries may share similar cultural traits. Therefore, a model of international market segmentation has to take into account differences within countries as well as similarities across countries. That is why, for the empirical part of this article, we operationalize cultural and service quality dimensions at the individual level rather than at the culture level.

In this article, we examine the link between culture and the perceived relative importance of service quality dimensions and the use of this link for market segmentation and resource allocation by reviewing and integrating the literature from service quality and cross-cultural anthropology. The findings in these fields are used to develop a CSQI based on the correlation coefficients between the various dimensions of culture and service quality. We further test our hypotheses concerning the relationships between cultural and SERVQUAL dimensions and test the validity of the CSQI. We then conclude with a discussion on managerial implications and directions for future research.

LITERATURE REVIEW

SERVQUAL Dimensions

Service quality has become an important topic for marketing practitioners and researchers over the past two decades. Much of the academic interest in service quality has been directed toward service quality measurement (Bitner 1990; Bolton and Drew 1991a, 1991b; Cronin and Taylor 1992; Lewis and Booms 1983; Parasuraman, Berry, and Zeithaml 1991b, 1993; Parasuraman, Zeithaml, and Berry 1985, 1988; Zeithaml, Berry, and Parasuraman 1993). Among them, Parasuraman, Zeithaml, and Berry's (1985, 1988; Parasuraman, Berry, and Zeithaml 1991b; Zeithaml, Berry, and Parasuraman 1988, 1993) work has led to the identification of five dimensions of service quality—reliability, responsiveness, assurance, tangibles, and empathy—that have been widely used in service industry. Of these five dimensions, *reliability* is the ability to perform the promised service dependably and accurately. *Responsiveness* is the willingness to help customers and provide prompt service. *Assurance* is the knowledge and courtesy of employees and their ability to convey trust and confidence. *Empathy* is the caring, individualized attention provided to the customer; and *tangibles* are the appearance of physical facilities, equipment, personnel, and communication materials. Based on these dimensions, the SERVQUAL instrument has been developed and widely used by industry managers to measure customer perceptions of service quality (Parasuraman, Berry, and Zeithaml

1991a). For a discussion of the relative merits of SERVQUAL, please refer to Brown, Churchill, and Peter (1993); Cronin and Taylor (1992); and Parasuraman, Berry, and Zeithaml (1993).

Describing the potential applications of SERVQUAL, Parasuraman, Zeithaml, and Berry (1988) proposed to use it to categorize a firm's customers into several perceived-quality segments based on their individual SERVQUAL scores. In addition, they proposed to analyze these segments on the basis of (a) demographic, psychographic, and/or other profiles; (b) the relative importance of the five dimensions in influencing service quality perceptions; and (c) the reasons behind the perceptions reported.

The relative importance of each of the SERVQUAL dimensions is subjective and relativistic in the sense that this importance is based on customers' values and beliefs that might change from one culture to another. Some of the determinants of customer expectations of services identified by Zeithaml, Berry, and Parasuraman (1993) are customers' personal needs—physical, social, and psychological. These determinants are strongly influenced by the social and cultural environment of customers. Thus, culture has an important influence on service quality expectations and the relative importance of its five dimensions.

We argue that the relationships between cultural dimensions and the relative importance of the five dimensions of service quality may provide useful insights for how firms should allocate resources in different cultural groups. We will show that the relative importance of the service quality dimensions varies from one culture to another; therefore, service firms may benefit from allocating their resources differently in each culture.

Cultural Dimensions

To understand culture, we turn to the seminal work of Hofstede (1980, 1991, and 1994). Following Hofstede (1994), we define culture as the “collective programming of the mind which distinguishes the members of one group or category of people from those of another” (p. 4). It refers more tangibly to relatively enduring personality characteristics that are “common or standardized in a given society” (Inkeles and Levinson 1969).

In the most exhaustive cross-cultural study to date—questionnaire data from 80,000 IBM employees in 66 countries across seven occupations—Hofstede (1980) established four dimensions of national culture: *power distance* (PDI), *individualism* (IDV), *masculinity* (MAS), and *uncertainty avoidance* (UAV), to which a fifth was added subsequently: *long-term orientation* (LTO) (Bond et al. 1987; Hofstede 1991). Although these dimensions initially were developed from employees of just one firm—IBM—they have been found to be “generalizable” outside

IBM and to represent well the differences between cultures. Extended discussions of these dimensions can be found in Hofstede (1980, 1991), Bond et al. (1987), and more recently in the marketing context in the articles by Nakata and Sivakumar (1996) and Donthu and Yoo (1998). The dimensions of Hofstede may be criticized for a number of reasons, especially regarding the internal validity of the dimensions and the method of constructing the scales. While the criticisms may be sound, Hofstede's study has some appealing attributes, namely, the size of the sample and the codification of cultural traits along numerical indices. Hofstede's study is also one of the most widely used among international marketing and management scholars (Sivakumar and Nakata 1999; S dergaard 1994). A study of Social Science Citation Index listings by S dergaard (1994) found 1,036 quotations from *Culture's and Consequences* (Hofstede 1980) in journals during the period from 1980 to September 1993.

The Link Between Cultural Dimensions and Service Quality

Anderson and Fornell (1994), Collier (1994), and Horovitz (1987/1990) have called for studies relating culture to service quality. Some recently published empirical studies have started to investigate how cultural dimensions influence satisfaction and perceived service quality (Donthu and Yoo 1998; Mattila 1999; Winsted 1997).

Winsted (1997) examined how consumers in the United States and Japan evaluate service encounters. She developed behavioral-based service encounter dimensions for the two countries and identified significant cross-cultural differences on these dimensions. The dimensions identified in the United States are civility, personalization, remembering, conversation, congeniality, delivery, and authenticity. Those identified in Japan are civility, personalization, conversation, concern, and formality. Using regression analyses, she also showed that these dimensions explain a significant portion of overall satisfaction with service encounter. The methodology used by Winsted to identify these dimensions was designed to find cross-cultural differences, but it is not suited to evaluate the relative importance of similar dimensions in both cultures. Therefore, we are not able to know if a dimension that is not in one culture really does not exist or if it is only relatively less important than the others. As also pointed out by Mattila (1999), the Winsted's study did not provide a theoretical framework relating culture and service encounter satisfaction.

Mattila (1999) examined the impact of culture on customer evaluation of complex services. Her goal was to understand the tradeoffs that Western and Asian customers are willing to make between personalized service and pleasant physical environment in a context of luxury hotels. She provided a framework that adds to Winsted's

(1997) study by explaining the cultural differences between Western and Asian customers in terms of individualism versus collectivism, power distance (Hofstede 1980, 1991), and high- versus low-context communication (Hall 1984). However, she did not control for these dimensions when she split her sample into three categories: Westerners, Asian Chinese, and Asian Indian. She also related these three groups of customers to only a reduced set of service dimensions (physical environment, personal service component, and hedonic dimension). Her findings suggest that customers with a Western cultural background are more likely to rely on the tangible cues from the physical environment than would their Asian counterparts and that the hedonic dimension of the consumption experience might be more important for Western consumers than for Asians.

Donthu and Yoo (1998) studied the effect of customers' cultural orientation on their service quality expectations. They used Hofstede's dimensions of culture and the dimensions of service quality from the SERVQUAL scale to develop and test hypotheses relating the five dimensions of culture with both a measure of the overall service quality expectation and the five service quality dimensions. However, their study focused on only 6 out of 25 possible relationships between the five cultural dimensions and the five service quality expectation dimensions. Furthermore, another crucial limitation of their study, similar to that of the Winsted (1997) and Mattila (1999) studies, is that they did not consider contingency variables. When they used the power distance dimension, their study did not make a distinction between powerful and weak customers; when they used the masculinity dimension, their study did not make a distinction between services provided by male or female employees; and when used the uncertainty avoidance dimension, they did not make any distinction between frequent and infrequent service situations.

Based on our reading of the literature, we found that the three contingency variables—powerful-weak customers, male-female service providers, and frequent-infrequent service situations—might indeed influence the relationships between culture and the relative importance of the service quality dimensions. For example, Mattila (1999) stresses that her study only examines conditions in which customers are more powerful than the service providers. Donthu and Yoo (1998) made the opposite assumption that service providers are more powerful than their customers. Cultures with a large power distance are characterized by important differences between more powerful and less powerful people. These differences are visible in terms of social class, education level, and occupation (Hofstede 1991). As noticed by Donthu and Yoo, service providers have power over their consumers in some service activities (e.g., insurance, banking, consulting). In these situations, the power of the service provider comes from its expertise,

professional knowledge, or skills. For some other service activities (e.g., hotel, restaurant, retail), service employees have a low status (Mattila 1999). Therefore, we may also expect that the relative importance of the different service quality dimensions will vary depending on the relative power of service providers and customers. This leads us to believe that power difference is perhaps an important contingency variable in the context of our study.

In the delivery of services, personal interactions often play a key role. The literature on sex-role stereotypes (Bem 1975), implicit personality theory (Ashmore and DelBoca 1979), and negotiation (Pruitt et al. 1986) all seem to suggest that gender differences between service provider and customer may play a significant role in service expectations and satisfaction and may differ across cultures (as suggested by Hofstede 1980, 1991). In masculine cultures, in which social gender roles are clearly distinct, distinctions may exist toward male and female service employees. In such cultures, men are supposed to be assertive, tough, and focused on material success, whereas women are supposed to be more modest, tender, and concerned with the quality of life (Hofstede 1991). In service situations, customers will expect a male service employee to be more professional than a female one. On the other hand, a female service employee will be expected to be more empathic than a male one. So, we included gender as one of the contingency variables in our study.

The consumer behavior literature differentiates between different buying situations on the basis of frequency of action (Assael 1987; Howard and Sheth 1969). There is a link between perceived risk and frequency (Assael 1987). Frequent and infrequent service situations differ in the perceived importance attached to the various SERVQUAL dimensions. In frequent service situations, customers know the service process and their role in it. That is not the case in infrequent service situations. Therefore, the risks and uncertainties associated with frequent and infrequent service situations also vary. In infrequent service situations, uncertainty and ambiguity from the unknown situation has to be reduced. On the contrary, in frequent service situations, because reliability is likely to be an important factor, it is the uncertainty associated with possible service failure that has to be reduced. Therefore, in high uncertainty avoidance cultures, we expect the relative importance of the different service quality dimensions would vary across the two types of service situations. So, we included frequency as one of the contingency variables.

HYPOTHESES

To extend the previous studies by Winsted (1997), Donthu and Yoo (1998), and Mattila (1999) and go beyond

the limitations of their studies, we provide hypotheses for each of the 25 possible relationships between the Hofstede (1980, 1991) cultural dimensions and the SERVQUAL dimensions (Parasuraman, Berry, and Zeithaml 1991b; Parasuraman, Zeithaml, and Berry 1985, 1988; Zeithaml, Berry, and Parasuraman 1988, 1993).

Based on Hofstede's definitions of culture, we hypothesize that the relative importance of each SERVQUAL dimension will vary across people from different cultural backgrounds. For example, we expect that tangibles would be relatively more important than empathy for people from more masculine cultures than from more feminine ones. This is because in masculine cultures, the role of men is distinct and different from that of women. For example, men are more focused on material success and its trappings.

A complete set of hypotheses relating each of Hofstede's cultural dimensions to each of the SERVQUAL dimensions is motivated and discussed in the following paragraphs.

Power distance is the extent to which the less powerful members of institutions and organizations within a society expect and accept that power is distributed unequally (Hofstede 1991). In a culture with a large power distance, there are considerable differences between the behaviors of powerful customers and those of weak customers toward service agents/firms. Neither Donthu and Yoo (1998) nor Mattila (1999) explicitly recognized this difference. In her study, Mattila made an implicit assumption that powerful customers face weak service employees. In the case of luxury hotels, such an assumption may be reasonable, but it cannot be generalized to other kinds of services. On the other hand, Donthu and Yoo made the opposite assumption advocating that most service providers have some kind of power over their customers that comes from their expertise, professional skills, and/or equipment.

In cultures with a large power distance, powerful customers expect service providers to be weaker than them; therefore, during their service relationships, they will expect extremely good treatment and attach greater importance to responsiveness, reliability, and empathy. Mattila (1999) in a similar vein hypothesized that, "In cultures characterized by large power distance, the lower status of service employees requires them to provide customers with a high level of service" (p. 252). Assurance will not be of high importance for powerful customers because of their lack of confidence in the opinion and capabilities of weaker service providers. Tangibles are also important for powerful customers because they view these elements as symbols of respect. These tangible elements are also a means of maintaining a large power distance between them and the weaker service providers. In large power distance cultures, the maintenance of such a distance is desired.

In cultures with a large power distance, weak customers are more likely to tolerate failure from more powerful

service providers. That is why they will not expect a great reliability in their relationships with them. Donthu and Yoo (1998) also proposed such a negative relationship between power distance and reliability in the case of a weak customer. Weak customers are treated as nonimportant by more powerful service providers; therefore, weak customers will not attach too much importance to friendly relationships, empathy, or responsiveness from service providers. Donthu and Yoo made the same argument concerning the relationship between power distance and responsiveness. Weak customers are dependent from more powerful service providers. Thus, they will attach a great importance to be assured. Tangibles are, to some extent, also important, because they reassured the weak customers by maintaining a distance between them and the service provider. In large power distance cultures, such a distance between weak and powerful people is both expected and desired (Hofstede 1991).

On the other hand, in cultures with a small power distance, differences between powerful and weak customers are small; all the customers are likely to attach a similar pattern of importance to the different service quality dimensions. This is because inequalities among people should be and is minimized (Hofstede 1991).

Individualism pertains to societies in which the ties between individuals are loose: Everyone is expected to look after himself or herself and his or her immediate family (Hofstede 1991). In cultures with a high degree of individualism, customers are more independent and self-centered. Individualists, due to their drive and self-responsibility ethic, will also demand others to be efficient and, therefore, are more demanding than people are in more collectivist cultures. They want prompt services, and these services must be provided right the first time (responsiveness and reliability). Due to their self-confidence and self-responsibility, they do not expect to be assured. Donthu and Yoo (1998) hypothesized that individualistic customers will have higher expectations of assurance from service providers than collectivist ones, because they would expect service providers "to give them confidence about the service they are receiving" (p. 181). However, they also recognize that one of the key concepts of individualism is self-confidence. A self-confident customer expects to be assured to a lower degree. Thus, we expect a negative relationship between individualism and assurance. During their relationships with a service provider, individualists, due to their desire for self-identity, prefer to maintain a distance between themselves and the service provider. Tangibles are a means to reduce the closeness of the interaction. According to Donthu and Yoo, individualistic customers would expect the provider to respect and care about them and to show empathy and attention. However, in our opinion, such a relationship between individu-

alism and empathy is more difficult to establish. The sign of the relationship might change depending on the items measuring empathy. Individualists attach a great importance to be treated as individuals (Item 13 of SERVQUAL, cf. Appendix A) but do not expect that the employees, also individualists, have their best interests at heart (Item 15 of SERVQUAL, cf. Appendix A). Therefore, contrary to Donthu and Yoo's hypothesis, on average, we might expect a weak negative relationship between individualism and the relative importance of empathy.

Masculinity pertains to societies in which social gender roles are clearly distinct: Men are supposed to be assertive, tough, and focused on material success, whereas women are supposed to be more modest, tender, and concerned with the quality of life (Hofstede 1991). In cultures with a high degree of masculinity, the relative importance of the service quality dimensions is different depending on whether the service is provided by a male or female service employee. In such a culture, customers expect a male service employee to be professional, more reliable, and more responsive than a female one. On the other hand, a female service employee is expected to be more empathic than a male one. The toughness of a male service employee will provide more assurance than the maternity of the female one. A male service employee is also expected to be more materialistic. On the other hand, a female service employee will be expected to have a feminine presentation; thus, tangibles will be important with both male and female service providers. On the other hand, in more feminine cultures, where social gender roles overlap (Hofstede 1991), that the service provider is a male or a female will not make any difference in the customer's perception of the importance of the different service quality dimensions.

Uncertainty avoidance is the extent to which the members of a culture feel threatened by uncertain or unknown situations (Hofstede 1991). In cultures with strong uncertainty avoidance, a difference exists between frequent (e.g., supermarket) and infrequent (e.g., dental clinic) service situations. In infrequent service situations, uncertainty and ambiguity from the unknown situation has to be reduced by a close relationship with the service provider. In frequent service situations, uncertainty associated with a possible service failure has to be reduced by the guarantee of a quick solution to the problem. In cultures with strong uncertainty avoidance, to reduce uncertainties, all the dimensions of service quality are important, especially during infrequent situations. Donthu and Yoo (1998) argue that customers of high uncertainty avoidance would use tangibles as a surrogate of service quality because these features are visible evidence signaling quality service. They also add that visible/tangible evidence would help them lower their perceived risk in service situations. However, their hypothesis was not supported by the data col-

TABLE 1
Hypothesized Correlations Between Cultural and Service Dimensions

	<i>PDI</i> <i>Powerful Customer /</i> <i>Weaker Customer</i>	<i>IDV</i>	<i>MAS</i> <i>Male Service Provider /</i> <i>Female Service Provider</i>	<i>UAV</i> <i>Infrequent Service Situation /</i> <i>Frequent Service Situation</i>	<i>LTO</i>
Reliability	++/--	++	++/--	++/++	+
Responsiveness	++/--	++	++/--	++/+	-
Assurance	--/++	--	++/-	++/++	++
Empathy	++/--	-	--/++	++/+	+
Tangibles	+/+	+	+/+	+/-	--

NOTE: PDI = power distance, IDV = individualism, MAS = masculinity, UAV = uncertainty avoidance, LTO = long-term orientation; ++/-- = strong positive / negative relationship; +/- = weak positive / negative relationship.

lected. We believe that this hypothesis will hold in infrequent service situations but not in frequent service ones. In frequent service situations, customers do not need to reduce ambiguity because they know how to behave in the service process, and what they need is to reduce perceived risks of service failure. Instead, for these risks, such tangibles as visually appealing facilities and employees who have a neat or professional appearance are not so important. On the other hand, in cultures with weak uncertainty avoidance and in which uncertainty is a normal feature of life (Hofstede 1991), frequent and infrequent service situations do not create significant differences in customers' perception of the relative importance of the service quality dimensions.

Long-term orientation is the extent to which a society exhibits a pragmatic future-oriented perspective (fostering virtues like perseverance and thrift) rather than a conventional historic or short-term point of view (Bond et al. 1987; Hofstede 1991). In cultures with a long-term orientation, long-term relationships with service providers are expected. In these cultures, reliability, responsiveness, and empathy are extremely important—a result of close relationships with service providers. Assurance and tangibles will be less important in these cultures. In such cultures, relationships with service providers are expected to last, so assurance is not so critical. The visual appeal of the facilities denoted by tangibles is also not critical in such cultures.

Based on above discussions, we summarize our hypotheses in Table 1 using the following signs for the relationships: ++ (or --) indicates a strong correlation, and + (or -) indicates a weaker one. For example, the upper-left cell in Table 1 should be interpreted as for the powerful/weaker customers, the larger the power distance in the culture they come from, the higher/lower will be the importance they attach to the reliability dimension of service quality.

CULTURAL SERVICE QUALITY INDEX (CSQI)

Every SERVQUAL dimension is influenced by every cultural dimension. To view the impact of a culture on each SERVQUAL dimension, an index to determine the overall pattern of service quality perception by a cultural group is needed. We propose a CSQI to evaluate the relative importance of each dimension of SERVQUAL as a joint function of the five cultural dimensions. Because such an index evaluates the relative importance of the SERVQUAL dimensions from different cultures, it can be useful to segment multicultural markets and help service managers to allocate their resources across customers from different cultural backgrounds. 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 service quality dimension s ($s = 1$ to 5) for the individual i ,
- CDS_{ci} = the score on the Hofstede cultural dimension c ($c = 1$ to 5) for the individual i , and
- ρ_{sc} = the coefficient of the correlation between the relative importance of the SERVQUAL dimension s and the cultural dimension c .

For an individual i , in the above formula, $\rho_{sc} CDS_{ci}$ gives a measure of the relative importance of the service quality dimension s as influenced by the cultural dimension c . Thus,

$$\frac{1}{5} \sum_c \rho_{sc} CDS_{ci}$$

is the relative importance of service quality dimension s in individual i 's overall service quality perception.

The CSQI score on each dimension gives an overall measure of the importance of that service quality dimension for an individual given its scores on the five cultural dimensions. It is expected that the CSQI scores will show that the relative importance and the ranking of each service quality dimension are different for people with different cultural backgrounds.

The CSQI could be used to evaluate the importance of service quality dimensions in various cultural groups, which in turn determines which dimensions may be more critical in one cultural group than in another. For example, customers from a particular cultural group with a higher CSQI score on tangibles may be more heavily influenced by such factors as brand names and appearance of the service providers than customers from another cultural group with a lower CSQI score on tangibles. The use of the CSQI scores instead of the relative importance of the SERVQUAL dimensions provides marketers with a richer ground to develop their strategy because CSQI contains information on the cultural dimensions as well.

Hence, we propose that the CSQI can be used to segment multicultural markets into culturally homogeneous groups with similar SERVQUAL importance profiles. Specifically, we hypothesize that segments with homogeneous CSQI scores also will be homogeneous in their cultural dimensions and relative importance of SERVQUAL dimensions. To test this hypothesis and therefore evaluate the validity of the CSQI clusters, we will test the homogeneity and the distinctiveness (F test) of the CSQI groups in terms of cultural profile and the relative importance of the SERVQUAL dimensions profile.

METHODOLOGY

Retail Banking Services

Our study uses data from retail banking services. Retail banking has been chosen for three reasons: First, it is a type of service from which the SERVQUAL dimensions have been identified (Parasuraman, Berry, and Zeithaml 1991b; Parasuraman, Zeithaml, and Berry 1988). Second, such services can take place either through traditional branch banks or through such channels as mail, telephone, and the Internet (Lovelock and Yip 1996). Third, in retail banking services, two-way interactions are common (Vandermerwe and Chadwick 1989). These characteristics support the internationalization of such services as well as their adaptation to local cultures.

In terms of our contingency variables, banking services are usually considered to be frequent service situations (several contacts each month) in which the service pro-

vider is more often a female (more than 80% of the respondents were most frequently served by a female employee).

Sample

We collected data from students from different cultures (U.S. students, international students recently arrived in a large U.S. university, international students in Singapore, and Swiss students). We used student subjects because they constitute a homogeneous group from an occupational stage of life cycle viewpoint. They are also supposed to have frequent relationships with banks. They usually used banks only for a limited range of services: checking account, saving account, and ATM. They also could be considered as weak customers in their relationships with a bank because they do not have much money.

In the questionnaire, we added questions to control for the contingency variables. Respondents were asked to evaluate their relative importance for their bank (from *not important at all* to *extremely important*), to indicate the frequency of their contacts with their bank (from *not frequent at all* to *extremely frequent*), and if they were most frequently served by males or females in their transactions with their bank. We included in our sample only questionnaires from respondents who frequently used banking services, who were most frequently served by a female service employee, and who were weak customers. After having controlled for these three contingency variables, we obtained a usable sample of 302 (118 from the United States, 129 from Asia [China: 50, Taiwan: 24, Korea: 22, and other Asian countries: 33], 39 from the French-speaking part of Switzerland, and 16 from other countries).

Measurement

Cultural dimensions. Hofstede's cultural dimensions originally have been operationalized to measure work-related values. Because our sample is composed of students and the context of the study is a service situation, we used a different set of items. The 20 items we used as presented in Appendix B were all measured on a 7-point Likert-type scale (*strongly disagree* to *strongly agree*). These items were proposed by Hofstede (1991) to describe the key differences between the two poles of each dimension in terms of general norms.

Because the items have been selected to measure a particular cultural dimension and because Hofstede's cultural dimensions are not orthogonal (e.g., there exist a correlation of more than 60% between power distance and individualism), we compute an index in which each item has the same weight rather than compute a factorial analysis. The indexes were computed as the average of the standardized scores for the items that operationalize each dimen-

sion (the mean for each item was set to zero and its standard deviation set to one).

Service quality dimensions. To measure the relative importance of the different service quality dimensions, we ask the respondents to evaluate on a 7-point scale the importance of the 21 revised items of SERVQUAL (Parasuraman, Berry, and Zeithaml 1991b) when they evaluate the quality of a bank in their home country (cf. Appendix A). Similar to that for the cultural dimensions, we compute an index for each of the service quality dimensions. These indexes are also computed as the average of the standardized scores of the items that operationalize each dimension.

Analysis

In their study, Donthu and Yoo (1998) performed their empirical testing using one-way ANOVAs. They first classified the respondents into two groups using a median split. As they state, this split procedure

did not guarantee capturing globally high and low levels of each of the dimensions because the four countries examined are only a small sample of the countries in the world. In addition, the fairly homogeneous sample of the study could not have captured the full continuum of the cultural dimensions. (p. 183)

In addition, to be noted is that only one of their countries—India—has a large PDI score, according to Hofstede's study. We consider that their methodology has three weaknesses: First, the classification of the sample into two groups does not capture the continuous dimensions of culture. Second, because the sample is not balanced—three Western cultures and only one Asian culture—a problem of skewness may appear, making the median split biased. Third, because culture is a holistic concept, the study of one cultural dimension at a time is of limited practical use. It cannot identify such an effect as that of low power distance values coupled with a short-term orientation on responsiveness. Therefore, in our analysis, we use correlation coefficients to capture the continuous dimension of culture and provide a CSQI that evaluates the relative importance of each of the service quality dimensions for any combination of cultural dimensions.

The first step of our analysis was to compute Pearson's correlation coefficients between cultural and service quality dimensions to evaluate the relationships between these variables. Then, in a second step, we compute the CSQI for each of the individuals and run a cluster analysis on the CSQI scores to obtain distinct groups of customers with homogeneous CSQI profiles. Third, to evaluate the validity of the CSQI clusters, we test the homogeneity and the distinctiveness (*F* test) of the CSQI groups in terms of cultural profile and relative importance of SERVQUAL dimensions profile. The results are provided in the next section.

RESULTS

The results of the statistical analysis are presented in Table 2. Twenty-one out of 25 of the correlation coefficients are significant, 19 at the .05 level or lower and 2 at the .10 level. That is, 21 out of 25 of our hypotheses are supported.

Power Distance

In cultures with a large power distance, weak customers are more likely to tolerate failure from more powerful service providers. These hypotheses are supported by the findings of significant negative relationships between power distance and empathy, responsiveness, and reliability ($R = -.096, p < .10$; $-.199, p < .001$; and $-.228, p < .001$, respectively). These findings also confirm the results of Donthu and Yoo (1998), who found significant negative relationships between power distance and reliability and between power distance and responsiveness. In cultures with a large power distance, such a distance is both expected and desired. Because tangibles help to maintain such a distance, they are important in the service quality evaluation process of weak customers. The significant positive relationship between power distance and tangibles ($R = .215, p < .001$) supports this hypothesis. Weak customers also accord a great importance to be assured in their service relations with more powerful service providers. This hypothesis is supported by a significant positive relationship between power distance and assurance ($R = .135, p < .05$).

Individualism

In cultures with a high degree of individualism, customers are more independent and self-centered. Individualists, due to their drive and self-responsibility ethic, demand that others be efficient and therefore demand a high level of service quality. This positive relationship between individualism and responsiveness is supported by a correlation coefficient of .113 ($p < .05$), and the one between individualism and reliability is also supported but with a correlation coefficient of .094 that is significant at a 10% level only. During their relationships with a service provider, individualists prefer to maintain a distance between themselves and the service provider. Tangibles are a means to reduce the closeness of the interaction. This hypothesis is supported by a significant positive relationship between individualism and tangibles ($R = .183, p < .001$). Due to their self-confidence and self-responsibility, individualists do not expect to be assured by service providers; therefore, do not accord too much importance to this dimension. This negative relationship between individualism and assurance is supported with a correlation

TABLE 2
Correlation Coefficients Between Cultural and Service Dimensions

	<i>PDI</i>	<i>IDV</i>	<i>MAS</i>	<i>UAV</i>	<i>LTO</i>
Reliability	-.228****	.094*	-.067	.178***	.145**
Responsiveness	-.199****	.113**	-.212****	.233****	.181****
Assurance	.135**	-.192****	-.043	.215****	-.175****
Empathy	-.096*	-.170***	.067	.187****	.060
Tangibles	.215****	.183****	.134**	-.350****	-.113**

NOTE: PDI = power distance; IDV = individualism, MAS = masculinity, UAV = uncertainty avoidance, LTO = long-term orientation. $N = 302$.
 * $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

coefficient of $-.192$ ($p < .001$). In their study, Donthu and Yoo (1998) hypothesized a positive relationship between these two variables but without a clear rationale. Because of such a lack of rationale, even if their data support their hypothesis, we think the relationship between individualism and assurance should be negative. When we described our hypotheses, we highlighted that two of the items measuring empathy will have different signs in their relationship with individualism. Thus, we hypothesized a weak negative relationship. This hypothesis is supported by our data with a significant negative correlation coefficient of $-.170$ ($p < .01$), which contradicts the findings of Donthu and Yoo.

Masculinity

In cultures with a high degree of masculinity, customers expect a female service provider to be more feminine than professional. This is supported by the significant negative relationships between masculinity and responsiveness ($R = -.212$, $p < .001$). However, the expected negative relationship between masculinity and reliability is not significant, giving only a directional support for our hypothesis. In cultures with a high degree of masculinity, it is important for female service employees to have a feminine appearance, which is supported by a significant positive relationship between masculinity and tangibles ($R = .134$, $p < .05$). We also expected a positive relationship between masculinity and empathy and a negative one between masculinity and assurance, but these relationships are not found in our data.

Uncertainty Avoidance

In frequent service situations, uncertainty from the possibility of failure has to be reduced by the guarantee of a quick solution to problems. This hypothesis is supported by the significant positive relationships between uncertainty avoidance and responsiveness ($R = .233$, $p < .001$), assurance ($R = .215$, $p < .001$), empathy ($R = .187$, $p < .001$), and reliability ($R = .178$, $p < .01$). On the other hand,

in frequent service situations, tangibles are less important because they do not help in reducing perceived risk of service failure. This is supported by a relatively strong negative relationship between uncertainty avoidance and tangibles ($R = -.350$, $p < .001$). The hypothesis of a positive relationship provided by Donthu and Yoo (1998) was not supported by their data.

Long-Term Orientation

In cultures with a long-term orientation, long-term relationships with service providers are expected. In these cultures, reliability, responsiveness, and empathy are extremely important. Supporting these hypotheses, the relationships between long-term orientation and reliability and long-term orientation and responsiveness are significant, with correlation coefficients of $.145$ ($p < .05$) and $.181$ ($p < .001$), respectively. This latter relationship also confirms the findings of Donthu and Yoo (1998). Also significant are the negative relationships between long-term orientation and assurance and between long-term orientation and tangibles, with correlation coefficients of $-.175$ ($p < .001$) and $-.113$ ($p < .05$), respectively. However, the weak relationship we expected between long-term orientation and empathy is not significant and provides only directional support for our hypothesis.

Donthu and Yoo (1998) studied the relationship between service expectations and culture at the dimensional level. To take these relationships to the application domain, we have proposed the CSQI. To illustrate the possibility of using the CSQI to segment multicultural markets, we clustered our sample based on the CSQI scores. To cluster our sample, we used the K-means clustering procedure (SPSS 1988). K-means procedures are frequently used to group customers into market segments (Krieger and Green 1996), and their efficacy is largely attested to by empirical results (Lebart, Morineau, and Warwick 1984; Milligan and Cooper 1987). Another reason is that clusters obtained with K-means procedures are generally more homogeneous in terms of size than clusters obtained with a

TABLE 3
Centers of the Five Clusters Based on the Cultural Service Quality Index (CSQI) Scores

<i>CSQI Dimension</i>	<i>Reliability</i>	<i>Responsiveness</i>	<i>Assurance</i>	<i>Empathy</i>	<i>Tangibles</i>
Cluster 1 (<i>n</i> = 74)	-.0268 (.0025)	-.0371 (.0030)	.0267 (.0037)	.0023 (.0021)	.0168 (.0026)
Cluster 2 (<i>n</i> = 68)	.0127 (.0019)	.0143 (.0031)	.0244 (.0030)	.0255 (.0018)	-.0404 (.0024)
Cluster 3 (<i>n</i> = 63)	.0264 (.0026)	.0342 (.0035)	-.0397 (.0038)	-.0121 (.0021)	-.0017 (.0032)
Cluster 4 (<i>n</i> = 57)	-.0500 (.0028)	-.0660 (.0039)	-.0128 (.0042)	-.0387 (.0024)	.0840 (.0037)
Cluster 5 (<i>n</i> = 40)	.0581 (.0032)	.0868 (.0054)	-.0076 (.0039)	.0299 (.0037)	-.0852 (.0034)

NOTE: Means, with standard errors in parentheses.

TABLE 4
Analysis of Variance Across Clusters: Cultural Service Quality Index (CSQI) Dimensions

<i>CSQI</i>	<i>F Value</i>	<i>PR (F/Fc)</i>
Reliability	244.263	.000****
Responsiveness	234.786	.000****
Assurance	60.103	.000****
Empathy	136.230	.000****
Tangibles	314.172	.000****
MANOVA (all together)	54.870 ^a	.000****

a. Wilks's lambda.
 **** $p < .001$.

hierarchical method. This criterion is important when we further evaluate the clusters' homogeneity with analyses of variance.

The cluster centroids are presented in Table 3. An examination of various cluster solutions revealed that five clusters, rather than four, six, or some other number, was the most appropriate solution in terms of the separation of the clusters (*F* test) and in terms of homogeneity in the size of the groups. For solutions with less than five clusters, the *F* values were smaller, and for solutions with more than five clusters, very small clusters appeared from the splitting of larger ones, resulting in clusters of very different sizes. Table 4 reports the results of an ANOVA test that was performed to evaluate the cluster separation. The results indicate that the overall separation of the clusters was significant ($p < .0001$) across the five clusters for each of the five CSQI dimensions. When all five CSQI dimensions were considered simultaneously, the MANOVA test shows a significant level of separation ($p < .0001$).

To evaluate the homogeneity of these clusters, we test if they are also distinct and homogeneous in terms of the cultural dimensions. Table 5 presents the centroids of the clus-

ters in terms of the five cultural dimensions, and Table 6 reports the results of an ANOVA test that was performed to evaluate the group separation on the clustering technique.

The results indicate that the overall separation of the clusters was significant ($p < .0001$) across the five clusters for each of the five cultural dimensions. When all five cultural dimensions were considered simultaneously, the MANOVA test shows a significant level of separation ($p < .0001$).

In terms of the cultural dimensions, Cluster 1 consists of customers with cultural values corresponding to a large power distance, high collectivism, high masculinity, neutral uncertainty avoidance, and short-term orientation. Cluster 2 is made up of customers with cultural values corresponding to small power distance, high collectivism, neutral masculinity, high uncertainty avoidance, and medium-term orientation. Cluster 3 is made up of customers with cultural values corresponding to small power distance, high individualism, medium femininity, low uncertainty avoidance, and long-term orientation. Cluster 4 consists of customers with cultural values corresponding to large power distance, medium individualism, high masculinity, low uncertainty avoidance, and short-term orientation. Cluster 5 consists of customers with cultural values corresponding to small power distance, medium individualism, high femininity, high uncertainty avoidance, and long-term orientation.

To evaluate the homogeneity of the CSQI clusters, we also test if they are also distinct and homogeneous in terms of the relative importance of the SERVQUAL dimensions. We ran an ANOVA to evaluate the group separation and their homogeneity. The results indicate that the overall separation of the clusters was significant. When all five cultural dimensions were considered simultaneously, the MANOVA test shows a significant level of separation ($F = 2.255, p = .001$). Three variables that contribute the most to the separation of the groups are tangibles ($F = 5.881, p <$

TABLE 5
Centers of the Five Clusters on the Five Cultural Dimensions

<i>Cultural Dimension</i>	<i>PDI</i>	<i>IDV</i>	<i>MAS</i>	<i>UAV</i>	<i>LTO</i>
Cluster 1 (<i>n</i> = 74)	.2736 (.0423)	-.2268 (.0484)	.2286 (.0480)	-.0037 (.0316)	-.3088 (.0426)
Cluster 2 (<i>n</i> = 68)	-.0922 (.0415)	-.2817 (.0422)	.0229 (.0615)	.3796 (.0322)	.0080 (.0472)
Cluster 3 (<i>n</i> = 63)	-.3456 (.0458)	.4105 (.0538)	-.1835 (.0602)	-.1281 (.0470)	.2597 (.0642)
Cluster 4 (<i>n</i> = 57)	.4697 (.0398)	.1310 (.0538)	.2382 (.0475)	-.6735 (.0395)	-.2440 (.0596)
Cluster 5 (<i>n</i> = 40)	-.4910 (.0413)	.0283 (.0821)	-.5052 (.0763)	.5727 (.0469)	.5107 (.0034)

NOTE: Means, with standard errors in parentheses. PDI = power distance; IDV = individualism, MAS = masculinity, UAV = uncertainty avoidance, LTO = long-term orientation.

TABLE 6
**Analysis of Variance Across Clusters:
 Cultural Dimensions**

<i>Cultural Dimension</i>	<i>F Value</i>	<i>PR (F/Fc)</i>
Power distance	79.680	.000****
Individualism	29.820	.000****
Masculinity	24.046	.000****
Uncertainty avoidance	136.045	.000****
Long-term orientation	34.939	.000****
MANOVA (all together)	54.870 ^a	.000****

a. Wilks's lambda.
 *****p* < .001.

.0001), empathy ($F = 2.360, p = .053$), and responsiveness ($F = 2.108, p = .080$). Reliability ($F = 1.648, p = .162$) and assurance ($F = 1.171, p = .324$) are not significant.

Therefore, our hypothesis, which states that homogeneous and distinct segments based on the CSQI scores are also homogeneous and distinct in terms of cultural dimensions and SERVQUAL dimensions, is supported.

INTERPRETATION OF RESULTS AND MANAGERIAL IMPLICATIONS

In this article, we have shown that the relationships between cultural dimensions and the relative importance of the dimensions of service quality can provide useful insights for how firms should allocate resources in different cultural groups. We have shown that the relative importance of the service quality dimensions varies from one culture to another. Specifically, we have extended the previous studies by Winsted (1997), Donthu and Yoo (1998), and Mattila (1999) and gone beyond their limitations by developing and testing a complete set of hypotheses relating each of the five Hofstede cultural dimensions to each of the five SERVQUAL dimensions, as well as introducing

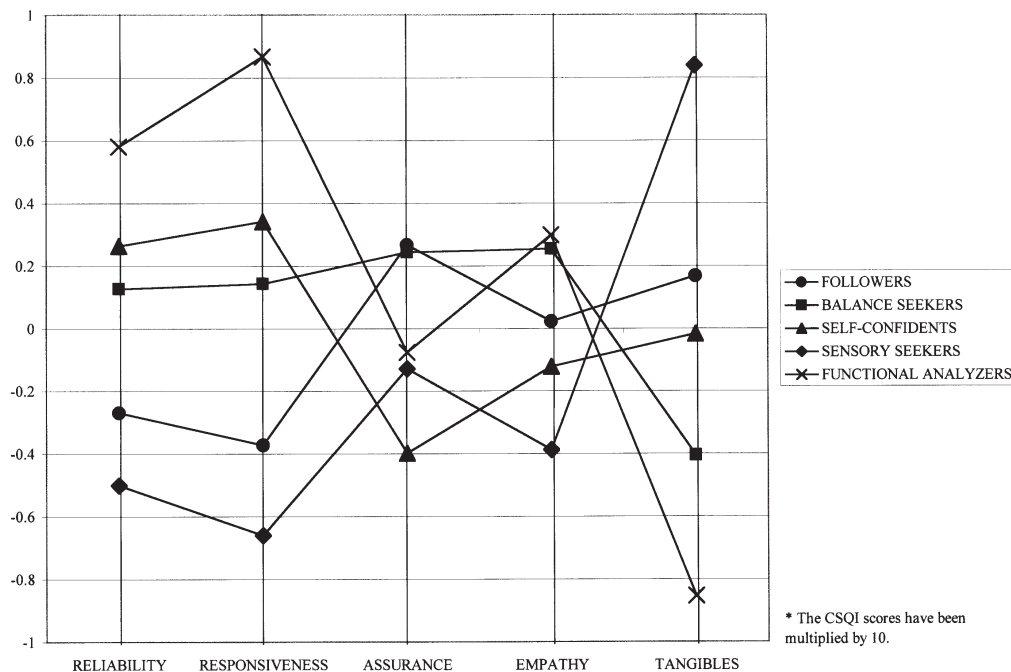
three contingent variables in the formulation of the hypotheses. Our results show that 21 out of our 25 hypotheses are supported.

We also have presented a way to integrate SERVQUAL dimensions with cultural dimensions to create a CSQI, which is further used to segment multicultural markets. Because international service markets are not homogeneous, the CSQI allows service marketers to segment these markets into more homogeneous segments in terms of their perceptions of service quality. Such a segmentation scheme allows service marketers to define marketing objectives more precisely by cultural and contingent segments to have a better understanding of customer needs and purchase decisions. In each segment, the focus could be made on the most important service quality dimensions, and resources can be allocated proportionally to the relative importance of each service quality dimension across different cultural segments.

Based on the results presented in the prior section, we show in Figure 1 a graphical representation of the profiles of the five service quality expectations-based customer segments. The profiles across the five segments can be interpreted as follows. Segments 4 and 5 are quite the opposite in their profiles. Although customers in Segment 4 use tangibles as their single most important dimension in service quality evaluation, customers in Segment 5 are least concerned about tangibles and more about responsiveness, reliability, and empathy, in that order. Segments 1 and 3 are also quite opposite in their importance profiles. Although customers in Segment 1 consider assurance the most important factor, and reliability and responsiveness as relatively less important, customers in Segment 3 consider reliability and responsiveness to be the most important factors and assurance the least important factor. Last, customers in Segment 2 assign fairly equal weights to all dimensions (except lower for tangibles).

The above observations led us to attach labels to each segment as a metaphoric descriptor to aid managers in

FIGURE 1
Cultural Service Quality Index Profiles for the Five Segments



their strategy decision process. Segment 1 is labeled *followers*, because its members value assurance from service providers most highly. Segment 2 is labeled *balance seekers*, because its members rely fairly equally on all the dimensions. Segment 3 is labeled *self-confidents*, because its members require the least assurance from service providers. Segment 4 is labeled *sensory seekers*, because its members are heavily dependent only on tangibles. Finally, Segment 5 is labeled *functional analyzers*, because its members value the practical and functional dimensions and are not at all concerned about tangible appearances.

Combining above the interpretation with the cultural profiles summarized in Table 5, managers in the service industry can draw potentially rich managerial implications for their service management and resource allocation decisions. For example, for serving followers, who have the cultural values of a large power distance and high collectivism (i.e., more group dependent), service providers should emphasize training their employees to have professional knowledge and to be trustworthy to gain the trust of these customers. Similarly, because the balance seekers depend equally on every aspect of SERVQUAL dimensions except for tangibles, the service providers should balance their efforts and resource allocation to every functional aspect such that customers will find every service dimension to be satisfactory.

Table 7 provides a summary of the relationships between the culture- and SERVQUAL-based profiles of the five segments and also the corresponding managerial implications for serving each of the five segments of customers.

To serve the self-confidents, who are more individualistic and exhibit low power distance culture, service providers should place emphasis on equipping and empowering the employees so that they are capable of providing dependable, accurate, and prompt services and gain the self-confidents' appreciation on the high levels of reliability and responsiveness rendered. For sensory seekers, who consider tangibles the only most important factor in service quality perceptions, service providers should put forth most of their efforts on managing the external appearances of their physical facilities, equipment, personnel, and communication materials. Finally, for the functional analyzers, who consider reliability and responsiveness to be extremely important and are delighted by empathetic service employees, service providers should put forth much of their effort on equipping and empowering the employees so that they are capable of providing dependable, accurate, and prompt services. In addition, service providers should train their employees to be caring about the needs of individual customers.

The CSQI segmentation model also may be used for expansion decision making. A firm serving a particular seg-

TABLE 7
Summary of Managerial Implications in Each of the Five Clusters

<i>Segment</i>	<i>Cultural Profile</i>	<i>SERVQUAL Profile</i>	<i>Managerial Implications</i>
1. Followers	Large power distance, high collectivism, high masculinity, neutral uncertainty avoidance and short-term orientation	Most importance to assurance	Service providers should emphasize training employees for professional knowledge and trustworthiness and to communicate that customers will be happy in their decisions
2. Balance seekers	Small power distance, high collectivism, neutral masculinity, high uncertainty avoidance and medium-term orientation	Equally moderate importance to every dimension except tangibles	Service providers should emphasize equally on all SERVQUAL dimensions except tangibles. This type of customer depends on all the functional aspects but is less concerned about the appearance of the service institution
3. Self-Confidents	Small power distance, high individualism, medium femininity, low uncertainty avoidance and long-term orientation	Importance to reliability and responsiveness; low importance to assurance	Service providers should emphasize equipping and empowering employees such that they are capable of providing dependable, accurate and prompt services
4. Sensory seekers	Large power distance, medium individualism, high masculinity, low uncertainty avoidance and short-term orientation	Extremely high importance to tangibles only	Service providers should put forth most of their efforts on creating and maintaining high levels of external appearances of their physical facilities, equipment, personnel, and communication materials
5. Functional analyzers	Small power distance, medium individualism, high femininity, high uncertainty avoidance and long-term orientation	Extremely high importance placed on reliability and responsiveness; also attach moderate importance to empathy	Service providers should put forth much of their effort on equipping and empowering employees such that they are capable of providing dependable, accurate, and prompt services. In addition, employees should be trained to detect and serve individual differences in needs.

ment may decide to expand its activities in other ones. Figure 1 shows the CSQI profiles for the five clusters. Based on the similarities and differences in the profiles, a service firm may be able to choose into which segment to enter. For example, a firm serving customers in Cluster 1 and having a competitive advantage in terms of assurance, should choose to enter Cluster 2, which is close to Cluster 1 on this dimension. Figure 1 also shows that this firm should be cautious about the responsiveness and tangibles dimensions because of a large difference between the two clusters on these dimensions.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

This article is subject to a few limitations. Although we have presented the importance of three contingency variables, in our empirical study, due to the nature of the survey we conducted, we have only tested one combination of these variables: frequent service situations, weak custom-

ers, and female service employee. Other combinations need to be tested in future research. To do so, different types of services and different types of customers have to be surveyed. Businesspersons could be a good example of powerful customers when they use airline or luxury services. Surgery or legal services could be investigated as examples of infrequent service situations and auto repair as an example of service provided predominantly by male service employees.

Second, consistent with most studies in SERVQUAL literature, we have assumed that the dimensions of SERVQUAL are the same in different cultures. However, some recent studies have questioned such an assumption (e.g., Winsted 1997). This assumption is testable and begs the question of whether other service quality dimensions may be found in other cultures. If so, they need to be added to the manager's conceptual framework for managing international markets. These new dimensions are not expected to change the relationships established in the article.

Finally, culture changes may demand monitoring too. In the United States, the "me" generation of the 1980s has

been replaced by the “now” generation in the 1990s and beyond (Heskett, Sasser, and Hart 1990). Such a change in the U.S. culture had a dramatic influence on the relative importance of service quality dimensions. The importance of responsiveness has increased, and the importance of empathy has decreased. In a large measure, this change was the result of rising expectations produced by escalating levels of service, particularly that delivered by technological means (Heskett, Sasser, and Hart 1990). Changes in cultures and service expectations demand longitudinal research studying evolution of cultures.

APPENDIX A

SERVQUAL Operationalization

Reliability: The ability to perform the promised service dependably and accurately.

1. Providing services as promised.
2. Dependability in handling customer's service problems.
3. Performing services right the first time.
4. Providing services at the promised time.
5. Keeping customers informed about when services will be performed.

Responsiveness: The willingness to help customers and provide prompt service.

6. Prompt service to customers.
7. Willingness to help customers.
8. Readiness to respond to customers' request.

Assurance: The knowledge and courtesy of employees and their ability to convey trust and confidence.

9. Employees who instill confidence in customers.
10. Making customers feel safe in their transaction.
11. Employees who are consistently courteous.
12. Employees who have the knowledge to answer customer questions.

Empathy: The caring, individualized attention provided to the customer.

13. Giving customers individual attention.
14. Employees who deal with customers in a caring fashion.
15. Having the customer's best interest at heart.
16. Employees who understand the needs of their customers.

Tangibles: The appearance of physical facilities, equipment, personnel, and communication materials.

17. Modern equipment.
18. Visually appealing facilities.
19. Employees who have a neat, professional appearance.
20. Visually appealing material associated with the service.
21. Convenient business hours.

SOURCE: Refined SERVQUAL battery adapted from Parasuraman, Berry, and Zeithaml 1991b; and Parasuraman, Zeithaml, and Berry 1994.

APPENDIX B

Hofstede's Dimensions

Power distance (PDI): The extent to which the less powerful members of institutions and organizations within a society expect and accept that power is distributed unequally.

1. Inequalities among people are both expected and desired.
2. Less powerful people should be dependent on the more powerful.
3. Inequalities among people should be minimized. (–)
4. There should be, and there is to some extent, interdependencies between less and more powerful people. (–)

Individualism (IDV): Pertains to societies in which the ties between individuals are loose: Everyone is expected to look after himself or herself and his or her immediate family. The opposite is collectivism, which pertains to societies in which people from birth onward are integrated into strong, cohesive in-groups, which throughout people's lifetimes continue to protect them in exchange for unquestioning loyalty.

5. Everyone grows up to look after him/herself and his/her immediate family only.
6. People are identified independently of the groups they belong to.
7. An extended family member should be protected by other member in exchange for loyalty. (–)
8. People are identified by their position in the social networks to which they belong. (–)

Masculinity (MAS): Pertains to societies in which social gender roles are clearly distinct: Men are supposed to be assertive, tough, and focused on material success, whereas women are supposed to be more modest, tender, and concerned with the quality of life. The opposite is femininity, which pertains to societies in which social gender roles overlap: Both men and women are supposed to be modest, tender, and concerned with quality of life.

9. Money and material things are important.
10. Men are supposed to be assertive, ambitious, and tough.
11. Dominant values in society are the caring for others and preservation. (–)
12. Both men and women are allowed to be tender and to be concerned with relationships. (–)

Uncertainty avoidance (UAV): The extent to which the members of a culture feel threatened by uncertain or unknown situations. This feeling is, among other things, expressed through nervous stress and in a need for predictability: a need for written and unwritten rules.

13. High stress and subjective feeling of anxiety are frequent among people.
14. Fear of ambiguous situations and of unfamiliar risks is normal.
15. Uncertainty is a normal feature of life and each day is accepted as it comes. (–)
16. Emotions should not be shown. (–)

Long-term orientation (LTO): The extent to which a society exhibits a pragmatic future-oriented perspective (fostering virtues like perseverance and thrift) rather than a conventional historic or short-term point of view.

17. Willingness to subordinate oneself for a purpose is normal.
 18. People should be perseverant toward long-term results.
 19. Traditions should be respected. (–)
 20. Social obligations should be respected regardless of cost. (–)

NOTE: Adapted from Hofstede (1991).

REFERENCES

- Anderson, Eugene W. and Claes Fornell (1994), "A Customer Satisfaction Research Prospectus," in *Service Quality: New Directions in Theory and Practice*, Roland T. Rust and Richard L. Oliver, eds. Thousand Oaks, CA: Sage, 241-68.
- Ashmore, R. D. and F. K. DeBoca (1979), "Sex-Stereotypes and Implicit Personality Theory: Toward a Cognitive-Social Psychological Conceptualization," *Sex Roles*, 5, 219-48.
- Assael, Henry (1987), *Consumer Behavior and Marketing Action*. Boston: Kent.
- Bem, Sandra L. (1975), "Sex Role Adaptability: One Consequence of Psychology Androgyny," *Journal of Personality and Social Psychology*, 31 (4), 634-43.
- Bitner, Mary Jo (1990), "Evaluating Service Encounters: The Effects of Physical Surroundings and Employee Responses," *Journal of Marketing*, 54 (2), 69-82.
- Bolton, Ruth N. and James H. Drew (1991a), "A Longitudinal Analysis of the Impact of Service Changes on Customer Attitudes," *Journal of Marketing*, 55 (1), 1-9.
- and ——— (1991b), "A Multistage Model of Customers' Assessments of Service Quality and Value," *Journal of Consumer Research*, 17 (2), 375-84.
- Bond, Michael H. et al. (1987), "Chinese Values and the Search for Culture-Free Dimensions of Culture," *Journal of Cross-Cultural Psychology*, 18 (2), 143-64.
- Brown, Tom J., Gilbert A. Churchill, and J. Paul Peter (1993), "Improving the Measurement of Service Quality," *Journal of Retailing*, 69 (1), 127-39.
- Collier, David A. (1994), *The Service/Quality Solution: Using Service Management to Gain Competitive Advantage*. Burr Ridge, IL: Irwin.
- Cronin, J. Joseph, Jr. and Steven A. Taylor (1992), "Measuring Service Quality: A Reexamination and Extension," *Journal of Marketing*, 56 (3), 55-68.
- Donthu, Naveen and Boonghee Yoo (1998), "Cultural Influences on Service Quality Expectations," *Journal of Service Research*, 1 (2), 178-86.
- Douglas, Susan P. and Y. Wind (1987), "The Myth of Globalization," *Columbia Journal of World Business*, 22 (1), 19-29.
- Engel, James F. and Roger D. Blackwell (1982), *Consumer Behavior*, 4th ed. Chicago: Dryden.
- Farley, John U. and Donald R. Lehmann (1994), "Cross-National 'Laws' and Differences in Market Response," *Management Science*, 40 (1), 111-22.
- Hall, Edward T. (1984), *The Dance of Life: The Other Dimension of Time*. Garden City, NY: Doubleday.
- Heskett, James L., W. Earl Sasser, Jr., and Christopher W. L. Hart (1990), *Service Breakthroughs: Changing the Rules of the Game*. New York: Free Press.
- Hofstede, Geert (1980), *Culture's Consequences: International Differences in Work-Related Values*. Beverly Hills, CA: Sage.
- (1991), *Cultures and Organizations: Software of the Mind*. London: McGraw-Hill.
- (1994), "Management Scientists Are Human," *Management Science*, 40 (1), 4-13.
- Horovitz, Jacques (1990), *Winning Ways: Achieving Zero-Defect Service*. Cambridge, MA: Productivity Press. (Translation from Horovitz, Jacques (1987), *La qualité de service: A la conquête du client*. Paris: InterÉditions.)
- Howard, John A. and Jagdish N. Sheth (1969), *The Theory of Buyer Behavior*. New York: John Wiley.
- Inkeles, Alex and Daniell J. Levinson (1969), "National Character: The Study of Model Personality and Sociocultural Systems," in *The Handbook of Social Psychology*, Lindzey Gardner and Elliot Aronson, eds. Reading, MA: Addison-Wesley, 418-506.
- Kale, Sudhir H. and D. Sudharshan (1987), "A Strategic Approach to International Segmentation," *International Marketing Review* (Winter), 60-70.
- Kogut, Bruce and Harbir Singh (1988), "The Effect of National Culture on the Choice of Entry Mode," *Journal of International Business Studies*, 19 (3), 411-32.
- Kotler, Philip (1997), *Marketing Management: Analysis, Planning, Implementation, and Control*, 9th ed. Englewood Cliffs, NJ: Prentice Hall.
- Krieger, Abba M. and Paul E. Green (1996), "Modifying Cluster-Based Segments to Enhance Agreement with an Exogenous Response Variable," *Journal of Marketing Research*, 33 (3), 351-63.
- Lebart, Ludovic, Alain Morineau, and Kenneth A. Warwick (1984), *Multivariate Descriptive Statistical Analysis: Correspondence Analysis and Related Techniques for Large Matrices*. New York: John Wiley.
- Levitt, Theodore (1983), "The Globalization of Markets," *Harvard Business Review*, 61 (3), 92-102.
- Lewis, Robert C. and Bernard H. Booms (1983), "The Marketing Aspects of Service Quality," in *Emerging Perspectives on Services Marketing*, Leonard L. Berry, G. Lynn Shostack, and Gregory D. Upham, eds. Chicago: American Marketing Association.
- Li, Jiatao (1994), "Experience Effects and International Expansion: Strategies of Service MNCs in the Asia-Pacific Region," *Management International Review*, 34 (3), 217-34.
- and Stephen Guisinger (1991), "Comparative Business Failures of Foreign-Controlled Firms in the United States," *Journal of International Business Studies*, 22 (2), 209-24.
- and ——— (1992), "The Globalization of Service Multinationals in the 'Triad' Regions: Japan, Western Europe and North America," *Journal of International Business Studies*, 23 (4), 675-96.
- Lovelock, Christopher H (1996), *Services Marketing*, 3rd ed. Englewood Cliffs, NJ: Prentice Hall.
- and George S. Yip (1996), "Developing Global Strategies for Service Businesses," *California Management Review*, 38 (2), 64-86.
- Mattila, Anna S. (1999), "The Role of Culture in the Service Evaluation Processes," *Journal of Service Research*, 1 (3), 250-61.
- Milligan, Glenn W. and Martha C. Cooper (1987), "Methodology Review: Clustering Methods," *Applied Psychological Measurement*, 11 (4), 329-54.
- Nakata, Cheryl and K. Sivakumar (1996), "National Culture and New Product Development: An Integrative Review," *Journal of Marketing*, 60 (1), 61-72.
- Parasuraman, A., Leonard L. Berry, and Valarie A. Zeithaml (1991a), "Understanding Customer Expectations of Service," *Sloan Management Review*, 32 (3), 420-50.
- , ———, and ——— (1991b), "Refinement and Reassessment of the SERVQUAL Scale," *Journal of Retailing*, 67 (1), 39-48.
- , ———, and ——— (1993), "More on Improving Service Quality Measurement," *Journal of Retailing*, 69 (1), 140-47.
- , Valarie A. Zeithaml, and Leonard L. Berry (1985), "A Conceptual Model of Service Quality and Its Implications for Future Research," *Journal of Marketing*, 49 (4), 41-50.
- , ———, and ——— (1988), "SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality," *Journal of Retailing*, 64 (1), 12-40.

- , ———, and ——— (1994), "Alternative Scales for Measuring Service Quality: A Comparative Assessment Based on Psychometric and Diagnostic Criteria," *Journal of Retailing*, 70 (3), 201-30.
- Pruitt, Dean G., Peter J. D. Carnevale, Blythe Forcey, and Michael Van Slyck (1986), "Gender Effects in Negotiation: Constituent Surveillance and Contentious Behavior," *Journal of Experimental Social Psychology*, 22, 264-75.
- Sivakumar, K. and Cheryl Nakata (1999), "The Stampede toward Hofstede's Framework: Avoiding the Sample Design Pit in Cross-Cultural Business Studies," AMA Summer Educators' Conference, San Francisco.
- Sødergaard, Mikael (1994), "Hofstede's Consequences: A Study of Reviews, Citations and Replications," *Organization Studies*, 15 (3), 447-56.
- SPSS, Inc. (1988), *SPSS-X User's Guide*, 3d ed. Chicago: SPSS, Inc.
- Vandermerwe, Sandra and Michael Chadwick (1989), "The Internationalization of Services," *Service Industries Journal* (January), 79-93.
- Weinstein, Art (1994), *Market Segmentation: Using Demographics, Psychographics and Other Niche Marketing Techniques to Predict and Model Customer Behavior*. Chicago: Probus.
- Winsted, Kathryn Frazier (1997), "The Service Experience in Two Cultures: A Behavioral Perspective," *Journal of Retailing*, 73 (3), 337-60.
- Zeithaml, Valarie A., Leonard L. Berry, and A. Parasuraman (1988), "Communication and Control Processes in the Delivery of Service Quality," *Journal of Marketing*, 52 (2), 35-48.
- , ———, and ——— (1993), "The Nature and Determinants of Customer Expectations of Service," *Journal of the Academy of Marketing Science*, 21 (1), 1-12.

Olivier Furrer is a visiting assistant professor at the University of Illinois at Urbana-Champaign. He holds a Ph.D. from the University of Neuchâtel (Switzerland). His major research interests are in the areas of service marketing, product services, the resource-based theory, and the strategic role of intangible assets.

He is the author of a book recently published in French about the strategic role of services around products: *Services autour des Produits: Enjeux et Strategies*, and he has published in journals such as *Revue Française de Gestion* and *Revue Française du Marketing*.

Ben Shaw-Ching Liu is an associate professor of marketing at Butler University. He was an assistant professor of marketing at the University of Illinois at Urbana-Champaign before joining the faculty of Business Administration at Butler University. He holds a Ph.D. from the State University of New York at Buffalo. His major research interest is in the areas of service marketing, negotiation behaviors of buyers and sellers, distribution channel member relationships, and positioning strategy in new product development. He has published various articles in the *Journal of Service Research*, *Journal of Service Marketing*, *Journal of Foodservice Systems*, *Journal of Product and Brand Management*, *Journal of Marketing*, and *Practice and Industrial Marketing Management*.

D. Sudharshan is a professor of business administration and associate dean for planning at the College of Commerce and Business Administration at the University of Illinois. His research is in the areas of marketing strategy, new product and service development, and marketing technology management. He serves on the editorial boards of the *Journal of Market Focused Management* and the *Journal of Marketing*. His articles have appeared in various journals including the *Journal of Service Research*, *Management Science*, *Marketing Science*, *Journal of Marketing*, *European Journal of Operation Research*, *Journal of Marketing Research*, and *Strategic Management Journal*.