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## Abstract

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While service providers increasingly provide their services globally, little is known about cross-cultural differences in the way customers develop trust in their service providers. The present paper fills this void by providing a research model that builds on the idea that cross-cultural differences in the development of trust can be explained by moderating effects of uncertainty avoidance. This view is supported by results of an empirical analysis conducted in the banking context in six countries. Managerial implications are derived and directions for further research are proposed.

## Keywords

Cross, cultural, differences, development, trust, relational, service, exchange, empirical, analysis, moderating, role, uncertainty, avoidance

## Disciplines

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An Empirical Analysis of Trust Building in High versus Low  
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# **Cross-Cultural Differences in the Development of Trust in Relational Service Exchange**

## **An Empirical Analysis of Trust Building in High versus Low Uncertainty Avoidance Cultures**

### **Abstract**

Customer trust is of high importance for customer relationship management in services. While service providers increasingly provide their services globally, little is known about cross-cultural differences in the way customers develop trust in their service providers. The present paper fills this void by providing a research model that builds on the idea that cross-cultural differences in the development of trust can be explained by moderating effects of uncertainty avoidance. This view is supported by results of an empirical analysis conducted in the banking context in six countries. Managerial implications are derived and directions for further research are proposed.

### **Introduction**

Achieving mutual trusting relations is an important goal for customer relationship management in services marketing (Berry 1995), because, due to the intangibility of the service provision process, customers evaluate services to a large extent by credence qualities (Zeithaml 1981). Customer trust in the service provider has been shown to positively affect customer loyalty (Sirdeshmukh, Singh and Sabol 2002), commitment (Garbarino and Johnson 1999) as well as customer value (Sirdeshmukh, Singh and Sabol 2002) in different service contexts.

While for a long time services had been considered being predominantly local activities, they have become increasingly international during the last decades. According to WTO (2006) statistics, the share of services in world exports has steadily increased over the last 25 years and services currently account for about 20 percent of total world exports. Thus, today more and more service firms operate on a global level and provide their services to customers in different cultures (Stauss and Mang 1999). This would provide a challenge for these firms if the central antecedents of trust were different across cultures.

Some evidence for such differences exists (e.g. Bond and Forgas 1984; Doney, Cannon and Mullen 1998; Fukuyama 1995; Gefen and Heart 2006; Huff and Kelley 2003; Money, Gilly and Graham 1998; Suh, Janda and Seo 2006; Tan and Chee 2005; Yamagishi and Yamagishi 1994; Yuki et al. 2005). Research findings show e.g. that Asian people allocate a higher importance on personal relationships for their decision to trust than American people (Money, Gilly and Graham 1998; Yamagishi and Yamagishi 1994; Yuki et al. 2005), while Americans value reputation more and consider honesty as more important than their Japanese counterparts when deciding to trust (Yamagishi and Yamagishi 1994). However, scientific work on intercultural differences in trust development are either theoretical contributions (e.g. Doney, Cannon and Mullen 1998; Fukuyama 1995) or based on qualitative data from a single culture, such as Singapore (e.g. Tan and Chee 2005). Moreover, the trust-building processes, such as the importance of interpersonal relationships for the development of trust, are primarily addressed in isolation (e.g. Money, Gilly and Graham 1998). Therefore, no conclusion on their relative importance for the development of trust can be drawn.

Further, these studies mainly apply secondary data on cultural dimensions on the country level (e.g. Gefen and Heart 2006; Huff and Kelley 2003; Yamagishi and Yamagishi 1994). These entities however are too broad for marketing purposes, where the cognition and behavior of specific target groups needs to be accounted for. As research shows that cultural values can differ a lot within countries (Huo and Randall 1991) an individual approach to cross-cultural marketing research ought to be taken (McCort and Malhotra 1993). Predominantly cross-cultural trust differences are explained by differences on secondary data of Hofstede`s (1980) individualism/collectivism dimension (e.g. Huff and Kelley 2003; Yamagishi and Yamagishi 1994). Primary data on individual cultural values (Yoo, Donthu and Lenartowicz 2001) would allow investigating the moderating effect of specific cultural

dimensions. Finally, so far there is only very limited research on cross-cultural trust differences in a service setting (Zhang, Beatty and Walsh 2005).

Hence, questions globally acting service providers are confronted with are: How should the firm be presented in different cultures to be noticed as being trustworthy? Or: How should the service employees address customers in different cultures to be perceived as a trustworthy partner? Although Noorderhaven (1999) already demanded for more data on intercultural differences in trust, up to now services marketing research cannot sufficiently answer these questions.

The purpose of this paper is to provide an empirical analysis of differences in the trust-building processes across cultures. To be able to deduce valid propositions for services marketing, we will focus on one cultural value. We chose the cultural value of uncertainty avoidance as it has rather been ignored in former research although it is conceptually very close to the trust construct. Thus we believe uncertainty avoidance should have a strong moderating effect on trust. To investigate the moderating effect of uncertainty avoidance on the trust-building process, we take an individual-level approach to determine the level of uncertainty avoidance among target groups in six countries.

In the following, we initially introduce a research model that builds on the idea that trust-building processes are moderated by cultural values and derive seven research hypotheses on differences in the trust-building processes and the level of trust between high vs. low uncertainty avoiding cultures. We then present the methodological approach of our study. A two-stage proceeding is chosen. We first determine the actual level of uncertainty avoidance of our target groups from six different countries. Based on these differences in the cultural values, we divide the sample into high vs. low uncertainty avoidance cultures and test our hypothesis. Finally, based on the results of our study, we derive managerial implications and propose directions for further research.

## Theoretical Basis

According to a widely accepted definition by Hofstede (1991, p. 5) culture is ‘the collective programming of the mind, which distinguishes the members of one group from another’. More specifically, Hill (1997, p. 67) states that culture is ‘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 definitions incorporate two aspects that are relevant in the context of cross-cultural differences in the development of trust. First, culture does not automatically equal country-borders or ethnic groups (Steenkamp 2001), but refers to any form of social environment that shares common values. Second, these values influence people’s cognitions. Cross-cultural research has shown that shared cultural values in fact influence common behavior patterns, because they similarly influence the underlying cognitive constructs (Triandis 1972). As a consequence, differences in the values across cultures and subcultures result in differences in their cognitive processing (McCort and Malhotra 1993).

A conceptual approach that incorporates this thought and applies it to cross-cultural differences in the development of trust was introduced by Doney, Cannon and Mullen (1998). The authors argue that the values that are prevalent in a given culture affect the cognitive processes by which trust is being built. Thus, differences in the relative importance of cognitive processes are caused by differences in values that are in turn influenced by differences in the cultural setting. Doney, Cannon and Mullen (1998) identify five different cognitive processes that can be applied for the development of trust and combine them with Hofstede’s (1980) cultural dimensions of individualism/collectivism, masculinity/femininity, high vs. low power distance and high vs. low uncertainty avoidance. Based on differences in these cultural dimensions, Doney, Cannon and Mullen (1998) develop hypotheses on differences in the importance of each of the cognitive processes for the development of trust. As we are taking

an individual approach, in the following we will refer to these cultural dimensions according to Yoo, Donthu and Lenartowicz (2001) as cultural values.

To empirically analyze cross-cultural differences in the cognitive trust-building processes, we put forward a research model (figure 1) that represents an extended version of the conceptual approach by Doney, Cannon and Mullen (1998). According to Rousseau et al. (1998, p. 395) we define trust as a ‘psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviour of another’ and conceptualize it as being different from the trust-building processes that precede it (Mayer, Davis and Schoorman 1995; Serva, Benamati and Fuller 2005). We propose six different cognitive trust-building processes that lead to the trustors’ assessment of perceived trustworthiness of the trustee.

The first five cognitive processes are adapted from the work by Doney, Cannon and Mullen (1998). First, trust can be built via a capability process, i.e. the trustor estimates the ability of the trustee to fulfill his promises. This process results in the trustors’ assessment of the targets ability (Mayer, Davis and Schoorman 1995). A second source of trust can be an intentionality process, i.e. the trustor assesses the trustee’s motivations, which is reflected by the trustor’s evaluation of the targets benevolence (Mayer, Davis and Schoorman 1995). Moreover, trust can form via a prediction process, i.e. the trustor feels confident that a trustee’s behavior can be predicted, which can be assessed by the trustee’s predictability (McKnight, Choudhury and Kacmar 2002). Additionally, trust can be established via a transference process, i.e. the ‘trustor draws on proof sources, from which trust is transferred to the target’ (Doney, Cannon and Mullen 1998, p. 607), and which can be assessed by the word-of-mouth that is received from family-members and friends. Further, trust can be influenced by a calculative process, i.e. the trustor’s calculation of the costs and/or rewards of a trustee acting in an untrustworthy way.



We extend these five processes based on Mayer, Davis and Schoorman (1995) and McKnight, Cummings and Chervany (1998) and propose a further cognitive trust-building process, which we term moral evaluation process. Moral evaluation is the expectation that the trustee will act in a morally correct way (Hosmer 1995; McFall 1987), which is primarily reflected by keeping commitments and not lying (McKnight, Choudhury and Kacmar 2002). This process can be assessed by an evaluation of the trustee's integrity (Mayer, Davis and Schoorman 1995).

While prior research has repeatedly shown that trust is well explained by the above six processes (e.g. Gefen and Straub 2004; Mayer and Davis 1999; McKnight, Choudhury and Kacmar 2002), we assume in accordance with Doney, Cannon and Mullen (1998) that the strength of the effect of each of these cognitive trust-building processes is moderated by cultural values. Cross-cultural value differences should therefore account for differences in the development of trust.

-----Insert Figure 1 here-----

A cultural value, which is conceptually closely related to the trust construct but has widely been ignored as a moderator in the development of trust in empirical studies yet, is uncertainty avoidance. According to Hofstede (1997, p. 113), uncertainty avoidance is defined as 'the extent to which the members of a culture feel threatened by uncertain or unknown situations' and hence is very close to the definition of trust, which incorporates an intention to accept vulnerability (Rousseau et al. 1998). The level of uncertainty within a culture is e.g. expressed by the tolerance for unstructured, ambiguous and unpredictable situations and the extent of the need for strict rules and regulations (Singh 1990). While high uncertainty avoidance cultures are characterized by the need for strict rules and regulations, in low uncertainty avoidance cultures there is a much higher tolerance for uncertainty and ambiguity and a lower

focus on rules and regulations (Hofstede 2001). As people from high vs. low uncertainty cultures have different cognitive foci when dealing with uncertainty avoidance, we predict that the level of uncertainty avoidance within a culture also influences the way in which trust is being built and the level of trust within a culture.

Based on the assumption that the level of uncertainty avoidance in a given culture influences the cognitive trust-building processes and building on the work by Doney, Cannon and Mullen (1998), in the following we derive hypotheses on differences in the cognitive trust-building processes of people from high and low uncertainty avoidance cultures.

### ***Research Hypotheses***

#### **1. Capability Process**

Hofstede (1997) states that high uncertainty avoidance goes along with a strong appraisal of expertise. The rationale behind this is that people in high uncertainty avoidance cultures strive to reduce their perceived risk in a situation and therefore seek for proof sources for their trusting decisions. People in low uncertainty avoidance cultures have a generally higher belief in the ability of other people. Therefore they are less motivated to evaluate the ability of the trustee when deciding to trust (Doney, Cannon and Mullen 1998) as ability is a less valid proof source of trust for them. Thus we assume that people in high uncertainty avoidance cultures build trust to a larger extent based on a capability process than people in low uncertainty avoidance cultures. In the context of our study this means:

H 1: The effect of ability on trust is stronger for the high than for the low uncertainty avoidance group.

#### **2. Transference Process**

According to Hofstede (1997) the uncertainty avoidance dimension is closely related to the tightness of a culture. People in high uncertainty avoidance cultures have a low tolerance for

instability and deviant behavior. They prefer rather tight societies with strong interpersonal interrelations that have stability, and can be relied upon and thus be used as proof sources for the development of trust. People in low uncertainty avoidance cultures are characterized by being more risk taking and having comparably loose interpersonal relationships. Therefore we conclude that developing trust via a transference process is more essential in high uncertainty avoidance cultures than in low uncertainty avoidance cultures, leading to the following hypotheses:

H 2: The effect of word-of-mouth on trust is stronger for the high than for the low uncertainty avoidance group.

### 3. Intentionality Process

As uncertainty avoidance is closely related to the importance of interpersonal relationships it also moderates the relevance of the effort, people invest in maintaining these relationships for the development of trust. People in low uncertainty avoidance cultures are less risk averse in their interpersonal relationships and find conflicts acceptable. People in high uncertainty avoidance cultures on the other hand are much more dependable of existing relationships. They try hard to preserve and nurture them and thus place a much higher value on benevolent behavior (Doney, Cannon and Mullen 1998). Benevolent behavior is hence expected to be more emphasized and prominent in high uncertainty avoidance cultures and in turn a more important cue for the development of trust. Therefore, trust building via an intentionality process will be more important in high uncertainty avoidance cultures than in low uncertainty avoidance cultures. For the present study we propose:

H 3: The effect of benevolence on trust is stronger for the high than for the low uncertainty avoidance group.

#### 4. Prediction Process

People in high uncertainty avoidance cultures are characterized by a high need for strict rules and regulations (Singh 1990) and dislike ambiguous and unpredictable situations. In these cultures predictability is furthermore fostered by a higher amount of written and unwritten rules and regulations. People from low uncertainty avoidance cultures on the other hand have a much higher tolerance for ambiguity and uncertainty (Hofstede 2001) and thus a lower focus on predictability. Therefore in high uncertainty avoidance cultures, predictability should be a more relevant proof source of trust. Thus we predict that in high uncertainty avoidance cultures people build trust to a larger extent based on a prediction process than in low uncertainty avoidance cultures. In the context of our study we assume:

H 4: The effect of predictability on trust is stronger for the high than for the low uncertainty avoidance group.

#### 5. Calculative Process

Low uncertainty avoidance cultures are characterized by a high tolerance for deviant behavior and a minor emphasis on strong and stable relationships. As a consequence, opportunistic behavior of the trustee must be taken into consideration. One possibility to deal with this uncertainty is to accept the resulting vulnerability and hence to trust. Another way is to rule out opportunistic behavior of the trustee by an assessment of the costs and rewards of this behavior. People in high uncertainty avoidance cultures however, believe that relationships are reliable and stable and within relationships, people behave in a predictable and benevolent way. As a consequence they are less likely to engage in such calculative considerations, as they are a less relevant cue for the decision to trust. Therefore, we propose that people in low uncertainty avoidance cultures build trust more based on a calculative process than people in high uncertainty avoidance cultures, which means in the context of our study:

H 5: The effect of calculation on trust is stronger for the low than for the high uncertainty avoidance group.

## 6. Moral Evaluation Process

A further aspect that goes along with tolerance for uncertain situations and different behaviors is the necessity to evaluate, whether the trustee adheres to the moral principles of keeping commitments and not lying. This should be of less importance for people in high uncertainty avoidance cultures, who believe more strongly in the rules and regulations of society. In low uncertainty avoidance cultures however people have more tolerance for different and divergent behaviors. Conflict e.g. due to broken commitment or promises is much more acceptable and thus the evaluation of the integrity of the trustee is a much more important cue for the development to trust. Therefore, we predict that in low uncertainty avoidance cultures a moral evaluation process will be more important for the development of trust than in high uncertainty avoidance cultures. In the context of our study this means:

H 6: The effect of integrity on trust is stronger for the low than for the high uncertainty avoidance group.

## 7. Differences in the Propensity to Trust

Propensity to trust is the belief that other people can be trusted in general (Mayer, Davis and Schoorman 1995). While Mayer, Davis and Schoorman (1995) define propensity to trust as a solely individual trait, Fukuyama (1995) argues that it can also be influenced by cultural values. High uncertainty avoidance cultures are characterized by strong interpersonal relations and tight societies. People in high uncertainty avoidance cultures therefore believe that human behavior in general is stable and predictable (Kale 1991). People in low uncertainty avoidance cultures, however consider human behavior to be influenced by rather uncontrollable external forces (Kale and McIntyre 1991). Therefore, we assume that people from high uncertainty

avoidance cultures have a higher propensity to trust than people from low uncertainty avoidance cultures. In the context of our study we propose:

H 7: The high uncertainty avoidance group has a higher propensity to trust than the low uncertainty avoidance group.

## **Method**

### ***Sample***

We collected survey data from business students in major universities in Australia, China, Germany, India, Mexico and Poland, which were expected to differ in their level of uncertainty avoidance (Hofstede 1997). We chose banking as a setting, because it suits the purpose of our study best for several reasons. First, banking services are one of the most strongly internationalized service industries (Zeithaml and Bitner 1996), second, they are relatively comparable in nature across different cultures (Malhotra et al. 2004) and third, they were believed to have a relatively high diffusion among students in all the six countries. Fourth, banking services are widely believed to be high-credence services, in which trust plays a pivotal role. A student sample was chosen, because young well-educated people represent a highly attractive target group for banks all over the world. Academics on average have higher salaries once they start their professional career and therefore a number of banks and financial service providers focus on an early retention of this target group. Moreover, by focusing on business students, we control for same population type across countries. 1254 students were surveyed in the main study. 1065 of the 1254 cases were included in the analysis as they could be identified as being citizens of the respective country, who had always lived in their countries. This condition was imposed to exclude other cultural influences. Moreover, cases with a large number of missing values were excluded from the analysis.

### *Survey instrument*

The surveys were conducted in the respective language. All items were measured on 7-point Likert-scale ranging from strongly disagree to strongly agree. To ensure measurement equivalence across both countries, the scales were translated back and forth and assessed by several scientists in the respective countries. Pre-tests were conducted.

Measurement instruments were adapted from the relevant trust research literature, as well as self-developed for the purpose of this study. The instruments for ability, benevolence, prediction and integrity contained 4-items, respectively, and contained items by Gefen and Straub (2004) and McKnight, Choudhury and Kacmar (2002) that were adapted to the context of banking. Word-of-mouth and calculation were measured using self-developed 4-item scales. Trust was measured with a modified and extended version of a scale by Gefen (2002).

Propensity to trust was measured with a 4-item scale by Gefen and Straub (2004).

Finally, the CVSCALE by Yoo, Donthu and Lenartowicz (2001) was used to assess the individual cultural value of uncertainty avoidance. The entire scales are shown in the appendix.

After several iterations and the exclusion of item 2 of the Benevolence scale and items 1 and 2 of the Word-of-Mouth scale, exploratory factor analysis confirmed a predominantly equivalent factor structure in all countries. Cronbach's  $\alpha$  (table 1) was acceptable in the majority of cases. Only the reliabilities of the Word-of-mouth-scale in China as well as of the Benevolence-scale in Australia were slightly below the recommended level of .70. Intercorrelations between the constructs were acceptable. Table 2 shows the correlations of the sources of trust with trust for the entire sample. Fornell and Larcker's (1981) criterion that the average explained variance of a factor is larger than any squared correlation of this factor with another factor was met and therefore discriminant validity could be ensured for all scales in each country.

-----Insert Table 1 and Table 2 here-----

### ***Analysis Procedure***

While we assume, based on cross-cultural research (Hofstede 1997) that differences in the level of uncertainty avoidance between the six countries exist, the precise nature of the differences between the target groups of business students in these countries cannot be determined based on secondary data. China e.g. is a large and diverse country and major differences in Hofstede`s values can be found in different parts of China (Huo and Randall 1991; Koch and Koch 2007). Furthermore, research shows that beyond regional differences certain subcultures within a given country (Kahle 1986) can establish different value systems. Secondary data about an overall value-orientation of entire countries are therefore likely to be non-valid predictors for the cultural values of the specific target group of business students. For cross-cultural marketing research however ‘an individual psychological perspective is relevant to understand consumer behavior precisely because it centers on how an individual comes to personalize cultural influence in his/her cognitive organization, thus impacting personal behavior’ (McCort and Malhotra 1993, p.93). Hence primary data that allow linking the actual value system of a specific target group to their cognitions or behavior are needed.

Therefore we chose a two-stage proceeding. In a first step, we conducted an analysis of variance with post-hoc multi-group comparisons to identify groups with different levels of uncertainty avoidance in the six countries. With the resulting groups, we finally tested our hypotheses with our dataset.



### *Differences in the Level of Uncertainty Avoidance*

The results of the ANOVA show that the level of uncertainty avoidance differs between the six countries that are included in our analysis (table 3). Post-hoc analyses with Scheffé procedure show furthermore that this variation is caused by significant differences between Germany and all other countries. The German business students have a significantly lower level of uncertainty avoidance than the business students in all five other countries. Between the other five countries however no significant differences in the level of uncertainty avoidance can be found. To rule out the possibility that this difference is caused by general tendency to answer the CVSCALE, we also analyzed differences on other dimensions of the CVSCALE, which showed entirely different patterns. Therefore, for our further analysis we compare the low uncertainty avoidant German business students with the high uncertainty avoidant business students from the five other countries.

To be able to compare our results of the uncertainty avoidance measure of the CVSCALE with the Hofstede scores, we transformed our results and adapted them to the Hofstede (1980) scale. As can be seen in table 3, there are considerable differences in the level of uncertainty avoidance as reported by Hofstede (2007) and our primary data, based on the CVSCALE. While the results for Germany and Poland are comparably similar, especially the values for India, China and Australia show considerable differences. Based on the Hofstede (2007) values the countries would be grouped as China, India and Australia being low in uncertainty avoidance and Germany, Mexico and Poland being high in uncertainty avoidance.

This result supports our assumption that the actual cultural values of a specific target group do not necessarily correspond to the Hofstede scores of its country. As we further assume that primary data on the cultural values of a specific target group actually lead to more valid results than secondary data, we will moreover compare the results of our grouping, which is based on primary data with a grouping based on Hofstedes country scores.

-----Insert Table 3 here-----

## Results

We tested our hypotheses using AMOS 7.0. Missing values were replaced using linear interpolation. We first conducted a Confirmatory Factor Analysis to confirm an equivalent factor structure in both groups. Following Bollen (1989), we initially built a measurement model of the six sources of trust ability, benevolence, predictability, calculation and integrity as well as overall trust with the factor structure that was confirmed in the exploratory factor analysis and tested it with the entire sample. The overall fit of the measurement model was excellent, with  $\chi^2$  (df 215) = 560.52,  $\chi^2/df$  = 2.61, GFI = .96, AGFI = .94, CFI = .98, TLI = .97 and RMSEA = .039.

In a next step, we tested for measurement invariance between the two groups of students from high vs. low uncertainty avoidance cultures. First, we tested the model fit for each of the two groups separately. As can be seen from table 4, the model has a very good model fit in both groups. In a next step, we performed an invariance test for the measurement model to examine the equivalence of the factorial structure across both groups, which is especially important in cross-cultural research. Although full measurement invariance is a desirable goal (Meredith 1993), according to Steenkamp and Baumgartner (1998) in cross-cultural research an invariant model is practically impossible and scientifically unrealistic. Moreover, in our case it is even undesirable as we explicitly expect cross-cultural differences in the covariances between the trust-building processes and trust across both groups. Therefore we only test for the invariance of the factor loadings and compared a fully unconstrained model with a model in which the factor loadings were constrained to be equal for both groups from high vs. low uncertainty avoidance cultures. Table 5 shows that full invariance is not achieved as the fully

constrained model has a significantly lower fit than the unconstrained model. Therefore in a next step, we tested for partial measurement invariance as suggested by Steenkamp and Baumgartner (1998). The results show no significant difference between the unconstrained and the partially constrained model (table 5), i.e. the model is at least partially invariant across both cultural groups.

-----Insert Table 4 and 5 here-----

To test our hypotheses on the moderating effect of uncertainty avoidance on the development of trust, we built a structural model with causal paths from the six sources of trust on trust (figure 2). In a first step, we tested for a substantial overall difference between the trustworthiness-beliefs of people from low vs. high uncertainty avoidance cultures. For that purpose we tested for the invariance of the regression weights of the six trustworthiness-beliefs on trust by comparing two models with fully constrained vs. unconstrained regression weights. The results show (table 6) that the model fit of the unconstrained structural model was excellent. The significantly lower fit of the constrained model however supports our assumption that people from low vs. high uncertainty avoidance cultures differ in their development of trust. Figure 2 shows the standardized regression weights for both groups.

-----Insert Figure 2 and Table 6 here-----

To test for the significance of the differences in the regression weights between both groups, we applied a one-tailed independent samples t-test. Table 7 shows that both groups do not differ significantly in their regression weights of ability on trust in the high vs. the low un-

certainty avoidance group. However, while there is no significant influence of ability on trust in the low uncertainty avoidance group, there is a stronger and significant influence in the high uncertainty avoidance group, which we consider as a partly confirmation of hypothesis 1.

-----Insert Table 7 here-----

Unlike predicted in hypothesis 2, word-of-mouth does not have a significant influence on trust in both groups and no difference between the regression weights in both groups can be found. Further analyses however show that word-of-mouth has an indirect effect on trust and that this indirect effect is moderated by uncertainty avoidance. We tested this indirect effect in a further model, comparing the influence of word-of-mouth on each of the other sources of trust with a one-tailed independent samples t-test. The results show, that the influence of word-of-mouth on ability, benevolence, predictability and integrity is significantly stronger for the high uncertainty avoidance group (table 8). For calculation, the influence in the high uncertainty avoidance group was at least significantly stronger on the 10%-level.

-----Insert Table 8 here-----

Hypothesis 3 is not supported by the data. Different from what we predicted, the influence of benevolence on trust does not differ between the low and the high uncertainty avoidance cultures. Hypothesis 4 is supported by our data. The influence of predictability on trust is significantly stronger in high than in low uncertainty avoidance cultures. In high uncertainty avoidance cultures, predictability is even the most powerful predictor for trust. Hypothesis 5 is only

partly supported by our results. Calculation has a significantly stronger influence on trust in low than in high uncertainty avoidance cultures only on the 10%-level. However, while the influence of calculation on trust in the low uncertainty avoidance group is significant at the 10%-level, there is no influence at all in the high uncertainty avoidance group. The data furthermore do not support hypothesis 6, as the influence of integrity on trust does not differ in the low vs. the high uncertainty avoidance group. However, there is a clear tendency that integrity has a stronger influence in low uncertainty avoidance cultures. Overall, integrity is the most important predictor for trust in low uncertainty avoidance cultures.

To test, whether the primary data of the CVSCALE actually lead to a more valid classification of low vs. high uncertainty avoidance cultures, we tested the structural model with the two groups that were classified according to the secondary data by Hofstede (2007). The results show that there is no significant difference between the unconstrained model and the model with fully constrained regression weights across both groups (table 9). Thus, students from countries that were classified as being low vs. high uncertainty avoidant based on secondary data by Hofstede (2007) did not differ in their development of trust.

-----Insert Table 9 here-----

Finally, hypothesis 7 was tested with a one-tailed t-test for independent samples comparing the mean propensity to trust in both groups. In support of our hypotheses, the high uncertainty avoidance culture group has a significantly ( $t = -4.53$ ;  $df = 1059$ ;  $p < .001$ ) higher propensity to trust ( $M = 4.55$ ;  $SD = 1.21$ ) than the low uncertainty avoidance culture group ( $M = 4.18$ ;  $SD = 1.26$ ).

## **Discussion and Managerial Implications**

During the last decades, services have become increasingly international. Service firms that follow this trend and compete on a global level are faced with the challenge of developing customer trust in different cultures. While there is a lot of anecdotal knowledge on cross-cultural differences in the development of trust, empirical evidence exists only for isolated effects and is predominantly based on secondary data on cultural values. To understand the differences in trust-building processes and to make a contribution that is valuable for marketing research and practice, an individual approach needs to be taken. The results of our study are noteworthy and relevant for marketing research in at least three ways.

First, we were partly able to support our hypotheses that trust is being built based on different cognitive processes in different cultures and that these differences can be explained by differences in individual cultural values.

Corresponding to our hypotheses, business students from high uncertainty avoidance cultures build trust in their service provider more via a prediction process than their counterparts from low uncertainty avoidance cultures. Thus while most models of trust in a western context do not even include predictability (e.g. Mayer, Davis and Schoorman 1995), in high uncertainty avoidance it has the strongest influence on trust as it is very close to the definition of high uncertainty avoidance as feeling threatened by uncertain or unknown situations (Hofstede 1997). Furthermore, in high uncertainty avoidance cultures also the capability process has a relatively stronger impact on trust in their service provider.

On the other hand, in accordance with our assumption, business students from low uncertainty avoidance cultures have a tendency to build trust in their service provider more based on a calculation process and on a moral evaluation process. No difference could be found with regard to the intentionality process. The benevolence of the service provider seems to be of similar importance in both cultural groups. Moreover, no difference could be found for the

transference process, which did not have a significant influence on trust. Word-of-mouth obviously does not have a direct effect on trust, once the customers have made their own experiences with their service provider. However, word-of-mouth has an indirect effect on trust as it has an impact on the perception of the sources of trust. Corresponding to our assumption, this effect is considerably stronger in high than in low uncertainty avoidance cultures.

To sum up, also for the development of customer trust we can confirm that ‘as cultures differ in their values systems, evaluations of marketing communications will differ’ (McCort and Malhotra 1993, p. 113). The moderating effect of uncertainty avoidance on some of the trust-building processes is insofar remarkable and of importance for services marketing management theory and practice as it is independent of other differences between the two groups. The differences in the trust-building process prevail over differences in other cultural values as well as over differences in the banking systems or other differences across both groups.

Marketing managers are well advised to plan their marketing communication accordingly. The strongest effect on the development of trust in high uncertainty avoidance cultures is caused by the predictability of the service provider. Therefore, service providers entering a new market and addressing customers in high uncertainty avoidance cultures need to consider that marketing communications must focus much more on communicating predictability, e.g. by communicating its processes transparently and reliably following these processes than when addressing customers in low uncertainty avoidance cultures. Furthermore they ought to focus more on increasing positive word-of-mouth, e.g. via recommendation programs to gain customer trust as they have shown to have a very strong indirect influence on trust.

Service providers addressing customers in low uncertainty avoidance cultures on the other hand predominantly need to highlight their integrity, e.g. via trust seals, and communicate the value of their reputation, as it has shown to be the most important source of trust. Additionally

they ought to pronounce legal aspects to stress their costs for opportunistic behavior more than it is necessary in high uncertainty avoidance cultures.

Thus, marketing managers have to take into account differences in the cultural values of a given country very well to market their services successfully to international customers (de Ruyter, van Birgelen and Wetzels 1998). Marketing communications need to fit the value system of the specific country, stressing those characteristics that are most influential (Roth 1995). Service providers, who develop international standards for their services and do not adapt the design and the marketing communications of their services to the respective values of different countries may not succeed (Malhotra et al. 2004).

Second, our results once more show that secondary data do not necessarily reflect the value system of a given target group in a specific country very well. The fact that the groups from most countries differ strongly from the secondary data on cultural values supports the experience of cross-cultural marketing research that secondary data do not necessarily reflect the cultural values of a specific target group (McCort and Malhotra 1993). We could further show that it is actually the primary data that explain the theoretically founded moderating effect of uncertainty avoidance and therefore have a much higher validity. Secondary data on the country level do not account for this effect. This does not mean however that Hofstede's cultural dimensions are of no use for marketing research and practice. Although being object to a lot of criticism (e.g. Baskerville 2003; Yeh 1988), once more Hofstede's cultural dimensions have proven to be valuable for cross-cultural marketing research, when being assessed on the basis of individual cultural values (e.g. Donthu and Yoo 1998). Therefore, when applying theories of cultural values for the design of marketing communications, marketing managers are well advised to survey the individual cultural values of their specific target group in a given country as they might strongly differ from overall cultural values.



Finally, we believe these results can be transferred to other marketing and organizational contexts. Although the data were collected from business students in the context of banking services, they are on the level of very fundamental cognitive processes and cultural values. Therefore they should not be restricted to a specific context and provide useful guidelines as to how to build and develop trust within and across international organizations.

### **Limitations and directions for further research**

Our results show that not all hypotheses on the moderating effects of uncertainty avoidance on the trust-building processes could be confirmed. The only significant moderating effect was shown for predictability, which is conceptually very close to the definition of uncertainty avoidance. The differences in the impact of ability, calculation and integrity had the expected direction, but did not reach significance. Further research should investigate whether larger differences in uncertainty avoidance between two groups lead to a significant moderating effect of uncertainty avoidance on the influence of ability, calculation and integrity on trust. It should also be tested whether these differences prove to be significant if other influences e.g. differences in other cultural values are controlled for.

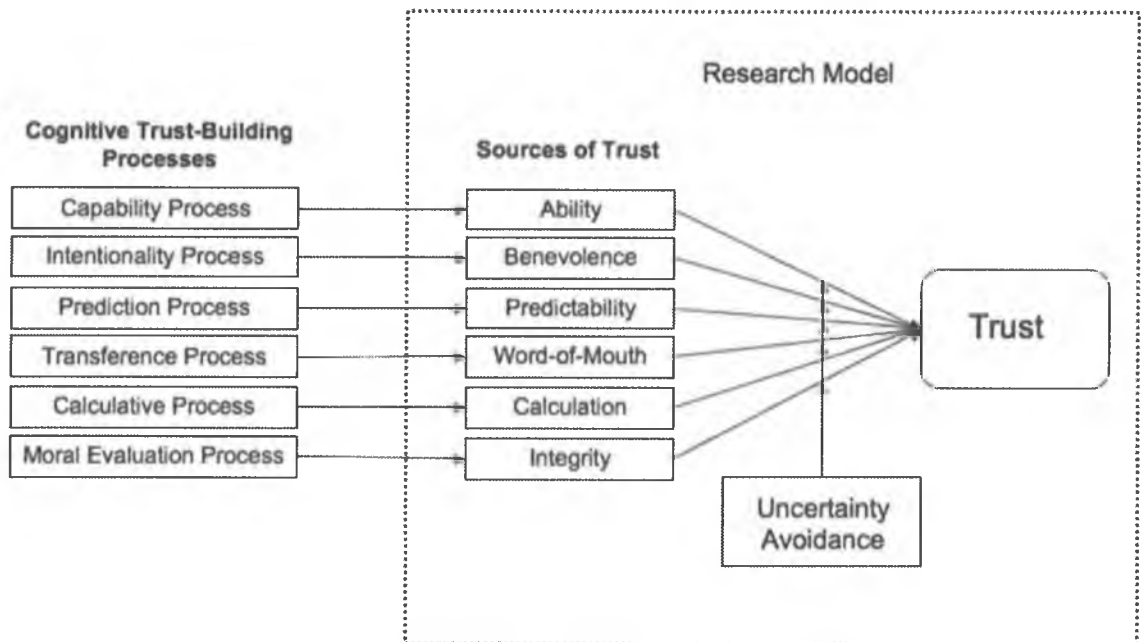
A further result of our study that needs additional research is the effect of word-of-mouth on trust and the moderating effect of uncertainty avoidance in this context. Our results show that word-of-mouth does not have a direct effect on trust. Word-of-mouth however has an indirect effect on trust via ability, benevolence, predictability and integrity, which is moderated by uncertainty avoidance. Further research should investigate whether there is a direct effect of word-of-mouth on trust in earlier phases of the relationship and whether it is moderated by uncertainty avoidance.

Although we believe that the results should be generalized to other contexts, further research should investigate this assumption. In addition, more low uncertainty avoidance countries should be included in the analysis to investigate whether these results can be replicated across other countries.

Even more importantly, further research needs to investigate whether other cultural values have a moderating influence on the cognitive trust-building processes as well, as suggested by Doney et al. (1998). Uncertainty avoidance expresses feelings of threat by uncertain or unknown situations (Hofstede 1997) and hence is very close to the definition of trust, which incorporates an intention to accept vulnerability (Rousseau et al. 1998). Therefore we argue that uncertainty avoidance should have a comparably stronger moderating influence on trust-building processes than other cultural values. Most studies on cross-cultural trust differences however discuss these differences, e.g. in the importance of personal relationships for the development of trust, based on secondary data of differences in collectivism/individualism between countries (Money, Gilly and Graham 1998; Yamagishi and Yamagishi 1994). As our results show that secondary data do not necessarily have a predictive value for a given target group, these results require replication with primary data on cultural values that allow to actually pinpoint the cause of these effects.

## Tables and Figures

**Figure 1**  
**Conceptual Framework and Research Model**



**Table 1**  
**Reliability Measure**

Scales	Cronbach's $\alpha$						
	China	Australia	India	Germany	Poland	Mexico	Combined
Ability	.89	.93	.85	.88	.87	.95	.90
Benevolence	.81	.68	.71	.82	.79	.80	.78
Word-of-Mouth	.65	.90	.83	.78	.82	.88	.82
Calculation	.88	.83	.91	.86	.92	.92	.89
Integrity	.84	.92	.88	.87	.91	.94	.89
Prediction	.70	.81	.73	.85	.81	.85	.81
Trust	.76	.91	.86	.83	.88	.90	.86
Propensity to Trust	.76	.85	.84	.87	.85	.89	.86
Uncertainty Avoidance	.89	.87	.91	.80	.89	.82	.86

**Table 2**  
**Correlations for Independent and Dependent Factors for the Entire Sample**

Scales	a	b	c	d	e	f	g
a. Ability	1.00						
b. Word-of-Mouth	.320***	1.00					
c. Benevolence	.551***	.317***	1.00				
d. Predictability	.432***	.277***	.405***	1.00			
e. Calculation	.334***	.137***	.190***	.128***	1.00		
f. Integrity	.608***	.343***	.520***	.512***	.299***	1.00	
g. Trust	.570***	.294***	.518***	.210***	.210***	.668***	1.00

N = 1133; \*\*\* p < .001; \*\* p < .01; \* p < .05

**Table 3**  
**Differences in the Level of Uncertainty Avoidance between the Six Countries compared with Hofstede**

Uncertainty Avoidance				
	Mean	SD	Transformed values	Hofstede (2007)
Australia	5.01	1.06	72	51
China	4.83	1.20	69	30
Germany <sup>1</sup>	4.24	0.95	61	65
India	5.18	1.29	74	40
Mexico	4.83	1.18	69	82
Poland	4.80	1.21	69	60

**F = 19.002\*\*\* df 5**

\*\*\* Difference significant at  $p < .001$ ; <sup>1</sup> The Scheffè-Test shows significant differences between Germany and all other countries at  $p < .001$ . No differences could be found between the other countries.

**Table 4**  
**Results for the Measurement Model for the Low vs. High Uncertainty Avoidance Group**

	$\chi^2$	df	$\chi^2/df$	GFI	AGFI	TLI	CFI	RMSEA
Low UA	320.170	215	1.49	.93	.90	.97	.98	.039
High UA	551.67	215	2.57	.94	.92	.96	.97	.046

(Low UA Group: n = 324) (High UA Group: n = 741)

**Table 5**  
**Simultaneous Test of Invariance of Factor Loadings between High and Low Uncertainty Avoidance cultures**

	$\chi^2$	df	$\Delta\chi^2$	$\Delta df$
Unconstrained Model	871.94	430		
Fully Constrained Model	913.13	447	41.19***	17
Partially Constrained Model	891.67	442	19.74	12

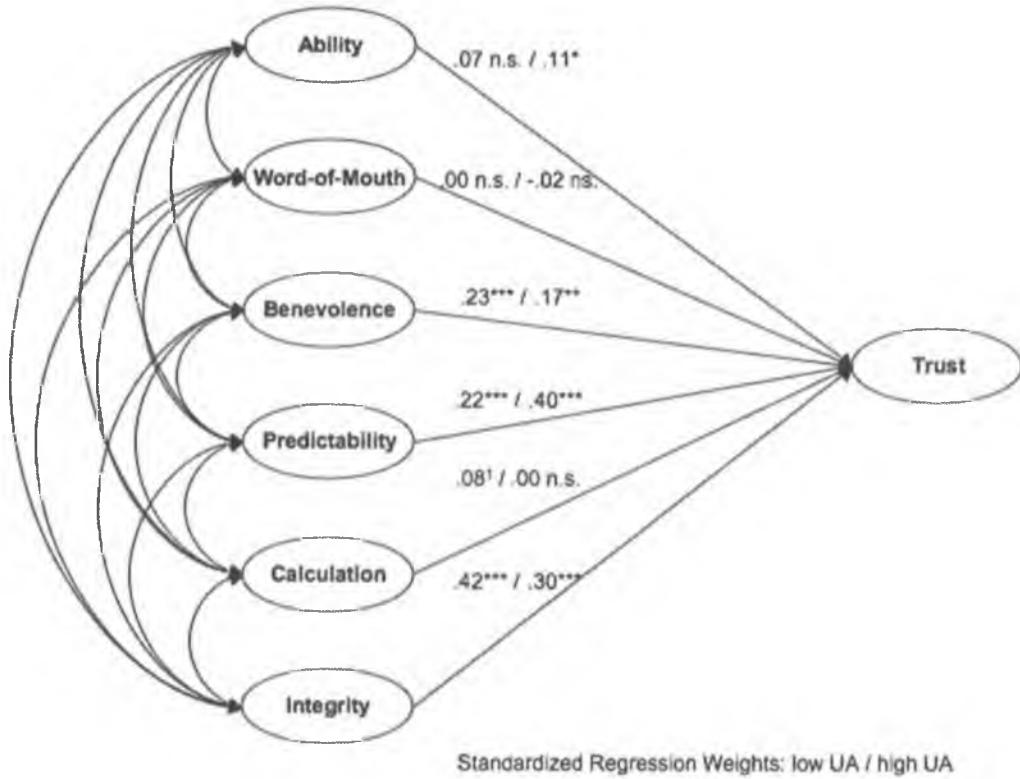
\*\*\* Difference significant at  $p < .001$

**Table 6**  
**Simultaneous Test of Invariance of the Regression Weights between High and Low Uncertainty Avoidance cultures**

	$\chi^2$	df	$\chi^2/df$	GFI	AGFI	TLI	CFI	RMSEA
Unconstrained	940.20	442	2.13	.93	.91	.96	.97	.033
Fully Constrained	953.20	448						
	$\Delta\chi^2$	$\Delta df$						
	13.00*	6						

Difference significant at  $p < .05$

**Figure 2**  
**Structural Model with standardized Regression Weights**



**Table 7**  
**Standardized Weights of the Regression on Trust for the Low vs. High Uncertainty Avoidance Groups and T-Values Comparing both Groups**

Independent Variables	Low UA		High UA		T Value Comparing both Groups <sup>2</sup>
	Unstandardized Regression Weight	SE	Unstandardized Regression Weight	SE	
H 1: Ability	.075 n.s.	.068	.118*	.050	.489 n.s.
H 2: Word-of-Mouth	-.012 n.s.	.028	-.003 n.s.	.024	-.104 n. s.
H 3: Benevolence	.216***	.068	.203	.067	.117 n.s
H 4: Predictability	.253***	.065	.544	.080	2.267**
H 5: Calculation	.076 <sup>1</sup>	.045	-.002 n.s.	.031	-1.405 <sup>1</sup>
H6: Integrity	.395***	.068	.315***	.052	-.934 n.s.

\*\*\* p < .001; \*\* p < .01; \* p < .05; <sup>1</sup> p < .10

<sup>2</sup> one-tailed t-test for independent samples

**Table 8**

**Standardized Weights for the Regression of Word-of-Mouth on the Sources of Trust for the Low vs. High Uncertainty Avoidance Groups and T-Values Comparing both Groups**

Low UA	High UA
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Dependent Variable	Unstandardized		Unstandardized		T Value Comparing both Groups <sup>2</sup>
	Regression Weight	SE	Regression Weight	SE	
Ability	.248***	.068	.640***	.049	4.522***
Benevolence	.180***	.067	.594***	.051	4.654***
Predictability	.211**	.072	.562***	.055	3.662***
Calculation	.188 n.s.	.075	.234***	.061	1.594 <sup>1</sup>
Integrity	.304**	.066	.633***	.046	3.796***

\*\*\* p < .001; \*\* p < .01; \* p < .05; <sup>1</sup> p < .10

<sup>2</sup> one-tailed t-test for independent samples

**Table 9**  
**Simultaneous Test of Invariance of the Regression Weights between High and Low**  
**Uncertainty Avoidance cultures based on Hofstede's (2007) values**

	$\chi^2$	df	$\chi^2/df$	GFI	AGFI	TLI	CFI	RMSEA
Unconstrained Model	953.54	442	2.16	.93	.91	.96	.97	.033
Fully Constrained Model	962.01	448						
	$\Delta\chi^2$	$\Delta df$						
	8.47 n.s.	6						

# APPENDIX

## Measures

### Ability

1. My bank knows how to provide excellent service.
2. My bank is competent and has a lot of expertise.
3. The quality of my bank's services is very high.
4. Overall my bank is an experienced financial institute.

### Benevolence

1. The intentions of my bank are benevolent.
2. My bank pursues predominantly egoistic aims.
3. My bank acts in my best interest.
4. It is the aim of my bank to actually help me.

### Word-of-Mouth

1. My bank already has provided good services for my friends or my family.
2. Friends of mine already have made good experiences with my bank.
3. Friends of mine have recommended my bank to me.
4. Friends of mine have told me positive things about my bank.

### Calculation

1. It would do harm to my bank to provide me with bad services.
2. A minor service quality would have negative consequences for my bank.
3. Making mistakes would be of disadvantage for my bank.
4. Incorrect behavior would do harm to my bank.

### Integrity

1. The information my bank provides is reliable.
2. Promises made by my bank are reliable.
3. My bank keeps the promises it makes me.
4. My bank deals with me in a predictable way.

### Prediction

1. I know what I can expect from my bank in the future.
2. I am quite certain about how my bank will act in the future.
3. I do not expect surprising (positive or negative) activities of my bank.
4. My bank deals with me in a predictable way.

### Trust

1. I have a trusting relationship with my bank.
2. Even if not monitored, I trust my bank to do the job right.
3. Overall I trust my bank

### Propensity to Trust

1. I generally trust other people.
2. I tend to count upon other people.
3. I generally have faith in humanity.
4. I feel that people are generally reliable.

## **Uncertainty Avoidance**

1. It is important to have instructions spelled out in detail so that I always know what I'm expected to do.
2. It is important to closely follow instructions and procedures.
3. Rules and regulations are important because they inform me of what is expected of me.
4. Standardized work procedures are helpful.
5. Instructions for operations are important.



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