

ONLINE SERVICES AND CULTURAL DIVERSITY: APPLYING HOFSTEDE'S FRAMEWORK TO PREDICT POTENTIAL DESIGN ISSUES

Fabian Segelström and Stefan Holmlid

Linköping University, Sweden

ABSTRACT

The spread of Internet has brought great opportunities to online service providers, but also new challenges. One is to take the cultural background of the individual customer into account. This paper explores the potential use of Hofstede's cultural framework as a tool to predict potential issues in cross-cultural service marketing on the Internet. The study was performed through a qualitative analysis of how a total of 47 online services have been shaped in four countries. The results of the evaluation indicate that Hofstede's cultural framework can be used in a set of tools to design online services.

INTRODUCTION

National borders are less obvious on the Internet compared to offline, allowing customers to choose the service they want to use from a wider range than is possible in the physical world. This brings great opportunities to service providers on the Internet, but it also brings new challenges. One obvious example is that the cultural background of the individual customer will influence her service expectations (Pullman, Verma, & Goodale, 2001; Crotts & Erdmann, 2000).

This paper explores cultural aspects of services through the use of Hofstede's cultural framework (Hofstede & Hofstede, 2005), which previously has been applied to offline services repeatedly (Pullman, Verma, & Goodale, 2001; de Mooij & Hofstede, 2002; Kanousi, 2005; Zeithaml & Bitner, 2000; Crotts & Erdmann, 2000) as well as to website evaluation (Marcus & West Gould, 2000). The potential of the framework for online services was explored through a qualitative analysis of how services have been shaped in various countries. Four countries with similarities as well as differences according to Hofstede's classification were chosen: Germany, India, the UK and the US.

Three different categories of websites were chosen for the comparison: online dating, price comparison and travel agencies. These categories define three different genres of online services. Three or four websites in each category and country of origin were analysed according to Hofstede's framework, bringing a total of 47 websites that were analyzed.

BACKGROUND

The background chapter consists of three sections. The first one introduces the theories of Geert Hofstede, with examples of previous adaptations to the service sector in the second section. The third section briefly introduces the design perspective on services which underlies this study.

Hofstede

During the 1970s a growing awareness of the impacts of cultural differences to businesses lead to an interest in explaining these differences. A number of models to tackle such issues were developed. The one which, arguably, became the most influential was developed by Geert Hofstede (Gong, Zhang, & Stump, 2007). First presented to the public in 1980, it has been published in several versions over the years (Hofstede & Hofstede, 2005). The model has been applied to various fields since it was introduced, such as studies of global internet use (Gong, Zhang, & Stump, 2007), website design (Marcus & West Gould, 2000), evaluation of travel services (Crotts & Erdmann, 2000) and service recovery expectations (Kanousi, 2005).

The model was created based on data from a major survey within IBM, which had been conducted in over fifty countries. Hofstede argued that the similarity of the respondents were of advantage. As the sample was almost perfectly matched, any systematic differences which could be found between countries should be possible to relate to a difference in national values. The collected answers were analyzed through factor analysis and Hofstede found four categories of issues which were common between all countries – the difference was in how they were handled. These four issues were translated into dimensions, in which all countries in the study received a score based on their values. The scores were intended to go between 0-100 but in some rare cases countries scored over 100. The scale is only to show differences and not to rate better or worse. (Hofstede & Hofstede, 2005)

Shortly after the initial publication Hofstede met with a researcher working in Hong Kong who had done a similar study with similar results. However they were both westerners and concerned about the effect that might have. This led to a new survey being developed in collaboration with Chinese social scientists. The results of this new survey led to a fifth dimension being introduced into the model. (Hofstede & Hofstede, 2005)

The five dimensions found by Hofstede are: Power distance, Individualism vs Collectivism, Masculinity vs Femininity, Uncertainty avoidance and Long-term orientation. They are all described in greater detail in the following sections, based on Hofstede & Hofstede (2005).

Power distance (PD) concerns itself with how “less powerful members of institutions and organizations expect and accept that power is distributed unequally” (Hofstede & Hofstede, 2005, p. 46). A high score indicates that members of the society accept large differences. Examples of high-scoring countries are Malaysia, Guatemala and Panama whereas Austria, Israel and Denmark are the three countries with the lowest scores.

Individualism vs Collectivism (IDV) relates to how members of a society place themselves in relation to their society. In individualistic countries the ties are loose and people are expected to look after themselves and their immediate family. On the other hand collectivism leads to that people are primarily perceived according to which group they belong. High scores mean that countries are individualistic and low that they are collective. Examples of individualistic countries are USA, Australia and Great Britain whereas Guatemala, Ecuador and Panama are collectivistic.

Masculinity vs Femininity (MAS) is somewhat unluckily named as it gives association to gender issues, although it doesn't concern itself with them. What it does concern is how stable and flexible emotional gender roles are. In masculine societies men are supposed to

behave in a certain way, and women in another whereas the expectations in behaviors are overlapping between the genders in feminine societies. Examples of masculine countries are Japan, Austria and Venezuela whereas Sweden, Norway and the Netherlands are the three most feminine countries.

Uncertainty avoidance (UAI) deals with how people handle anxiety (not to be confused with risk – risk is focused on something specific whereas UAI deals with the unspecific general). Hofstede's definition is "the extent to which members of a specific culture feel threatened by ambiguous or unknown situations". The three countries with the highest scores (and thus most threatened by ambiguous situations) are Greece, Portugal and Guatemala whereas the lowest scoring countries were Singapore, Jamaica and Denmark.

Long-Term vs Short-Term Orientation (LTO) is the dimension which was added after the second survey and deals with which kind of values are fostered. A country with a long-term orientation fosters virtues for future rewards, virtues like perseverance and thrift. Short-term oriented countries focus on rewards in the present. Typical virtues are preservation of face and fulfilling social obligations. Examples of countries that scored high are China, Hong Kong and Taiwan. The lowest scoring countries are Pakistan, Nigeria and the Phillipines.

In the next section previous studies in which Hofstede's framework has been applied on the service sector are introduced.

Previous use of Hofstede in the service domain

Since its initial publication in 1980, Hofstede's work has risen to, arguably, become the most popular cultural theory for business scholars. Sivakumar & Nakata (2001) surveyed the use of Hofstede's framework and found that the initial publication was cited 1,101 times according to the Social Sciences Citations Index and that Hofstede was the third most cited author in international business studies between 1989 and 1994 (Chandy & Williams, 1994, in Sivakumar & Nakata, 2001).

Studies of interest where Hofstede's framework has been applied for services, ranging from acceptance as a matter of fact to testing correlations between service expectations and specific dimensions, include evaluation of travel services (Crofts & Erdmann, 2000), service recovery expectations (Kanousi, 2005), convergence and divergence in consumer behaviour (de Mooij & Hofstede, 2002) and service advertising (Tai & Chan, 2001). The research on international services has been focused on the strategic implications, rather than how to create good services for an international audience (Pullman, Verma, & Goodale, 2001).

The research that has been done in how national cultures and habits influence services, supports the notion that there is a need for a framework that handles cultural differences. Crofts & Erdmann (2000, p. 410) found that "national cultural differences are one of many forces influencing consumer decision making", Pullman, Verma, & Goodale (2001) managed to help a food-service vendor at an international airport to increase its revenue gain significantly by cultural segmentation and Winsted (1997, in Stauss & Mang, 1999, p. 335) found that customers from the different cultures evaluate services differently. Kanousi (2005) found that three dimensions influence service recovery expectations - individualism, masculinity, and long-term orientation. Zahir, Dobing, & Hunter (2002) analyzed Web portals from different countries according to Hofstede's dimensions and found that there is a standard layout based on the one of the first web portal (Yahoo!), but that the variance in

design and service differences can be attributed according to predictions based on Hofstede's dimensions.

Services and design

A perspective that has been important within service research and practice over a long period of time is to view the service from a customer perspective. This could be viewed as a consequence of the nature of services or of a service-dominant logic (Edvardsson, Gustafsson, Johnson, & Sandén, 2000; Vargo & Lusch, 2004).

A recent discipline taking the human-centered perspective as its starting point is service design (Evenson, 2005). Services have in earnest been a focus for design since the early 1990's (Erlhoff, Mager, & Manzini, 1997; Manzini, 1993; Mager, 2004).

Design theorist Richard Buchanan identifies four orders of design. They are distinguished by their design object. The design objects are signs, products, actions and thought. The corresponding design disciplines are graphic design, industrial design, interaction design, and environmental design (Buchanan, 2001). Service design should be positioned along an axis from interaction into environmental (Holmlid, 2007).

Holmlid & Evenson (2007) draws on experiences and research from human-centred design, assuming that services, to become real, require products, performance, and processes co-produced by client(s) and service personnel. In the paper methods for prototyping services are described that are based on performances, narratives, and enactments. Similar suggestions are made by Mager (2004), Evenson (2005) and Moritz (2005).

Furthermore, Sangiorgi and Pacenti (2008) define three main emerging practices for service design, *service interactions*, *co-creation within complex systems*, and *platforms for participation*. All three carry with them a high degree of complexity, which is a character put forward in several other areas of services research (Hefley & Murphy, 2008). These practices are also design perspectives that may be taken by a designer on any service design object, highlighting different aspects of the service and the design challenges (Holmlid, 2009).

Designing for customer expectations on online services in most cases is referred to as taking the perspective of service interactions, although the services in themselves might be composed of interacting complex systems.

METHODOLOGY

The study was conducted with websites from four countries: Germany, India, UK and USA. The criteria for selecting countries were that they should represent various cultural values, according to Hofstede's original scores, and that the language spoken should be known by the primary researcher. The study was performed in relation to a study conducted at sedes research, who had selected 15 countries for their study. Based on the criteria Germany, India and USA were chosen as the three most suitable countries, and UK was added as a fourth due to its very similar scores in comparison to the USA as a form of internal validation. The countries scores as calculated by Hofstede are presented in Table 1 below.

Table 1 Scores on Hofstede's dimensions for the countries in the study. Adapted from Hofstede & Hofstede (2005).

	PD	IDV	MAS	UAI	LTO
Germany	35	67	66	65	31
India	77	48	56	40	61
UK	35	89	66	35	25
USA	40	91	62	46	29

When the countries had been selected three types of service websites were chosen. They were selected as typical of a certain relation of a service provider-customer interaction. The three relations and the service categories, or genres, chosen were:

- Selling the customer a service or product: Travel agency
- Helping customers to find other persons: Online dating
- Helping the customer to solve a problem: Price comparison

From each genre four websites were chosen to avoid that one odd website should affect the whole study. There is one exception to this rule, there are only three Indian price comparison websites included in the study as most players on the Indian market were multinational. Steps were taken to exclude websites which weren't owned by companies from the country at hand, such as exploring ownership issues before selecting a website to be included in the study. In total 47 websites were investigated as a part of the study.

For the actual testing of the websites a new methodology dubbed "Cultural Walkthrough" (Segelström, 2008) was used. Cultural Walkthrough is based on Cognitive Walkthrough (Wharton, Rieman, Lewis, & Polson, 1994) on the one hand, and by the approach taken by Marcus & West Gould (2000) on the other. A standard procedure was developed with a number of questions to be answered by the researcher for each website and category within Hofstede's framework. The questions were based on predictions by Hofstede on how cultural traits would manifest themselves and translated into services specific issues.

The procedure for each individual website was to browse through the navigational structure in a systematic exploration, for 30-60 minutes. This was done to create an understanding of the site structure. Thereafter the questions were answered, through further examination of the sections of the website at hand that were relevant for the specific question. The average time spent on a website was 1,5-2 hours. When all questions had been answered, an overall estimation was made for each dimension on a five point scale. A five point scale was chosen over a detailed quantitative scale would have made qualitative reasoning complicated, and might have obscured some of the findings. The five point scale was translated to scores of 0, 25, 50, 75 and 100 for each dimension. When all websites had been visited the average scores for each country and dimension were calculated for the three categories of websites.

RESULTS

The scores for each country and service genre are presented in Table 2-Table 5 below.

Table 2 German scores for each website category for Hofstede's dimensions.

Germany	PD	IDV	MAS	UAI	LTO
Dating	37,5	75	25	50	31,25
Travel agency	43,75	68,75	31,25	50	37,5
Price comparison	43,75	62,5	68,75	50	25

Table 3 Indian scores for each website category for Hofstede's dimensions.

India	PD	IDV	MAS	UAI	LTO
Dating	50	43,75	62,5	56,25	68,75
Travel agency	56,25	37,5	56,25	62,5	68,75
Price comparison	66,67	58,33	66,67	83,33	58,33

Table 4 UK scores for each website category for Hofstede's dimensions.

U.K.	PD	IDV	MAS	UAI	LTO
Dating	31,25	87,5	37,5	31,25	37,5
Travel agency	37,5	68,75	50	12,5	31,25
Price comparison	37,5	62,5	56,25	56,25	37,5

Table 5 USA's scores for each website category for Hofstede's dimensions.

USA	PD	IDV	MAS	UAI	LTO
Dating	37,5	75	56,25	37,5	37,5
Travel agency	62,5	75	50	31,25	43,75
Price comparison	56,25	68,75	50	56,25	31,25

ANALYSIS

The mean scores for each country and each factor across all three service genres were calculated. These scores are presented in Table 6.

Table 6 Mean scores for each country and dimension.

	PD	IDV	MAS	UAI	LTO
Germany	42	69	42	50	31
India	57	45	61	66	66
UK	35	73	48	33	35
USA	52	73	52	42	38

Additionally, the difference between the scores obtained and those presented by Hofstede were calculated and are presented in Table 7 below. Hofstede's scores are used as a basis for the calculations, with a plus in front of scores that are higher in the study presented herein and vice versa.

Table 7 Difference between scores in the study and scores obtained by Hofstede.

	PD	IDV	MAS	UAI	LTO
Germany	+7	-2	-24	-15	0
India	-20	+3	+5	+26	+5
UK	0	-16	-18	-2	+10
USA	+12	-18	-10	-4	+9

As can be seen there are no obvious similarities in the difference between Hofstede's scores and the ones obtained from the study presented here when looked upon from a country perspective, but there are several emerging patterns. One of the more interesting patterns is that it holds for each country that they there are within 10 points of the scores suggested by Hofstede on three out of the five dimensions.

If one looks on the dimensions instead, one can quickly see that LTO stands out as all countries obtained a score within 10 points of the one suggested by Hofstede. For the four other countries it holds that two out of the four countries received a score within 10 points from the one suggested by Hofstede.

There is also a pattern in which the scores for India move away from the ones suggested by Hofstede in the opposite direction compared to the three other countries included in the study. This holds for all dimensions except LTO. As the investigation was conducted by a researcher who has lived in western countries throughout his life it seems plausible that the scores have a western-bias in them (just as Hofstede's original dimensions had). Since LTO was conceived after the survey based on Chinese values had been performed, it seems likely that this dimension could behave in a different way than the dimensions conceived on western values.

DISCUSSION

Our data gives some support to Hofstede's theories, but not full support. We see that there are situations in which Hofstede's work can influence the process of designing online services.

When analyzing the data dimension by dimension, we see that LTO is the only dimension for which all countries score within ten points from the score suggested by Hofstede. For the rest of the dimensions there are no such. This indicates that the degree of generalizability for a specific country is low.

Instead we suggest that Hofstede's framework can be used as a rough guide in the initial designing of a service to guide design directions, but that it has to be complemented by other approaches, where user/customer involvement is the most crucial.

If one changes the focus of the analysis from the country level to the dimensions, one can find interesting patterns. In Table 8 and Table 9 below, the data presented above is presented with the dimensions IDV and UAI as a base instead of the countries.

Table 8 Findings for IDV-dimension

IDV	Germany	India	UK	USA
Dating	75	43,75	87,5	75
Travel agency	68,75	37,5	68,75	75
Price comparison	62,5	58,33	62,5	68,75

Table 9 Findings for UAI-dimension

UAI	Germany	India	UK	USA
Dating	50	56,25	31,25	37,5
Travel agency	50	62,5	12,5	31,25
Price comparison	50	83,33	56,25	56,25

What is interesting with these tables are that both show the specific character of one of the genres and how this is correlated to the dimensions at hand. For IDV the dating-genre scored the highest for the western countries in which marriage usually is an act of love, which we see as something very individualistic. For India, on the other hand, the dating genre scored much lower. Without performing proper user studies it is hard to draw conclusions from this, and merely speculating that this should be expected from a country in which most marriages are arranged, is not enough.

For UAI there is a similar pattern, with one genre standing out; price comparison. The goal of a price comparison service can be described as removing the anxiety of choosing between various stores in search of the best price. Given that, it can be expected that the price comparison category should have the highest score for each country on UAI (albeit all genres score the same in the German case).

These two cases underline the need to fully understand the context in which a service is launched as well as informing us on how Hofstede's framework can be adapted to guide the development of a service. If, for example, one is to launch an online service for retirement funds in a country, it is likely to be a good idea to let the initial design be influenced by the long-term orientation of that country's population whereas the MAS-dimension is less likely to provide valuable insight for the designers of the service.

The western-bias found in the data provides an important lesson for designers of services. Humans can never completely remove their socio-cultural background from their work, and thus it will influence human judgment and results achieved. What can be done is to articulate them and thus become aware of them and their influence on the work done.

To summarize, there are two conclusive directions brought forward by the study reported in this paper. The first is that using Hofstede can show tendencies and provide grounding for coarse design decisions, but give little direction for detailed design decisions without proper grounding with actual user studies and user-centered design with the prospective users. The second is that when an online service has been developed for a specific market and is successful on that market it might bring support for prioritization. That is, if the genre has a key character, such as UAI for Price Comparison, it will be easier to redesign the service for launch on a market with similar score on that key character, and the redevelopment costs can be held lower.

To be able to capitalize on the knowledge brought forward by Hofstede's model a development organization need to be able to perform goal-directed user-centered design work and carefully analyze genre specific characters of the online services they develop.

REFERENCES

Buchanan, R. (2001). Designing research and the new learning. *Design Issues* , 17 (4), 3-23.

- Crotts, J. C., & Erdmann, R. (2000). Does national culture influence consumers' evaluation of travel services? A test of Hofstede's model of cross-cultural differences. *Managing Service Quality*, 10 (6), 410-419.
- de Mooij, M., & Hofstede, G. (2002). Convergence and divergence in consumer behavior: implications for international retailing. *Journal of Retailing* (78), 61-69.
- Edvardsson, B., Gustafsson, A., Johnson, M. D., & Sandén, B. (2000). *New service development and innovation in the new economy*. Lund: Studentlitteratur.
- Erlhoff, M., Mager, B., & Manzini, E. (1997). *Dienstleistung braucht Design - Professioneller Produkt- und Markenauftritt für Serviceanbieter*. Berlin: Hermann Luchterhand Verlag GmbH.
- Evenson, S. (2005). Designing for Service. *Proceedings of DPPI*. Eindhoven.
- Gong, W., Zhang, G. L., & Stump, R. L. (2007). Global internet use and access: cultural considerations. *Asia Pacific Journal of Marketing and Logistics*, 19 (1), 57-74.
- Hefley, B., & Murphy, W. (Eds.). (2008). *Service Science, Management and Engineering - Education for the 21st Century*. Springer.
- Hofstede, G., & Hofstede, G. J. (2005). *Cultures and Organizations - Software of the mind* (2 ed.). McGraw-Hill.
- Holmlid, S. (2007). Interaction design and service design: Expanding a comparison of design disciplines. *Nordes*. Stockholm.
- Holmlid, S. (2009). There's more to services than interaction. In A. Meroni, & D. Sangiorgi, *Design for Services*. London: Gower Publishing.
- Holmlid, S., & Evenson, S. (2007). Prototyping and enacting services: Lessons learned from human-centered methods. *Proceedings from the 10th Quality in Services conference, QUIS 10*. Orlando, Florida.
- Kanousi, A. (2005). An empirical investigation of the role of culture on service recovery expectations. *Managing Service Quality*, 15 (1), 57-69.
- Mager, B. (2004). *Service design: A review*. Köln: KISD.
- Manzini, E. (1993). Il Design dei Servizi. La progettazione del prodotto-servizio. *Design Management* (7).
- Marcus, A., & West Gould, E. (2000). Crosscurrents - Cultural Dimensions and Global Web User-Interface Design. *interactions*, 32-45.
- Moritz, S. (2005). *Service Design: Practical Access to an Evolving Field*. Cologne, Germany: Köln International School of Design.
- Pullman, M. E., Verma, R., & Goodale, J. C. (2001). Service design and operations strategy formulation in multicultural markets. *Journal of Operations Management*, 19, 239-254.
- Sangiorgi, D., & Pacenti, E. (2008). Emerging practices of Service Design driven innovation. *Service design conference 2008*. Amsterdam.

Segelström, F. (2008). *Service Design and Cultural Expectations on Services: Applying Hofstede's Cultural Dimensions to Services*. Linköping: Linköpings Universitet.

Sivakumar, K., & Nakata, C. (2001). The Stampede Toward Hofstede's Framework: Avoiding the Sample Design Pit in Cross-Cultural Research. *Journal of International Business Studies* , 32 (3), 555-574.

Stauss, B., & Mang, P. (1999). "Culture shocks" in inter-cultural service encounters? *Journal of Services Marketing* , 13 (4-5), 329-346.

Tai, S. H., & Chan, R. Y. (2001). Cross-cultural studies on the information content of service advertising. *Journal of services marketing* , 15 (7), 547-564.

Vargo, S. L., & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing* , 68 (January), 1-17.

Wharton, C., Rieman, J., Lewis, C., & Polson, P. (1994). The Cognitive Walkthrough: A practitioner's guide. In J. Nielsen, & R. L. Mack, *Usability Inspection Methods*. John Wiley and Sons, Inc.

Zahir, S., Dobing, B., & Hunter, M. G. (2002). Cross-cultural dimensions of Internet Portals. *Internet Research: Electronic Networking Applications and Policy* , 12 (3), 210-200.

Zeithaml, V., & Bitner, M. J. (2000). *Service Marketing*. New York: McGraw Hil.