

The World Wide Web as a Globalising Catalyst Consequence for Cross-Cultural Web Interface Design

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- globalisation
 - localisation
 - web user interface design
 - cultural differences
 - cultural value orientations
 - Hofstede's cross-cultural theory
 - online culture
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In the light of the existing literature on the issue of cross-cultural interface design, we carried out a small-scale study with the participation of 16 modern language students, with a view to ascertain cultural differences in local homepages, specifically those of universities. Our predictions with regard to cross-cultural variation were based on Hofstede (1997). Contrary to expectations, the students reported very little evidence of cultural differences in interface design. Subsequently, an online survey was conducted among webmasters of university web sites in an attempt to provide preliminary explanations for the unexpected findings. It would seem that the Internet has promoted the emergence of a cosmopolitan online culture, a hybrid culture overriding traditional cultural differences.

Culture has been acknowledged to be a significant barrier to globalisation. Web developers are becoming increasingly aware that, in order to attract and retain more customers, it is vital for their global web sites or products to be culturally sensitive, i.e. to accommodate the users' cultural identity. Members of a culture do not only share a common language, but also common cultural conventions. Since measurement units, keyboard configurations, default paper sizes, character sets and notational standards for writing time, dates, addresses, numbers, currency, etc differ from one culture to another, it is self-evident that global web sites should address these issues. Some jokes, symbols, icons, graphics or even colours may be completely acceptable in one country, but trigger negative reactions in another country. Sometimes the style or tone of the site's text might even be considered offensive by a particular cultural entity, as a result of which the text is to be rewritten rather than merely translated. But even if all these fairly transparent cultural variables are implemented in a web site, there is still no absolute guarantee that the result will be sufficiently culturally competent.

Nielsen and Del Galdo (1996) stress that localisation should encompass more than a 'surface-level' adaptation, by acknowledging underlying cultural differences such as interface design preferences and the perception of usability by the local culture. The role of culture in user interface acceptance has also been addressed by Evers and Day (1997). Barber and Badre (1998) detected the existence of cultural markers, i.e. web design elements which are prevalent in web sites of a particular culture (e.g. colour, icons, symbols). Sheppard and Scholtz (1999) and Sun (2001) conducted pilot studies to determine if the absence or presence of cultural markers affect the user's preference or performance. Although they ascertained some differences in performance, these did not connect with the preference ratings of their participants.

Cultural differences have also been investigated from an anthropological perspective, looking at intangible cultural nuances, such as social hierarchy, individualism, gender roles, attitude towards uncertainty and time-orientation (Marcus and Gould, 2000; Dormann and Chisalita, 2002). According to cultural anthropologist Hofstede (1997), cultural differences are based in deeply-rooted values which can be categorised along five fundamental dimensions: power distance, collectivism/individualism, masculinity/femininity, uncertainty avoidance, and long and short-term orientation. His research is based on a large-scale survey which was carried out between 1967 and 1973 and which covered 53 countries representing the major regions of the world. These were rated for each dimension, usually on a scale from 0 to 100. Marcus and Gould (2000) attempt to apply those dimensions to global web interface design, providing suggestions and guidelines to produce successfully localised web sites. Dormann and Chisalita (2002) conducted an empirical study in order to determine the extent to which value orientations are expressed in sites from 'masculine' and 'feminine' countries and to examine value differences between participants from countries of both poles.

The Applied Linguistics Department of the Erasmus College of Brussels offers localisation courses and seminars. In the light of the existing literature on the issue of cross-cultural interface design, we decided to engage students in action research to ascertain design differences through the analysis of local university homepages. As web sites are being developed in many different cultures around the world, we assumed that interface designs would be influenced by the culture in which they originated and would thus reflect value orientations in accordance with Hofstede's theory. As we shall see below, to our surprise, the students' reports contained little evidence of clear cross-cultural differences in design. Subsequently, an online survey was conducted among webmasters of university web sites in an attempt to provide preliminary explanations for the unexpected findings.

The study was carried out in December 2003 and involved 16 modern language students who had attended a class outlining Hofstede's cultural model. Our methodology was somewhat inspired by Dormann and Chisalita's (2002) experiment. Our goal was to have the students determine the extent to which the homepage design of local web sites reflected the Hofstede score assigned to their country for different cultural dimensions.

Constraints and Limits of the Study

We decided to restrict our study to Hofstede's four initial dimensions, i.e. power distance, collectivism/individualism, masculinity/femininity, and uncertainty avoidance.

We also concentrated on only one domain, university web sites, in order to rule out any domain-specific differences. Students were asked to evaluate only the homepage, focusing on the visual parameters (images, symbols, logos, etc) and design elements (colour, layout, etc), since they would evaluate university homepages from countries of which they did not always master the language. All 16 participants were Belgian students, ten female and six male, aged between 19 and 24.

Method

Each of the four dimensions was examined by four students. Within one dimension, each student was asked to make a random selection of five universities from at least three of the seven highest ranked countries, and five universities from at least three of the nine lowest ranked countries from a university portal site (Universities Worldwide at <http://univ.cc>, last accessed January 2004). In total, 40 homepages were analysed per dimension, 20 homepages representing each pole of the dimension (see appendices 1, 2, 3 and 4 for the list of analysed homepages).

Next, participants were requested to fill out a questionnaire which offered them a recapitulation of the dimension they had to analyse as well as a number of questions. The first question asked the participants to give their general impression of the homepage. Secondly, students were given a concise list of various subjective adjectives which could be reflective of cultural trends, and were asked to check the ones they felt to be relevant to the homepage. The list included the following options: attractive, bright, cheerful, dull, formal, informal, artistic, personal, impersonal, distant, concise, clear, simple, modern, old fashioned, busy, complex, nice, innovative, showy and dark.

Afterwards students were asked to rate from 1 to 5 the extent to which value orientations were expressed in the homepages from countries with extreme scores, by means of auxiliary criteria representing cultural values extracted from Hofstede's theory. The rating scale was as follows: 1 = not applicable, 2 = hardly applicable, 3 = applicable to some extent, 4 = clearly applicable and 5 = strongly applicable. For a score superior to three, participants had to clarify from which elements they perceived the given value in the page. Finally, students had to rate from 1 to 5 the extent to which they had found that the homepage reflected the high or low score of its country of origin for the dimension analysed. Here the rating scale was: 1 = not perceptible, 2 = hardly perceptible, 3 = perceptible to some extent, 4 = clearly perceptible and 5 = strongly perceptible. We shall call this the general perceptibility rating. After the analysis of the ten homepages, the participant was asked to describe the main differences in design between the five high-score homepages and the five low-score homepages.

The questionnaires were identical across the four dimensions, except for the auxiliary criteria representing value orientations, which were chosen for each dimension separately.

Power Distance

The power distance dimension bears on the extent to which unequal power distribution within a culture is expected and accepted. Based on Hofstede's writings, we gathered the following criteria:

- Focus on hierarchy
- Focus on teaching/management staff
- Healthy respect/obedience of inferiors towards superiors
- Focus on tradition and/or religion

- Focus on equality between teacher and student
- Focus on student

- Mutual respect between inferiors and superiors
- Focus on personal development

Collectivism/Individualism

This dimension refers to the degree of integration of individuals within groups and the extent to which individual concerns precede the interests of the group, and vice versa. These are the criteria we retained for rating:

- Individual interests prevail over collective interests
- Focus on personal development and self-realisation
- Focus on freedom
- Collective interests prevail over individual interests
- Focus on tradition and/or religion
- Focus on consensus

Masculinity/Femininity

Masculinity and femininity refers to differences in the social roles of women versus men. Whereas in 'feminine' countries gender roles overlap, gender roles in 'masculine' countries are clearly distinct. Students were requested to rate the following criteria:

- Boys and girls are addressed separately
- Focus on ambition/competition and/or (material) success
- Women should be tender and modest and/or men should be hard, ambitious and assertive
- Boys and girls are addressed indiscriminately
- Focus on equality, solidarity and/or quality of life
- Men may be tender and modest and/or women may be hard, ambitious and assertive

Uncertainty Avoidance

Cultures have a different attitude towards uncertain or unknown matters. The tolerance for ambiguity is expressed through the extent to which a culture resorts to written or unwritten rules to maintain predictability. The value orientations to be rated for this dimension included:

- Rigid rules
- Focus on formality
- Great precision or punctuality
- Focus on tradition and/or religion
- Flexible rules
- Tolerance for informality
- Tolerance for ambiguity or vagueness
- Tolerance for evolution/change

Quantitative Results of the Empirical Study

The average general perceptibility ratings, i.e. the extent to which our participants perceived the local cultures' positions on Hofstede's four dimension scales, are presented in Table 1.

Table 1 Average general perceptibility ratings per pole and per dimension (on a 1 to 5 scale)

	five homepages from high-score countries	five homepages from low-score countries
Power Distance	2.5	3.4
Collectivism/Individualism	2.95	3.05
Masculinity/Femininity	1.45	3.25
Uncertainty Avoidance	2.6	3

Furthermore, students' reports contained two sets of quantifiable data: (i) the number of times they had ticked given adjectives in the list, and (ii) the scores (from one to five) on the auxiliary criteria they had given to the homepages. To check whether students' perceptions of the homepages differed significantly along with the host countries' positions on Hofstede's dimensions, we applied a chi square test to the former set of data and a Mann-Whitney U-test to the latter. In keeping with standard scientific practice we set statistical significance levels at $p < .05$ (two-tailed). The results will be handled for each dimension separately.

Power Distance

None of the adjectives in the list of descriptors was ticked significantly more often with regard to homepages from high power distance countries than with regard to homepages from low power distance countries. Neither did students' scores on the auxiliary criteria reveal any significant difference between their perception of homepages from high power distance countries and those from low power distance countries. As shown in table 1, the average scores given for the general perceptibility rating (on a 1 to 5 scale) of the local culture's position on the power distance dimension was 2.5 for homepages from high power distance countries and 3.4 for homepages from low power distance countries. It is conceivable, of course, that low power distance indicators may have been more perceptible to our students than high power distance indicators.

Collectivism/Individualism

We found no difference in the incidence of the adjectives ticked by the participants in response to homepages taken from countries positioned at opposite ends of the collectivism/individualism dimension. However, the Mann-Whitney U test showed that two auxiliary criteria were significantly more likely ($p < .05$) to be perceived in the homepages from individualistic countries than in the homepages from collectivist countries, namely 'individual interests prevail over collective interests' and 'focus on freedom'. In homepages from collectivist countries, the statement 'collective interests prevail over individual interests' was rated significantly ($p < .05$) higher than in individualistic homepages. According to the average of the scores for the

extent to which the homepages reflect the individualistic or collectivist orientation of their country (i.e. the general perceptibility rating), both poles were perceived to some extent: 2.95 for individualistic (high-score) and 3.05 for collectivist (low-score) countries (on a scale from 1 to 5).

Masculinity/Femininity

One adjective was found to have been ticked significantly more often in response to homepages from 'feminine' countries, i.e. the adjective nice ($p < .01$). However, no significant differences were found between students' assessments of the homepages' masculine and feminine value orientations. Students did observe that feminine values were slightly more strongly expressed in homepages from 'feminine' countries, but web sites from 'masculine' countries were also characterised as displaying some feminine values. In fact, the homepages from 'masculine' (high-score) countries were hardly found to reflect masculinity at all, with an average general perceptibility rating of 1.45. In 'feminine' (low-score) countries, femininity was found to be expressed to some extent in the homepages, with an average rating of 3.25 (on a scale from 1 to 5).

Uncertainty Avoidance

The distribution of the chosen adjectives did not reveal any significant variation in participants' descriptions of homepages from countries representing contrasting poles of the uncertainty avoidance dimension. Participants did not observe any clear differences between the given auxiliary criteria either. In other words, the analysed homepages displayed values applying to both poles. The average score given for general perceptibility was 2.6 for homepages from high uncertainty avoidance countries and 3 for homepages from low uncertainty avoidance countries (on a scale from 1 to 5).

Qualitative Results of the Empirical Study

At the end of the questionnaire, students were asked to sum up how (if at all) they had perceived the expected cross-cultural differences between the samples of homepages. From their observations, we can distil the following trends.

In most cases, participants based their evaluation on the homepage pictures and graphical representations, and their size and position in the homepage (central, in a corner, etc). To some extent, the page colours and its cheerful or formal appearance were decisive. The fact that, except for the adjective nice which was found most applicable to 'feminine' homepages, the chosen adjectives were not distributed in any significant ways, leads us to suspect that the participants did not really ascertain any clear, systematic design differences between homepages from countries representing contrasting poles in Hofstede's cultural dimensions. In fact, with reference to all four dimensions, most students reported that sometimes huge design differences existed among homepages from one single country. Instead of being fairly homogeneous, a given country's university homepages could be either extremely simple or complex, very dull or very interactive, innovative or very formal, etc.

For the power distance dimension, the visual representations appeared to have been the main criterion of evaluation. Did pictures represent buildings, professors, religious symbols or did students hold a prominent place? Eight of the 20 university homepages from high power distance countries actually portrayed students, usually laughing.

The most perceptible value orientation differences were found in the dimension collectivism/individualism. In 'collectivist' homepages, pictures of buildings or groups were found more prominently than in 'individualistic' homepages, which generally depicted smaller groups or individual students, often with smiling faces. Collectivism was strongly expressed in homepages from Latin American countries, and to a lesser extent in other collectivist countries.

According to our participants, 'masculine' homepages proved to display some feminine values. Pictures of girls appeared on 10 of the 20 'masculine' homepages. In their comments, the majority of the participants found the 'feminine' homepages more aesthetically appealing, which explains the significant incidence of the adjective nice (the adjective attractive was one indication short from significance). In 'feminine' countries, representations of people are more numerous than in 'masculine' countries. Students also wrote that they had been struck by the prominence of pictures of women in Scandinavian homepages.

The four students analysing the uncertainty avoidance dimension often also evaluated the page's complexity, especially the distinctness of the links and the scrolling quantity, and its degree of innovation. The homepages in low uncertainty avoidance countries were not found to be generally more complex or innovative than in high uncertainty avoidance countries. One student remarked that innovation and complexity are not reliable criteria, as they depend on the extent to which a country has been exposed to the web, and not only on the country's uncertainty avoidance.

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Summing up the Results

The results of the study show that, except for the dimension collectivism/individualism, value orientations were not clearly ascertained by the students in the analysed homepages. In view of the literature on cross-cultural variation in web site design (see above), we were surprised that our action research had generated so little corroboration of the hypotheses we had asked our students to put to the test. Moreover, given their expectations, we may assume that our participants were actually biased towards 'finding' cross-cultural differences (after all, they had knowledge of the homepages' countries of origin and those countries' scores on Hofstede's cultural dimensions).

Students reported that they had encountered difficulties while completing the questionnaire, as the homepages' design only slightly seemed to exhibit the value orientations. It needs to be acknowledged that, as a consequence of the participants' ran-

dom selections, some homepages were just too plain to extract any information and thus got a very low rating. Nevertheless, none of the average general perceptibility ratings was ³ ⁴ (i.e. clearly visible), which implies that no dimension was distinctly perceived. Moreover, responding to a 'random' sample of university homepages may more closely resemble authentic web browsing (and thus authentic 'confrontation' with other cultures) than responding to a pre-selection of homepages chosen by a researcher with a view to demonstrating 'culture-typical' designs.

We also wondered whether our participants' findings could be ascribed to their own cultural background. Since they were all Belgians, perhaps they were more / less likely to perceive things which were affinitive to their culture? However, a comparison between Belgium's score for the four cultural dimensions and our students' reports shows that they had not observed their own cultural value orientations any better nor worse.

Finally, we were confronted with two questions: (i) either our students were devoid of any cultural consciousness and had thus been unable to recognise culture-specific characteristics, and/or (ii) the evaluated local homepages did not actually reflect local culture as Hofstede's theory would predict. In order to estimate the degree of cultural identity of university web sites, we decided to query the webmasters of these sites about their methods when designing or redesigning them.

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Webmaster Survey

At the end of the month of December 2003, an email requesting to complete an online survey was sent to 223 webmasters of university web sites, among which the web sites (homepages) analysed by the students and more sites originating from countries with an extreme score for any of the four cultural dimensions. The survey's main goal aimed at finding out the extent to which webmasters or web development teams draw inspiration from other existing web sites when (re)designing the university web site. In order to mask our primary objective, we addressed several issues through questions of various types: multiple-choice, multiple-answer and open-ended.

We obtained 45 responses, which was more than we had hoped for. Thus, we discovered that the universities concerned generally redesign the web site in order to make it more attractive, more technologically sophisticated and more usable than the previous site. Most web sites covered by our survey are redesigned between every three and five years (62%), while 31% of the sites is changed every year or two years. The majority of the respondents seem to apply a hierarchically-based information structure. Of the 45 university sites, 59% turned out to be dynamic, whereas 41% was static.

To the question whether they happen to be inspired by the design or architecture of other existing web sites, 36% of the respondents answered that this was 'often' the case, 58% said 'occasionally' and only 6% answered 'never'. Of the 94% declaring

that they were indeed receptive to external influences, a modest majority (54%) claimed that they looked at in-country web sites, while the others (46%) checked web sites of various origins. From the latter group's specifications, it appeared that most webmasters do not have a preference for specific countries, but they often also visit same language countries. According to both groups of respondents' open-ended answers, they mainly look at other university web sites, i.e. they prospect their own domain.

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Discussion

The data obtained through our small-scale study and webmaster survey led us to formulate a number of explanatory hypotheses.

The webmaster survey revealed that, when developing a site, 94% of the respondents happen to be inspired by other web sites. Almost half (46%) of them declare to prospect web sites of various origins, while 54% look at in-country web sites. However, these in-country sites could on their turn have been designed on the basis of foreign web sites. As one webmaster put it, the web is 'an international medium and inspiration comes from all over'. Moreover it appears that, within the same domain, web developers tend to mutually keep an eye on each other. If this could explain why our participants had difficulties detecting the expected value orientations in the university homepages, it would also imply a certain homogenisation of cyberspace. At the same time, we should bear in mind that Hofstede's theory is more than 30 years old and that some shifts might have taken place, if only through the advent of revolutionary communications media.

Our findings might be inconsistent with previous research findings, but then again the web is a highly dynamic, ever changing and quickly evolving resource. It would seem that, rather than witnessing a fierce clash of cultures, the Internet has promoted the emergence of a cosmopolitan online culture, a hybrid culture which does not have the same characteristics as traditional cultures, as it is the outcome of the communication and interaction between people from different cultural backgrounds. Western values such as liberty, individualism, equality and democracy, are acknowledged to dominate this online culture. Incidentally, our study's participants did experience more difficulty in perceiving high power distance and masculinity orientation in the analysed homepages.

The web being a global medium which does not conform to country boundaries and culture not being a static structure, it is denounced by many that the Internet is bringing about a global, covertly American monoculture which will subvert local traditional cultures. While the Internet is an open window to the world which allows us to enrich our lives with previously unparalleled cultural experiences, it may however also help to sustain local cultures and enhance cultural preservation and propagation. There is nothing to prevent each culture from creating its own

distinctive web sites, online communities and services, etc. As the web is a common forum where different cultures come together, it will be its participants who will eventually determine the evolution of the online culture.

As Internet users are typically young, they represent a less traditional or conservative audience. Moreover, university web sites are mostly aimed at young people, prospective students, which could also imply that these sites display less traditional features. Since some universities aim to mediate an international character, they might also deliberately veil certain cultural traits.

If we consider the commercial arena, most companies seem to confine their localisation efforts to designing easily localisable web sites which function as global templates, translating and adapting the content and integrating obvious cultural markers or aesthetic stereotypes. For reasons of economy or through ignorance, they often fail to address more cultural parameters, although they would derive more benefits from developing fully culturally comprehensive web sites. Yet, it is also plausible to assume that, even if they were to have clear preferences with regard to the look and feel of a web site, global users will eventually grow more flexible and 'acclimatise' to the online culture as they continue to surf the web's cultural melting pot. If we posit that the online culture in question is an intermediate culture in which traditional cultural differences are fuzzy, perhaps then the value of cross-cultural theories for the localisation business is overrated? Would web sites really better fit users' preferences and expectations if web developers took these cultural dimensions into account?

7

Future Research

We realise that our study has a limited scope, as we only concentrated on visual parameters in a confined number of university homepages. Our approach involved a comparison of two opposite poles of countries, but not of countries individually. We also restricted our study to four of the five Hofstede dimensions. Moreover, an in-depth investigation of the web sites' architecture and navigation systems might have disclosed preferences associated with prevailing cultural value orientations.

Further research based on anthropological theories might prove that cultural differences are more present in web sites of a different genre, e.g. news sites or e-commerce, as each genre calls for a particular design approach. If we assume that design differences across countries are not so clear, maybe research comparing corporate cultures and ideologies would reveal clearly distinct design standards.

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Appendix 1 'Power Distance'

High-score countries

Guatemala

Universidad de San Carlos (www.usac.edu.gt)
Universidad del Valle de Guatemala (www.uvg.edu.gt)
Universidad Rafael Landívar (www.url.edu.gt)
Universidad Galileo (www.galileo.edu)

Panama

Universidad de Panamá (www.up.ac.pa)
Universidad del Istmo (www.unis.edu.gt)

Venezuela

Universidad Simón Bolívar (www.usb.ve)
Universidad Nueva Esparta (www.une.edu.ve)
Universidad Jose Maria Vargas (www.ujmv.edu/new)

Malaysia

Universiti Malaya (www.um.edu.my)
Multimedia University (www.mmu.edu.my)
Universiti Putra Malaysia (www.upm.edu.my)
Universiti Malaysia Sarawak (www.unimas.my)

Mexico

Universidad de San Miguel
(www.udesanmiguel.edu.mx)
Universidad de Sonora (www.uson.mx)
Universidad del Mar (www.umar.mx)
Universidad Autónoma de Yucatán (www.uady.mx)

Philippines

Aquinas University of Legazpi
(www.aquinas-university.edu)
University of Nueva Caceres (www.unc.edu.ph)
University of Bohol (www.universityofbohol.com)

Low-score countries

Norway

Norwegian school of management (www.bi.no)
Norwegian University of Science & Technology
(www.ntnu.no)
University of Oslo (www.uio.no)

Ireland

National University of Ireland, Galway (www.ucg.ie)
Dublin City University (www.dcu.ie)
University College of Dublin (www.ucd.ie)

New Zealand

University of Auckland (www.auckland.ac.nz)
University of Waikato (www.waikato.ac.nz)

Austria

Universität Graz (www.kfunigraz.ac.at)
Universität Wien (www.univie.ac.at)
Universität Salzburg (www.sbg.ac.at)
Universität Innsbruck (www.uibk.ac.at)

Denmark

Aarhus University (www.au.dk)
Roskilde University (www.ruc.dk)
Copenhagen University (www.ku.dk)

Switzerland

Universität Basel (www.unibas.ch)
Université de Genève (www.unige.ch)
Universität St. Gallen (www.unisg.ch)
Université de Neuchâtel (www.unine.ch)

Israel

Tel Aviv University (www.tau.ac.il)

Appendix 2 'Collectivism vs. Individualism'

High-score countries (Individualist)

Australia

Blue Mountains International Hotel Management
School (www.hotelschool.com.au)
Charles Sturt University (www.csu.edu.au)
Monash University (www.monash.edu.au)
University of Adelaide (www.adelaide.edu.au)

Canada

Durham University (www.durhamc.on.ca)
George Brown College (www.gbrownc.on.ca)
Acadia University (www.acadiau.ca)
University of Ottawa (www.uottawa.ca)

United Kingdom

Kingston University London (www.kingston.ac.uk)
Nottingham Trent University (www.ntu.ac.uk)
Cardiff University (www.cardiff.ac.uk)
University of Surrey (www.surrey.ac.uk)

Netherlands

Dutch Delta University (www.ddu.nl)
Rijksuniversiteit Groningen (www.rug.nl)
University of Maastricht (www.unimaas.nl)
University of Tilburg (www.uvt.nl)

Italy

University of Florence (www.unifi.it)
University of Bari (www.uniba.it)

USA

Harvard Business School (www.hbs.edu)
Georgetown University (www.georgetown.edu)

Low-score countries (Collectivist)

Equador

Brookdale College (www.brookdale.edu.ec)
Universidad Central de Ecuador
(www.ucentral.edu.ec)

Venezuela

Universidad Nacional Abierta (www.una.edu.ve)
Universidad Católica del Táchira (www.ucat.edu.ve)
Universidad de Los Andes (www.ula.ve)

Colombia

Universidad del Atlántico (www.uniatlantico.edu.co)
Universidad Cooperativa de Colombia
(ucc.cubaque.com)
Universidad Católica de Colombia
(www.ucatolica.edu.co)

Costa Rica

Universidad Santa Paula (www.terapia.or.cr)
Universidad Autónoma de Centro
América (www.uaca.ac.cr)

Guatemala

Universidad de San Carlos de
Guatemala (www.usac.edu.gt)
Universidad Rural de Guatemala (www.urural.edu.gt)
Centro Universitario Ciudad Vieja (www.cucv.edu.gt)
Universidad del Istmo (www.unis.edu.gt)

Pakistan

University of Peshawar (www.upesh.edu)
Allama Iqbal Open University (www.aiou.edu.pk)

Indonesia

Pakuan University (www.unpak.ac.id)
Brawijaya University (www.brawijaya.ac.id)
Bina Nusantara University (www.binus.ac.id)
Hasanuddin University (www.unhas.ac.id)

Appendix 3 'Masculinity vs. Femininity'

High-score countries (Masculine)

Austria

Wirtschaftsuniversität Wien (www.wu-wien.ac.at)
Universität Klagenfurt (www.uni-klu.ac.at)
Fachhochschule Wiener Neustadt (www.fhwn.ac.at)
Universität Linz (www.uni-linz.ac.at)
Fachhochschule Kärnten (www.fh-kaernten.ac.at)

Japan

Aichi Gakuin University (www.aichi-gakuin.ac.jp)
Nihon University (www.nihon-u.ac.jp)
Meiji University (www.meiji.ac.jp)

Italy

University of Parma (www.unipr.it)
University of Bocconi (www.uni-bocconi.it)
Università "Campus Bio-Medico" di
Roma (www.unicampus.it)
University of Siena (www.unisi.it)
Free International University of Social
Studies (www.luiss.it)
University of Lecce (www.unile.it)

Switzerland

Ecole Polytechnique Fédérale de
Lausanne (www.epfl.ch)
Züricher Hochschule Winterthur (www.zhwin.ch)
Solothurn Northwestern Switzerland (www.fhso.ch)
University of Zürich (www.unizh.ch)

Venezuela

Universidad Tecnológica del Centro
(www.unitec.edu.ve)
Universidad José María Vargas (www.ujmv.edu)

Low-score countries (Feminine)

Sweden

Lulea University of Technology (www.luth.se)
Karlstads Universitet (www.kau.se)
Mälardalen University (www.mdh.se)
Stockholm University (www.su.se)
Göteborg University (www.gu.se)

Norway

Agder University College (www.hia.no)
Norges Idretthøgskole (www.nih.no)
Norges Handelshøyskole (www.nhh.no)
Universitetet i Tromsø (www.uit.no)
University of Oslo (www.uio.no)

Netherlands

Katholieke Universiteit Nijmegen
(www.hosting.kun.nl)
University of Twente (www.utwente.nl)
Wageningen Universiteit (www.wau.nl)
Open Universiteit Nederland (www.ouh.nl)
Universiteit Maastricht (www.unimaas.nl)
Hogeschool Inholland (www.inholland.nl)

Finland

University of Helsinki (www.helsinki.fi)
University of Lapland (www.urova.fi)

Costa Rica

Universidad de Costa Rica (www.ucr.ac.cr)
Universidad Nacional (www.una.ac.cr)

Appendix 4 'Uncertainty Avoidance'

High-score countries

Greece

University of Crete (www.uch.gr)
Aristotle University of Thessaloniki (www.auth.gr)
University of Athens (www.uoa.gr)
University of Peloponnese (www.uop.gr)

Belgium

Katholieke Universiteit van Brussel
(www.kubrusse.ac.be)
Vrije Universiteit Brussel (www.vub.ac.be)

Portugal

Instituto Politécnico de Lisboa (www.ipl.pt)
Universidade de Lisboa (www.ul.pt)
Universidade do Algarve (www.ualg.pt)
Instituto Politécnico de Porto (www.ipp.pt)

Guatemala

Universidad Galileo (www.galileo.edu)
Universidad Rural de Guatemala (www.urural.edu.gt)
Universidad Rafael Landívar (www.url.edu.gt)
Universidad F. Marroquín (www.ufm.edu.gt)

Uruguay

Universidad ORT Uruguay (www.ort.edu.uy)
Universidad de Montevideo (www.um.edu.uy)

Salvador

Universidad Albert Einstein (www.uae.edu.sv)
Universidad Francisco Gavidia (www.ufg.edu.sv)

Japan

Bukkyo University (www.bukkyo-u.ac.jp)
Toho university (www.toho-u.ac.jp)

Low-score countries

United Kingdom

University of Wales (www.wales.ac.uk)
Bournemouth University (www.bournemouth.ac.uk)
University of Liverpool (www.liv.ac.uk)
University of Cambridge (www.cam.ac.uk)

Hong Kong

University of Hong Kong (www.hku.hk)
Chinese University of Hong Kong (www.cuhk.hk/en)

Denmark

Syddansk University (www.ou.dk)
Aarhus University (www.au.dk/)

Jamaica

Northern Carribean University (www.ncu.edu.jm)
University of Technology Jamaica (www.utech.edu.jm)
University of the West Indies, Mona
(www.uwimona.edu.jm)

Ireland

University College Dublin (www.ucd.ie)
Dublin City University (www.dcu.ie)
University of Limerick (www.ul.ie)
Dublin Institute of Technology (www.dit.ie)

Malaysia

Universiti Utara Malaysia (www.uum.edu.my)
Universiti Malaysia Sabah (www.ums.edu.my)

Sweden

Lunds Universitet (www.lu.se)
Halmstad University College (www.hh.se)
Dalarna University College (www2.du.se)