

A Visible Language Analysis of User-Interface Design Components and Culture Dimensions

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Abstract

Bringing theory to practice, these authors apply the cultural dimensions of Geert Hofstede to international corporate web design. Against Hofstede's dimensions of power distance, individualism, gender bias, uncertainty avoidance and time orientation, five interface components are examined – metaphor, mental model, navigation, appearance and interaction. Through careful analysis and presentation of existing websites, cultural difference and similarity is revealed. Whether these differences can be explained by Hofstede's findings is an open question. The approaches of cultural analysis and interface component analysis bring to attention the complex decisions required in the construction of meaningful websites designed to cross borders.

Introduction

User-interface design and, within that discipline, website design, constitute a complex environment for visible language. This article addresses specific aspects of visible language related to culture. The primary goal of this article is to analyze websites in order to understand to what extent the corporate designs seem to exhibit variations that relate to cultural difference. Both visual syntax and visual semantics (especially rhetoric) are related to culture dimensions in relation to details in presentation.

Geert Hofstede's culture theory (Hofstede, 1997) establishes five dimensions of culture. Whether this theory is appropriate as an analytical framework for the following research became another focus for this investigation. Combining Hofstede's five dimensions (see below) with five components of user-interface design: metaphor, mental model, navigation, interaction and appearance (Marcus, 1997) provides twenty-five possible areas for evaluation if a website is localized appropriately. Many examples of this analysis follow.

Hofstede's cultural dimension

In this section we wish to summarize briefly Hofstede's cultural values and their relational scores. Each country's values are presented in table 1 in two ways: as a position in a ranking of all countries and as a score listing the particular value of that country. The table has five dimensions: power distance, individualism, masculinity, uncertainty avoidance and long term orientation regarding time. For example, looking at the extremes in power distance, one sees that Malaysia ranks first with the greatest power distance (score 104), while at the other extreme Israel ranks fifty-second (score 13). The reader is encouraged to examine Hofstede's work in greater detail in his book, *Cultures and Organizations: Software of the Mind, Intercultural Cooperation and Its Importance for Survival*.

Power distance (PD) refers to the extent (high or low) to which less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally.

Individualism (IDV) in cultures implies loose ties: everyone is expected to look after one's self or immediate family but no one else. Collectivism implies that people are integrated from birth into strong, cohesive groups that protect them in exchange for unquestioning loyalty.

Table 1 Hofstede's Dimensions of Culture Index

PDI Power Distance Index
 UDV Individualism Index
 MAS Masculinity Index
 UAI Uncertainty Avoidance Index
 LTO Long-Term Orientation Index

	PDI	score	rank	IDV	score	rank	MAS	score	rank	UAI	score	rank	LTO	score	rank	score
Arab Countries	7	80	26/27	38	23	53	27	68								
Argentina	35/36	49	22/23	46	20/21	56	10/15	86								
Australia	41	36	2	90	16	61	37	51	15	31						
Austria	53	11	18	55	2	79	24/25	70								
Bangladesh																
Belgium	20	65	8	75	22	54	5/6	94								
Brazil	14	69	26/27	38	27	49	21/22	76	6	65						
Canada	39	39	4/5	80	24	52	41/42	48	20	23						
Chile	24/25	63	38	23	46	28	10/15	86								
China																
Columbia	17	67	49	13	11/12	64	20	80								
Costa Rica	42/44	35	46	15	48/49	21	10/15	86								
Denmark	51	18	9	74	50	16	51	23								
East Africa	21/23	64	33/35	27	39	41	36	52								
Ecuador	8/9	78	52	8	13/14	63	28	67								
Finland	46	33	17	63	47	26	31/32	59								
France	15/16	68	10/11	71	35/36	43	10/15	86								
Germany FR	42/44	35	15	67	9/10	66	29	65	14	31						
Great Britain	42/44	35	3	89	9/10	66	47/48	35	18	25						
Greece	27/28	60	30	35	18/19	57	1	112								
Guatemala	2/3	95	53	6	43	37	3	101								
Hong Kong	15/16	68	37	25	18/19	57	49/50	29	2	96						
India	10/11	77	21	48	20/21	56	45	40	7	61						
Indonesia	8/9	78	47/48	14	30/31	46	41/42	48								
Iran	29/30	58	24	41	35/36	43	31/32	59								
Ireland (Republic of)	49	28	12	70	7/8	68	47/48	35								

Israel	52	13	19	54	29	47	19	81
Italy	34	50	76	4/5	70	23	75	
Jamaica	37	45	25	39	7/8	68	52	13
Japan	33	54	22/23	46	1	95	7	92
Malaysia	1	104	36	26	25/26	50	46	36
Mexico	5/6	81	32	30	6	69	18	82
Netherlands	40	38	4/5	80	51	14	35	53
New Zealand	50	22	6	79	17	58	39/40	49
Nigeria								22
Norway	47/43	31	13	69	52	8	38	50
Pakistan	32	55	47/48	14	25/26	50	24/25	70
Panama	2/3	95	51	11	34	44	10/15	86
Peru	21/23	64	45	16	37/38	42	9	87
Philippines	4	94	31	32	11/12	64	44	21
Poland								13
Portugal	24/25	63	33/35	27	45	31	2	104
Salvador	18/19	66	42	19	40	40	5/6	94
Singapore	13	74	39/41	20	28	48	53	8
South Africa	35/36	49	16	65	13/14	63	39/40	49
South Korea	27/23	60	43	18	41	39	16/17	85
Spain	31	57	20	51	37/38	42	10/15	86
Sweden	47/43	31	10/11	71	53	5	49/50	29
Switzerland	45	34	14	68	4/5	70	33	58
Taiwan	29/30	58	44	17	32/33	45	26	69
Thailand	21/23	64	39/41	20	44	34	30	64
Turkey	18/19	66	28	37	32/3	45	16/17	85
Uruguay	26	61	29	36	42	38	4	100
USA	38	40	1	91	15	62	43	46
Venezuela	5/6	81	50	12	3	73	21/22	76
West Africa	10/11	77	39/41	20	30/31	46	34	54
Yugoslavia	12	76	33/35	27	48/49	21	8	88
Zimbabwe								19
								25

Adapted from Hofstede, Geert, *Cultures and Organizations: Software of the Mind: Intercultural Cooperation and its Importance for Survival*, McGraw Hill, New York, 1991, ISBN:0-07-029307-4.

Data and analysis are the intellectual property of Gert Hofstede. This is presented with his permission. Chart organization has been restructured to better communicate overall country profiles.

Masculinity (MAS) pertains to societies in which social gender roles are clearly distinct (i.e., men are supposed to be assertive, tough and focused on material success, whereas women are supposed to be more modest, tender and concerned with the quality of life). Femininity pertains to societies in which social gender roles overlap (i.e., both men and women are supposed to be modest, tender and concerned with the quality of life).*

Uncertainty avoidance (UA) can be defined as the extent (high or low) to which the members of a culture feel threatened by uncertain or unknown situations. Cultures vary in their avoidance of uncertainty, creating different rituals and having different values regarding formality, punctuality, legal-religious-social requirements and tolerance for ambiguity.

Long-term (time) orientation (LTO) plays an important role in Asian countries that have been influenced by Confucian philosophy over many thousands of years. Long- and short-term countries seem to divide between East and West. Hofstede concludes that Asian countries are oriented to practice and the search for virtuous behavior, while Western countries are oriented to belief and the search for truth.

* Hofstede assumes that countries with distinct gender roles clearly (and in his thinking that means men have a more powerful role within society than women) also value achievement and success very highly. The MAS category is somewhat controversial because two very different things are intermixed: the amount of gender differentiation on the one hand and the way a society thinks about toughness/competitiveness on the other.

User interface components (UI)

The five components of user interface design developed by the authors' firm (Marcus, 1997, 2003) are useful in all stages of development (planning, research, analysis, design, implementation, evaluation, documentation and training and maintenance).

Metaphors: Easy recognition and retention of fundamental terms, images and concepts.

Mental model: Appropriate organization and representation of data, functions, tasks, roles and people in organization of work.

Navigation: Efficient movement within the mental model through menus, dialogue boxes and control panels.

Appearance: How the product appears to the senses (look, sound, etc.) based upon identity and/or branding objectives.

Interaction: Effective input/output sequencing, including feedback.

Detailed visual analyses of specific website imagery uses some concepts from *Reading Images: The Grammar of Visual Design* (Kress & Van Leeuwen, 1996).

Method

Combining these two schemes from Hofstede and Marcus results in a five-by-five matrix that allows for twenty-five fields of interest to result.

An article by Marcus (Marcus, 2003) points out some implications of the dimensions for user-interface components. He apportions Hofstede's criteria to the field of user-interface design. To find out if these assumptions match with "real life" examples the authors examine localized websites.

For this analysis we tried to be as inclusive as possible (under limited conditions of time and funding) by choosing websites from three different continents (USA, Europe and Asia) including business-to-business websites for large corporations with sites in many countries, (see *table2*).

	USA	EU	Asia
Business	Sapient (SAP) Peoplesoft (PEO)	Siemens (SIE) SAP (SAP)	Hitachi (HIT)
Consumer	McDonalds (McD) Coca Cola (COC)	IKEA (IKE) Mercedes (MER)	Sony (SON) Mazda (MAZ)

Table 2

Key findings

The following matrix of cultural dimensions and user-interface components shows the findings of examples within the matrix. The abbreviations stand for the company's websites shown above and appear in the corresponding positions of the above matrix. (Note: examples do not appear in all of the matrix cells.)

Power Distance (PD)

Metaphors

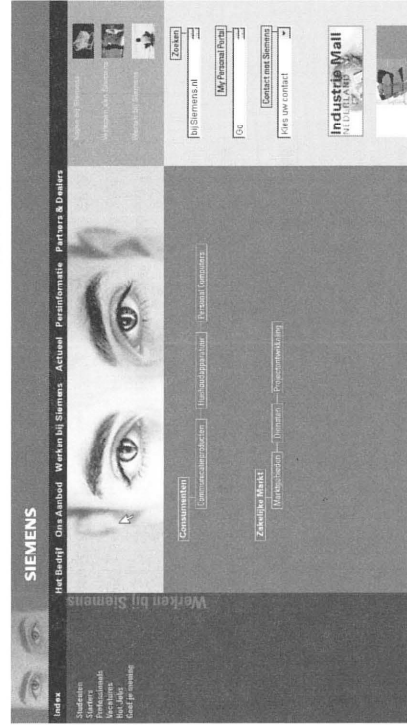
According to Hofstede, countries with a very high PD focus on expertise, authority and/or experts. Applied to the field of user-interface design and working with the term “metaphor,” which refers to the basic concepts communicated through words and images, one can assume that visual metaphors in such high PD countries would show institutions, buildings or objects with a clear hierarchy. In table 4 we can see that the Netherlands (low PD) uses the eye-level portion of a person’s face as a metaphor for the home “button,” whereas Malaysia (high PD) uses the skyline of a city. The Netherland’s picture is an “equal” look into the eyes of a person (neither upward or downward); Malaysia’s view of a skyline represents official buildings. We can find a similar situation in table 5: both Australia and China show official buildings on their localized Hitachi websites. At the Australian (very low PD) website, the user looks at the building in a perspective “equal” view. In addition, the walls of the building act as a kind of mirror, which implies the user is part of the scenery. The Chinese* website shows a (non-reflecting) building from a bottom-up view. This “worm’s eye view” can be seen as a typical signal for power and authority (Kress & Van Leeuwen, 1996) that implies strong hierarchies.

Mental Model

Considering mental models, it seems likely that countries with a high PD prefer complex, highly organized, highly categorized, highly populated structures and reference data with little or no relevancy ranking. Countries with a low PD might prefer simple, informally organized and categorized structures and less structured data with some or much relevancy.

When analyzing the websites and looking at the mental model that was used, we looked at the website structure (sometimes referred to as the website map) as well as at the structure of the content on each page.

Netherlands (PD 38)



Metaphor for "Home": the face/the eyes of a person

Table 4 Siemens website: personal images vs. official buildings

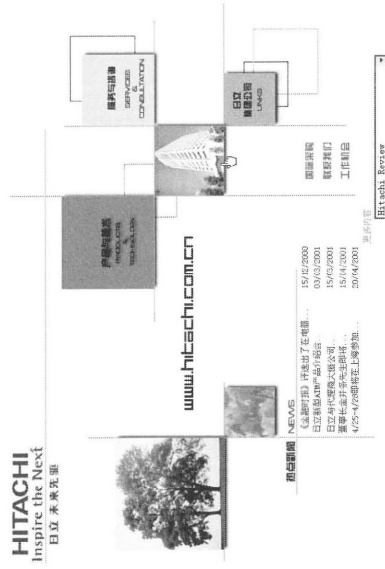
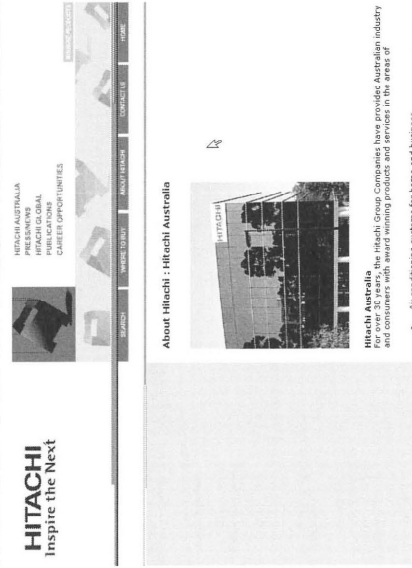
Malaysia (PD 104)



Metaphor for "Home": an official building

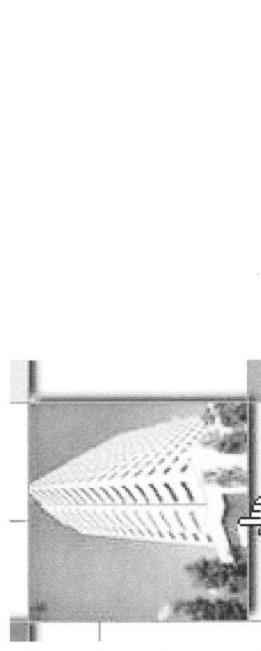
Australia (PD 36)

China*



Australia (PD 36)

China*



Point of view: equal

Point of view: bottom-up

Table 5 Siemens website: personal images vs. official buildings

* Hofstede does not provide a PD for China, but it is to be assumed that the PD of China, like the PD of all Asian countries, is higher than the PD of Australia.

We found one example that supports the theory of structure and relevancy and one that argues against it. The Hitachi website shows a contact page in Canada (low PD) that offers limited, but well-structured contact data. The Singapore

website (slightly higher PD) offers much contact information on one page. As opposed to the Canadian contact page, the information on the Singaporean contact page is highly categorized (see table 6).

Canada (PD 39)

HITACHI
Inspire the Next

Contact Us

For Sales, Customer Service & Technical Service Information:

Call us at:
 ☎ 1-800-HITACHI

Write us at:
 Hitachi Canada Ltd.
 10000 Midland Ave.
 Scarborough, Ontario M1V 2L8

Email us at:
 ✉ customerservice@hitachi.ca

For other Hitachi products not listed on this website, please call:
 ☎ 1-800-HITACHI

Hitachi America, Ltd.
 ☎ www.hitachi.com

Hitachi Worldwide:
 ☎ www.hitachi.com/worldwide

Simple, informally organized and categorized structures

Singapore (PD 47)

HITACHI
Inspire the Next

Contact Us

For Home Electronics: Multi-media products, please contact:

Division : Home Electronics / Multimedia
Tel : (65) 536-2520
Fax : (65) 536-2521
Email : scmusa@hitachiconsumers.com
Address : Hitachi Home Electronics Asia (S) Pte Ltd
 403-00, Hitachi Tower
 Singapore 045316

For product-specific information, please contact:

Division : Power & Industrial Electronics
Tel : (65) 6538-5490
Fax : (65) 6538-8011
Email : jpwwg@hitachi.com.sg
Address : Hitachi Asia Ltd
 403-00, Hitachi Tower
 Singapore 045316

Division : Elevators & Escalators
Tel : 295 3711
Fax : 295 3278 / 295 3227
Email : service@elevator.hitachi.com.sg
Address : 50 KALLANG AVE #05-00
 NEE CONCRETE RUI BANG

Highly Categorized

Table 6 Hitachi website: amount of categorization

Navigation
 Regarding navigation through a user interface, and following Hofstede's research, we assume that low PD countries prefer open access, multiple options and sharable paths; whereas high PD countries have a higher use of authentication and passwords, and prefer prescribed routes and restricted choices.

Germany (PD 35)	India (PD 77)
<p><i>Wie bewerbe ich mich um eine Stelle bei Sapient? Senden Sie einfach Ihre vollständigen Bewerbungsunterlagen mit Lebenslauf, Foto und Zeugnissen an unsere Hiring-teams in Düsseldorf oder München. Sie haben außerdem die Möglichkeit, sich per E-mail zu bewerben: Füllen Sie dazu unser Online-Bewerbungsformular aus oder senden Sie Ihre eigene elektronische Bewertung an: Karriere@Sapient.com. Egal, wie Sie sich bewerben - wir bemühen uns um eine schnelle Bearbeitung und Sie werden bald wieder von uns hören.</i></p>	<p><i>How do I apply for a position at Sapient? Register now to set up your profile and apply for jobs right away, or search Jobs now.</i></p>
<p>How do I apply for a position at Sapient? Send your complete application with CV, picture and job reference to our hiring team in Düsseldorf or Munich. Furthermore you have the possibility to apply via email. Fill out the online form or send your own digital application to: Karriere@sapient.com. It does not matter, how you apply, we try hard for a quick handling and you will hear from us soon.</p>	
Open access, multiple options	Restricted access and choices, prescribed routes

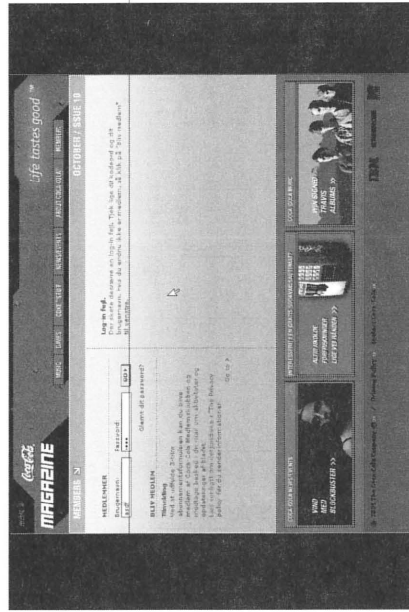
Table 7 Sapient website: amount of options provided

Interaction

Interaction in the field of user-interface design refers to input and output sequences, including feedback for the user, as well as larger-scale behavioral aspects. The Coca Cola website provides a good example that feedback in low PD countries can mean “supportive error messages,” whereas feedback in high PD countries contains severe error messages. Table 8 shows Denmark versus Malaysia. When one tries to login to the members’ section and types in a wrong password, the error message is very polite (using words like “unfortunately, please...”), tries to give an overview of what went wrong and offers possible solutions by telling the user what to do. Exactly the contrary is true for the Malaysian feedback after a failed login: The expression “Bzzzzt!” is not really polite and does not explain what went wrong. The actual error message “wrong password!” sounds more like a stern scolding and the phrase “now for your next attempt...” does not guide the user to a possible solution and even sounds sarcastic.

The same is true for the comparison of the Austrian (low PD) and the Indian (high PD) website (table 9): The Austrian error message shows a clear indication of what is the case (“Login – error message”) and tries to offer a solution for the problem by providing links. The Indian error message merely announces that there is something wrong and asks the user to try again.

Denmark (PD 18)



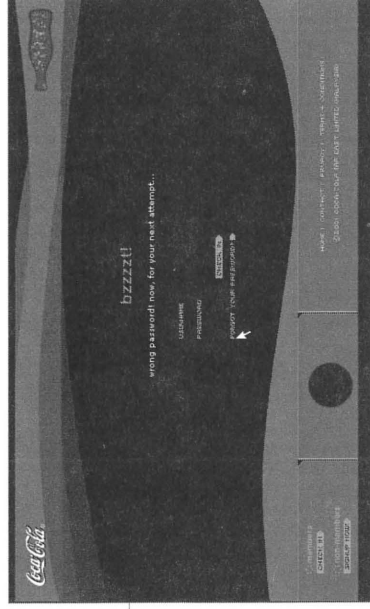
Log-in fejl.
 Der skete desværre en log-in fejl. Tjek lige dit kodeord og dit brugernavn. Hvis du endnu ikke er medlem, så klik på "Bliv medlem" til venstre.

Log-in failed.

Unfortunately the login process failed. That has to do either with your nickname or your password. If you are not already a member, please click on "Become member" in the window at the left.

Table 8 CocaCola website: feedback language (continued on next page)

Malaysia (PD 104)



bzzzzt!
 wrong password! now, for your next attempt...

bzzzzt!

Wrong password! Now, for your next attempt...

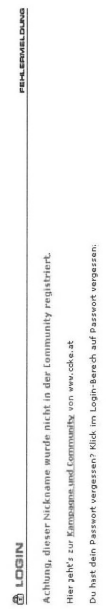

Austria (PD 11)	India (PD77)
 <p>LOGIN Achtung, dieser Nickname wurde nicht in der Community registriert. Hier geht's zur Kampagnen und Community von www.coke.at Du hast dein Passwort vergessen? Klick im Login-Bereich auf Passwort vergessen.</p>	 <p>The Member's Login name or Password is wrong. Please try again.</p>
<p>Login error message <i>Attention, this nickname has not been registered in the community by now. Here you have a link to campaigns and community at www.coke.at. Did you forget your password? Click on: Forget password in the login section.</i></p>	<p><i>The Member's Login or Password is wrong. Please try again.</i></p>
<p>Supportive error messages</p>	<p>Severe error messages</p>

Table 9 Coca-Cola website: feedback language

Appearance

By applying Hofstede's research to visual appearance, one can assume that countries with low PD prefer that websites use "normal" people or groups; show daily activities; use popular music, symbols, typefaces, layouts and colors; and informal speech. Countries with high PD might use images of leaders, national/corporate/government themes, slogans, insignia, logos, symbols, typefaces, layouts and colors; official music or anthems and formal speech. We find supporting examples for this theory on the PeopleSoft website as well as on the Siemens website.

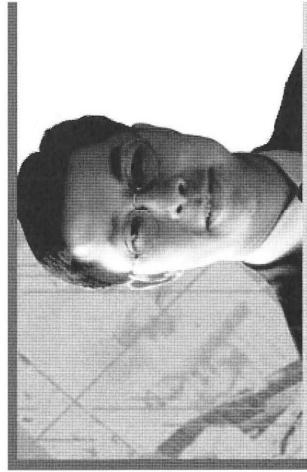
PeopleSoft uses a very unified page-layout system for their localized websites. The colors, fonts and grid for the content and navigation stay the same on all websites. However, the primary image on the front page varies from country to country. Comparing the front page of the UK (low PD) and the Singaporean (high PD) websites, we see an obvious difference (*table 10*): The UK page shows a group of three women working together with a laptop computer. The user watches the scene as if s/he were sitting at one table with the women.

United Kingdom (PD35)



Three persons
Women
Asymmetric arrangement

Singapore (PD 74)



One person
Man
Symmetric arrangement

Table 10 PeopleSoft website: usage of imagery concerning PD

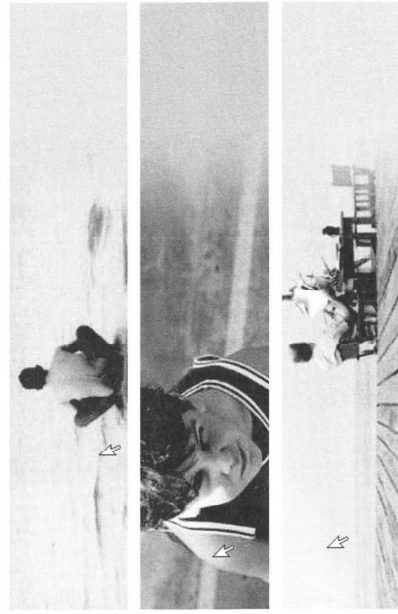
The Singaporean page shows the picture of a man. We do not know if he is in fact a leader, but he could represent one. The picture is quite symmetrical, he is looking straight into the user's eyes.

Comparing the usage of images on the Siemens website, we find a significant difference between The Netherlands (low PD) and Malaysia (high PD). As is visible in table 11, we find "normal, typical or average" people within the imagery of the Siemens website. They are enjoying life at the sea. The Malaysian website shows a much more cluttered imagery

that combines four photographs into one, mixing shots with official websites, leaders and also "normal, typical or average" people.

A very strong supporting example is found by comparing the Italian localization of Siemens with the Singaporean (see table 12). The image used as a Home button in the upper-left corner shows a man and a woman in the Italian version, whereas the Singaporean website uses the picture of an official monument surrounded by Singaporean skyscrapers.

Netherlands (PD 38)



Images of people

Malaysia (PD 104)



Images of leaders, official websites

Table 11 Siemens website: average people vs. official leaders

Collectivism vs. Individualism (IDV)

Metaphors

When applying Hofstede's theory to the field of user-interface design, one can assume that metaphors used in low individualism countries might be relationship-oriented and content-oriented, whereas those in high individualism countries might be action-oriented or tool-oriented.

Comparing Brazil's (low IDV) corporate McDonalds website with the US (high IDV) in table 13 we can see how much more individualism is valued in the United States: we see the image of a single individual (one man) who represents the company. On the Brazilian website we see a mixture of group images to represent the company.

When looking at the metaphors used at the Siemens website (*table 14*), we find very relationship-oriented tools (a mobile phone stands for communication and the photograph of a man and a woman signals a relationship) on the Costa Rica (low IDV) website. France uses a bubble-blowing girl and ball-playing women, metaphors that focus not so much on relationships between people, but more on individualistic pleasure.

Mental Model

When considering the mental model of individualist countries, one can assume that the individual is supposed to be the most important part in such a model. Individualist countries therefore might use very product- or task-oriented mental models in which personal achievement is maximized, whereas collectivist countries might emphasize role-oriented models underplaying personal achievement.

The Mercedes Benz website (*table 15*) shows a typical example of how much individual choice is valued in the US: no other localized website of Mercedes Benz offers a section called "Owners Online," in which each owner of a Mercedes Benz auto can get an accounting of personalized information. The section also offers an application for the user to build her/his own vehicle. The website is very individual-oriented.

Brazil (IDV 38)

United States (IDV 91)



Images of groups to visualize the section "McDonalds in Brazil"

Images of a single person to visualize the "Corporate" section of McDonalds USA

Table 13 McDonalds website: focusing on groups vs. focusing on individuals

Costa Rica (IDV 15)	France (IDV 71)
	
Relationship related	Action oriented tools

Table 14 Siemens website: *relationship vs. action oriented*

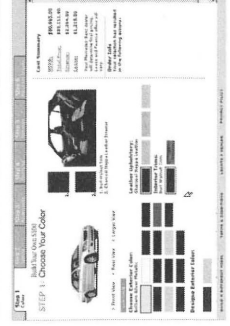
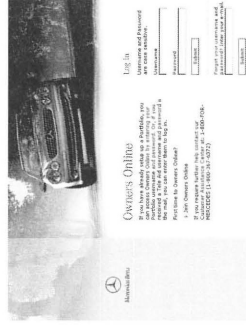
To show individualist and collectivist approaches within text, we show an example of the PeopleSoft website (table 16). Comparing the Singaporean (low IDV) and the German (high IDV) "About PeopleSoft" sections, we find a significant difference regarding emphasis of personal achievement: Singapore's website speaks

about the role the company plays in the world's economy, the employees and partners are mentioned and they talk about how PeopleSoft can help its customers. The German website simply mentions when the company was founded, where it is located and emphasizes the CEO, who is mentioned by name.

Other countries

USA (IDV 91)

No such section available



Offers an application for the user to build her/his own car.

Very individual oriented

Table 15 Mercedes-Benz website: targeting the individual

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Singapore (IDV 20)	Germany (IDV 67)
<p>About PeopleSoft: (1st paragraph of page)</p> <p><i>Established in 1987, PeopleSoft is the world's leading provider of application software for the real-time enterprise. More than 4,800 organisations in 140 countries use PeopleSoft pure Internet software to reduce costs and increase productivity by directly connecting customers, suppliers, partners and employees to business processes on-line, in real time. PeopleSoft's integrated, best-in-class applications include Customer Relationship Management, Supply Chain Management, Human Capital Management and Financial Management.</i></p>	<p>About PeopleSoft: (1st paragraph of page)</p> <p><i>Die PeopleSoft GmbH wurde 1995 gegründet. Die Hauptniederlassung befindet sich in München. Geschäftsführer ist Stefan Höchbauer.</i></p> <p><i>Wegbeschreibung</i></p>
	<p><i>Translation:</i></p> <p><i>PeopleSoft GmbH was founded in 1995. The headquarters is located in Munich. CEO is Stefan Höchbauer.</i></p> <p><i>Directions</i></p>
<p>Personal achievement is underplayed</p>	<p>Personal achievement is maximized</p>

Table 16 PeopleSoft: website: personal achievement

The Sapient website (table 17) shows a similar pattern: on the Careers page, the company tries to find new employees. The Indian (low IDV) page therefore uses three sentences and very collectivist speech by emphasizing collaboration and using the word “shared” very often especially in the very beginning of the text. In the US (high IDV) version of the text, we find a more I/we related text that uses hyperbolic structures to emphasize the value of the company itself.

There is one more supporting example on the Siemens website (table 18). The wording of items also reflects mental models: Costa Rica (low IDV) chose “The Company” for naming a section; the same section is called “Our Products” in France (high IDV). This example would argue for the role-oriented approach in collectivist countries on the one hand and the more product and task oriented approach in individualistic countries.

India (IDV 48)

*Driven by a passion for creating value in an environment of **shared** ideas, **shared** efforts, and **shared** responsibilities, we are here to shape the future of business and technology consulting.*
*For those who **share** the same attitude, we offer aggressive and flexible career paths, exposure to the latest technologies, global travel, world-class infrastructure and an attractive compensation package. In addition, **you** will have the opportunity to **work with** India’s best professionals and collaborate with Sapient teams/ Fortune 1000 clients worldwide.*

USA (IDV 91)

*The world needs a better kind of consulting, and we’re on a mission to deliver it. The work we do requires a certain type of person – passionate about raising the bar on what’s possible and focused on doing whatever it takes to **help our clients** succeed. These are the qualities that drive us, qualities that point to a company bent on delivering value and impact.*
*We’ve built our reputation by giving our clients what we say we will, when we say we will. We do it in an environment of **shared** ideas, **shared** efforts, and **shared** responsibilities, and in an atmosphere of openness that recognizes each individual’s need to grow professionally.*

3 sentences. More collectivistic speech (emphasis); the “shared”-clause is located much more on the top than in the US version.
 Emphasis on collaboration.

5 sentences, more I/we related speech (emphasis); hyperbolic speech

Table 17 Sapient website: We vs. I

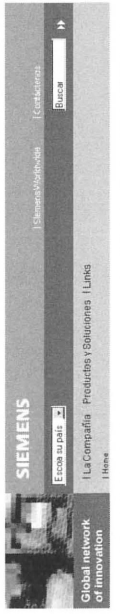
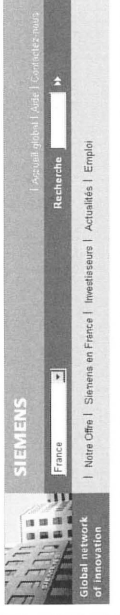
Costa Rica (IDV 15)	France (IDV 71)
	
<p>The Company</p> <p> La Compañía </p>	<p>Our Products</p> <p> Notre Offre </p>
<p>Role oriented</p>	<p>Product and task oriented</p>

Table 18 Siemens website: role-oriented vs. product-oriented

Femininity vs. Masculinity (MAS)

Metaphors

Comparing the Finnish (low MAS) with the Austrian (high MAS) McDonalds website (table 19), we find a metaphor on the front page that supports the idea of low MAS countries focusing on family and shopping, whereas high MAS countries prefer sports- and competition-oriented approaches.

Mental Model

When applying Hofstede’s assumptions about Femininity and Masculinity to the component of mental models, we can assume that we will find social structures in low MAS countries and work/business structures in high MAS countries. We also might expect detailed views and relationship-oriented approaches in low MAS countries, whereas we might find high-level, “executive views” and goal-oriented approaches in high MAS countries.

Finland (MAS 26)



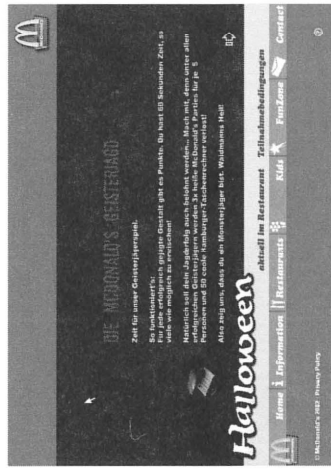
Family oriented

On the start screen of the Finnish website one can find more emphasis on products, shopping and family related imagery.

Table 19 McDonald's website: family vs. competition

The Siemens website (table 20) supports this theory: Whereas the Norwegian (low MAS) Careers page focuses on social structures and is very relationship-oriented (the main sections are entitled "What we are looking for" and "What we can offer"), the Austrian page (high MAS) emphasizes the quality of the company and the possibilities an employee has for advanced education, which seems quite goal-oriented.

Austria (MAS 79)



Competition oriented

The Austria McDonald's website offers right at the start screen a competitive game.

Navigation

The contact page of the Siemens website (table 21) offers multiple choices in Sweden (low MAS) and only one possibility to contact the local company in Japan (high MAS). This example supports the theory that low MAS countries would prefer multiple choices and multi-tasking, or polychronic approaches, whereas high MAS countries would prefer limited choices and synchronic approaches.

Norway (MAS 8)

*What we are looking for
What we can offer
Jobs and Careers
Interning*

Social structures relationship-oriented

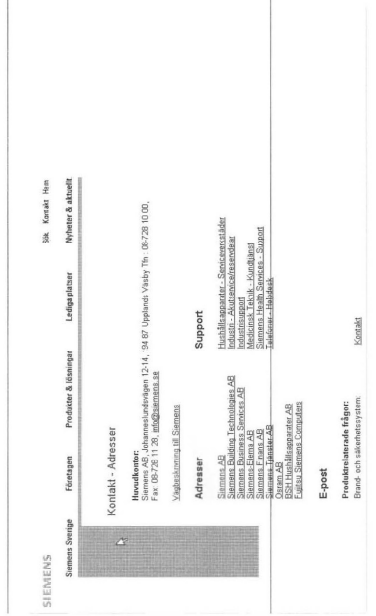
Austria (MAS 79)

*Why Siemens
Job search
Career News
Training / Education
Students
Postgraduates
Professionals*

Work / business structures goal-oriented

Table 20 Siemens website: social orientation vs. personal goals

Sweden (MAS 5)



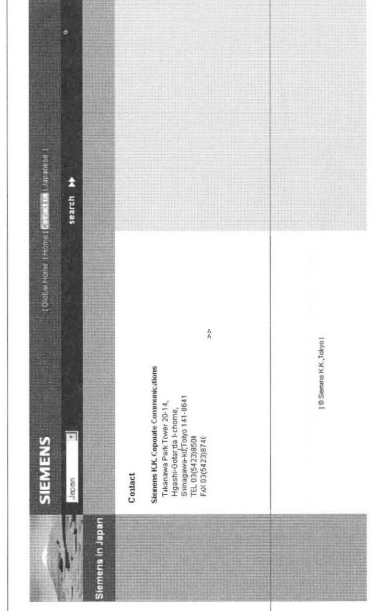
Multiple choices: Many possibilities

Table 21 Siemens website: amount of choices offered

Interaction

Regarding interaction, one can assume that countries that range high in masculinity prefer game-oriented, mastery- and individual-oriented approaches. For countries, in which one does not focus so much on gender differentiation and competitiveness, one would expect somewhat less of these approaches and more practical, function-oriented approaches. The McDonalds website (table 22) is an example that supports this assertion: The Swedish (low MAS) website focuses on the client

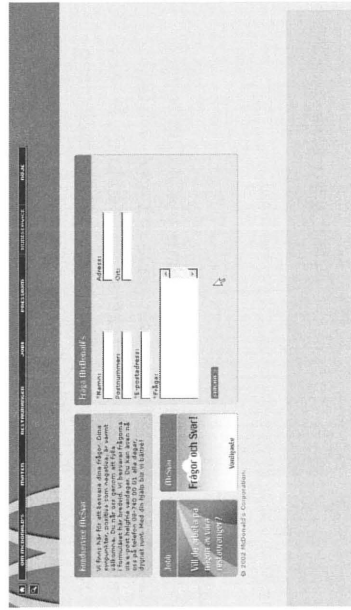
Japan (MAS 95)



Limited choices: only one possibility – write an email

service by providing many ways to get into direct contact with the company. On the Austrian (high MAS) website, it is much easier to find the fun and games section than contact information. The fun section contains technical content such as screensavers and wallpapers, a link to send an e-card and a score-based game. A client service section is not available on the Austrian website. Another supporting example is found at the Mercedes Benz website (table 23). There we find a very supportive search text on the Netherlands (low MAS) website, that also offers a practical

Sweden (MAS 5)



Austria (MAS 79)



Client service section much more prominent than gaming section, direct contact possible

Fun section that offers wall paper, extras and screen savers. No client service section

Practical, function-oriented

Game-oriented, technical content

Table 22 McDonalds website: practice-oriented vs. game-oriented

Netherlands (MAS 14)

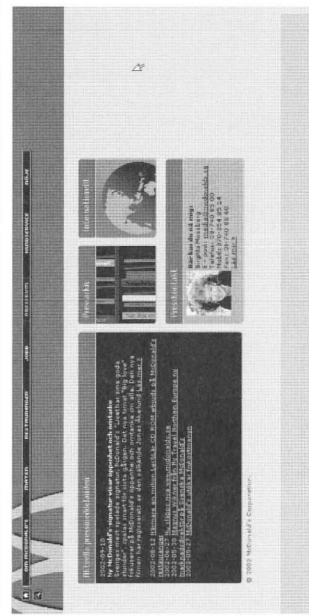
Switzerland (MAS 70)

Many tips and help items, added link to sitemap
Practical, function-oriented

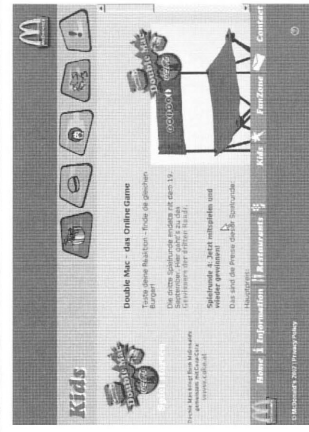
No tips, just a short explanation of what to do

Table 23 Mercedes Benz: usage of supporting help text

Sweden (MAS 5)



Austria (MAS 79)



Rounded soft-shades edges, warm colors

"Feminine" colors, shapes, acceptance of cuteness

Table 24. McDonald's website: usage of colors and shapes

Hard edges, more impact on technical appearance

"Masculine" colors, shapes

link to the sitemap. On the search page of Switzerland's (high MAS) localized version, there is only a short notice on what a user must do, but there is no supportive help text.

Appearance

In countries with a low MAS index one would expect harmonious colors and shapes. We can find examples for this expectation in the following websites.

McDonald's (table 24) Swedish (low MAS) page has rounded soft-shaded edges and warm colors whereas the Austrian (high MAS) page is designed in much "tougher," i.e., more saturated colors. The design approach of the Swedish website seems to be more subtle and elegant than the Austrian. Moreover the Austrian website uses Flash as the only technical implementation base (technically quite elaborate) and therefore forces the user to encounter technically a browser plug-in. The Swedish website uses Flash just as an add-on to the main website, which is implemented in HTML.

Comparing the Danish (low MAS) website of CocaCola (table 25) with the Italian (high MAS) website, we also find an argument for this interpretation. Denmark uses a very harmonious, relationship-oriented picture of a young couple. It may not be a coincidence that both persons look quite androgynous: low MAS countries do not emphasize gender differences. In other words, it is less important if the couple is a heterosexual or a homosexual one; the image is straightforwardly about harmony between people. The Italian page welcomes the user with the sound of a racing car, a very masculine connotation and reference to a competitive sport.

Although the Mercedes Benz website (table 26) is very similar in all the localized websites, we find a major difference in the design between Sweden (low MAS) and Germany (high MAS). The visual design approach from Sweden uses softer edges and shapes than the German approach. The German layout focuses more on clear structure and avoids any kind of cuteness.


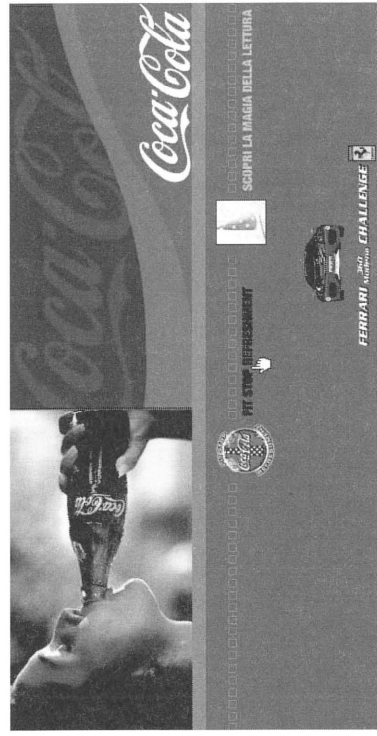


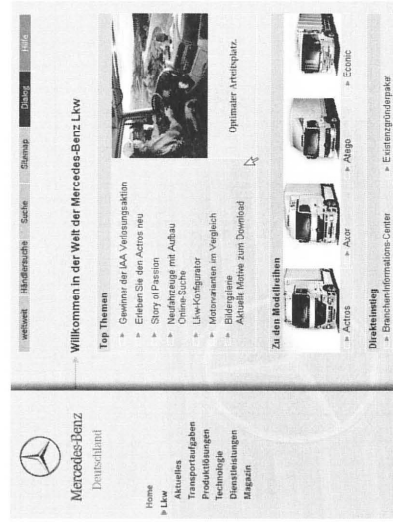
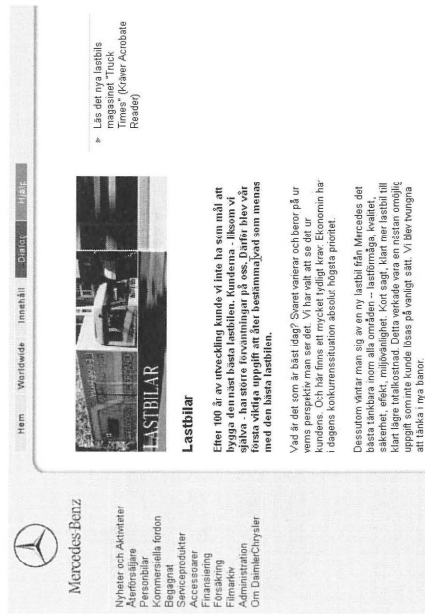
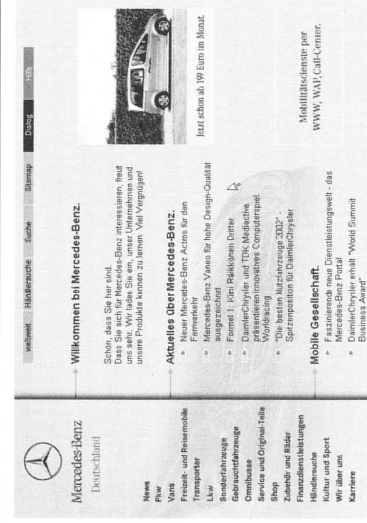
Denmark (MAS 16)	Italy (MAS 70)
	
	
<p>Harmonic imagery</p>	<p>Car and car sound on the entry page</p>
<p>Acceptance of cuteness, harmony</p>	
<p>"Masculine" sound, competition</p>	

Table 25 CocaCola website: usage of imagery (harmony vs. competition)



Softer edges and shapes

Clear structure, no cuteness

Table 26 Mercedes Benz website: usage of "soft" design

VISIBLE LANGUAGE 38.1

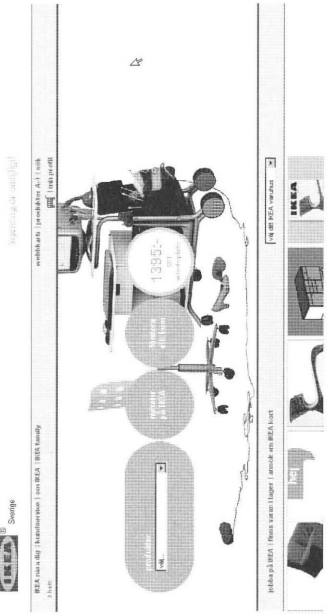
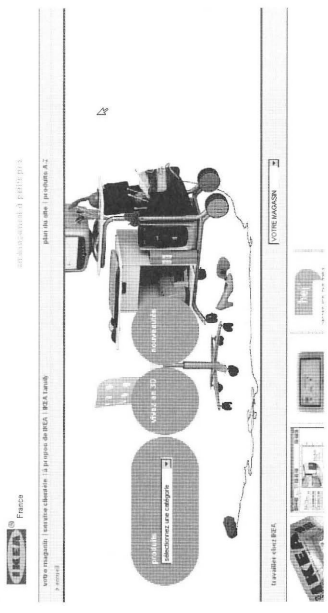
<p>Sweden (UA 29)IKEA</p>	<p>France (UA 86)</p>
 <p>Sweden (UA 29)IKEA</p> <p>Tagline: <i>Ingenting är omöjligt</i> <i>Nothing is impossible</i></p>	 <p>France (UA 86)</p> <p>IKEA Tagline: <i>Aménagement à petit prix</i> <i>Design at (a) small (low) price</i></p>
<p>abstraction</p>	<p>representation</p>

Table 27 IKEA website: *textual uncertainty avoidance*

Uncertainty Avoidance

Metaphors

Applying Hofstede’s theory about uncertainty avoidance to the user interface component of metaphors, one can assume that countries with low uncertainty avoidance would not shun and might prefer novel, unusual references and abstraction, whereas cultures with a high amount of uncertainty avoidance would ask for familiar, stable and clear references to daily life and its representation instead of abstraction.

Table 27 and table 28 show two good examples to support the theory. IKEA is a European furniture store that is known for its casual, easy-going advertisement style and its low prices. The Swedish (low UA) website uses the slogan “Nothing is impossible,” which is quite ambiguous. The French (high UA) website uses the very specific slogan “Design at (a) small(low) price.” We can find a similar situation at the Sapient website: all websites localized for countries with a UA under 65 use the slogan “Making Technology Matter,” which is not very specific. Italy and Japan score high on the UA scale and use the more precise text “Designing Technology Humans Can Use.”

US (UA 46), Canada (UA 48), India (UA 40), Germany (UA 65), UK (UA 35)



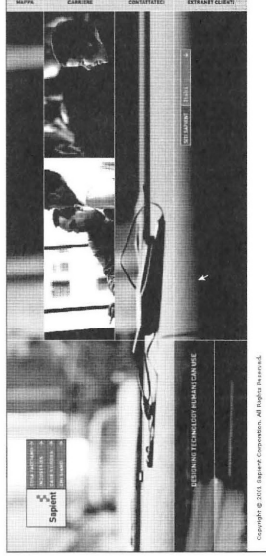
Tagline: MAKING TECHNOLOGY MATTER

Abstraction

Table 28 Sapiient website: abstraction vs. clear reference to daily life

The same pattern holds not only for textual elements but for imagery. When comparing (table 29) the British (low UA) and the Belgian (high UA) websites, we can find pictures that act as metaphors. The UK website shows a very dynamic photo of unidentifiable technical objects and the slogan “Welcome to SIEMENS in the UK” which is an abstract representation of the company. The Belgian website shows a variety of pictures

Italy (UA 75), Japan (UA 92)

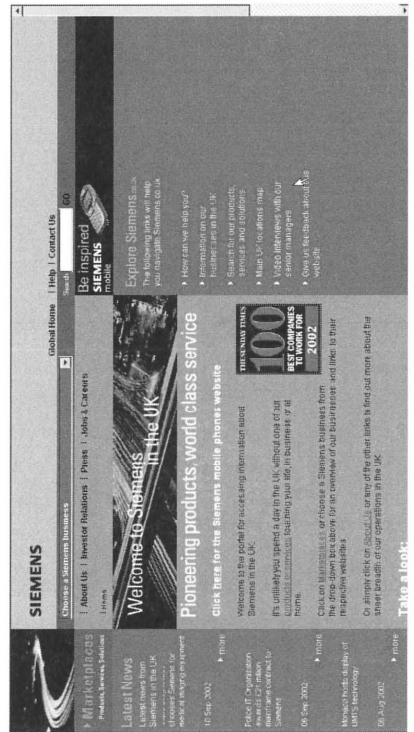


Tagline: DESIGNING TECHNOLOGY HUMANS CAN USE

Clear reference to daily life

with references to daily life. They act as representations. Put side-by-side, the service section of Mercedes Benz (table 30) in the localized version for Singapore (low UA) and for Japan (high UA), shows a comparable situation: Singapore focuses on the relationship (Singapore has a low IDV value) and therefore abstracts the service by showing a sales person serving a client. Japan shows a mechanic actually working on the motor of the car.

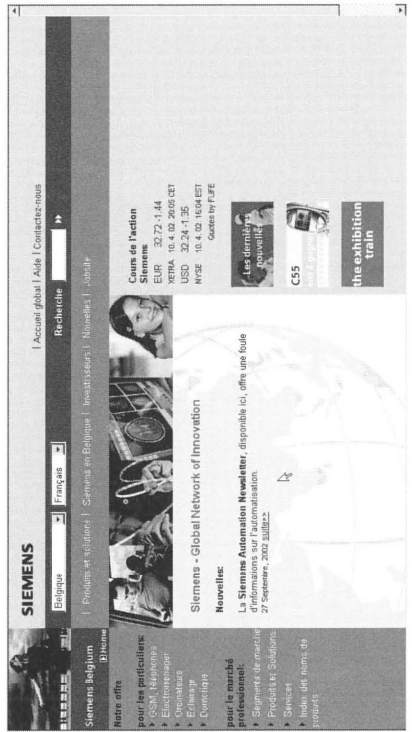
United Kingdom (UA 35)



Novel, unusual references, abstractions

Table 29 Siemens website: abstraction vs. representation

Belgium (UA 94)



Familiar, clear references to daily life, representations

Home International Site-Map Downloads Help

Mercedes-Benz Singapore

- News
- Transmission Care
- Car Care
- Car Configurator
- Financing
- Service
- MB Accessories
- MB Collection
- About Us
- Entertainment

Mercedes-Benz Service - Always The Right Decision

You already know that in purchasing a new Mercedes-Benz you are getting the best in engineering and technical standards. However, even the best engineering can malfunction at times. Mercedes-Benz Service offers a series of additional services to give you real help when necessary. These range from services for the specific product to personal services for you.

For more information about the Services Available, our Service Packages and how and where you get our Services please click on the following items.



Worldwide Dealer/Chrysler in Japan Stamp English Help

Mercedes-Benz Japan

HOME
 1-800-800-0000
 カラダのケア
 最新車の情報
 中古車販売
 正規ディーラー
 アフターサービス
 ニュース
 モーターショー
 コレクション
 24時間緊急
 サービス

アフターサービス

メルセデス・ベンツが買ってきたもの、それはより大きな満足と夢を人々に与えたいという情熱。そして、その情熱と夢と情熱をメルセデスにお乗りいただき、お楽しみいただけることを、メルセデス・ベンツが実現しています。

メルセデス・ベンツが買ってきたもの、それはより大きな満足と夢を人々に与えたいという情熱。そして、その情熱と夢と情熱をメルセデスにお乗りいただき、お楽しみいただけることを、メルセデス・ベンツが実現しています。

- ※ 修理で必要なパーツを迅速に届ける
- ※ サービスプログラム
- ※ メルセデス・ベンツの最新車種
- ※ 修理のたびにメルセデス・ベンツの最新車種
- ※ リコー・ドローン
- ※ 最新カー・コンピュータ



Table 30 Mercedes-Benz website: abstraction vs. representation

Mental Model

Because the mental model and navigation are closely related (structure and process), these are affected similarly and are considered together in this next set of examples.

Considering the mental model, we can expect tolerance for ambiguity, implicit structures or relations, complexity and fuzzy logic in countries with low uncertainty avoidance. Conversely, we can expect simple, explicit, clear articulation; limited choices and binary logic in countries with high uncertainty avoidance.

Navigation

As stated above, the components of mental model and navigation are considered together as they react similarly based on the previous description of expectations.

Both Switzerland and Belgium, are multilingual countries. When a user enters the Siemens website (*table 31*) of Switzerland (low UA), it is possible for her/him to choose among languages, but it is also possible to directly access several provided links. The Belgian website offers a more binary logic: a user always must decide at the beginning in which language s/he wants to

Switzerland (UA 58)



Belgium (UA 94)



Fuzzy logic: User can choose languages but also dive directly into the website

Binary logic: User must choose language before entering content

Table 31 Siemens website: fuzzy logic vs. binary thinking

explore the website. Not until this is done can s/he navigate deeper into the mental model of the website.

Table 32 shows a similar situation: the Belgian (high UA) McDonalds website provides a highly redundant navigation (the icons are text-labeled and appear both in the navigation area and in the content area), whereas the British (low UA) website offers a non-redundant navigation: the icons appear only once on each page.

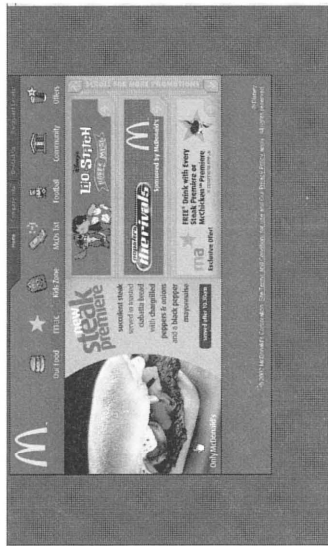
Another example can be found at the Siemens website (table 33). The British (low UA) website has a quite unclear structure in the Jobs section. Windows that pop up at full window size, do not clearly indicate that the user is now in a different section/window. The Belgian (high UA) also offers a pop up module in the job section, but the indication is very clear, because the window is started in a smaller mode and the

choices are limited. The same is true for the News section on the front page (table 34): the British page offers a permanent moving news ticker that shows dozens of information bits in a minimum of time. The Belgian news section is static and remains the same on the entire website.

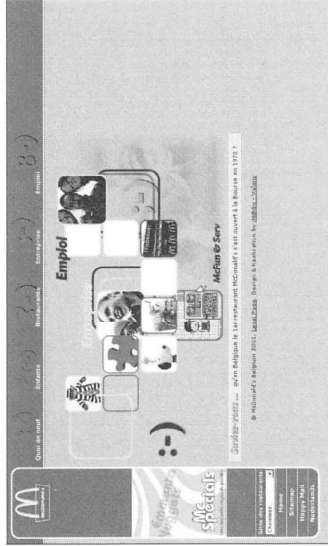
Appearance

Considering the user interface component of appearance, one can assume that countries with low uncertainty avoidance (UA) may prefer, or at least accept, more varied, ambiguous, less-consistent imagery, terminology and sounds. We may expect tolerance for more perceptual characteristics involved in purely ornamental or aesthetic use and less redundant coding of perceptual cues. Countries with a high UA may prefer simple, clear, and consistent imagery, terminology and sounds. The users may expect highly redundant coding of perceptual cues.

United Kingdom (UA 35)



Belgium (UA 94)



No redundant coding – items appear only once

Highly redundant coding

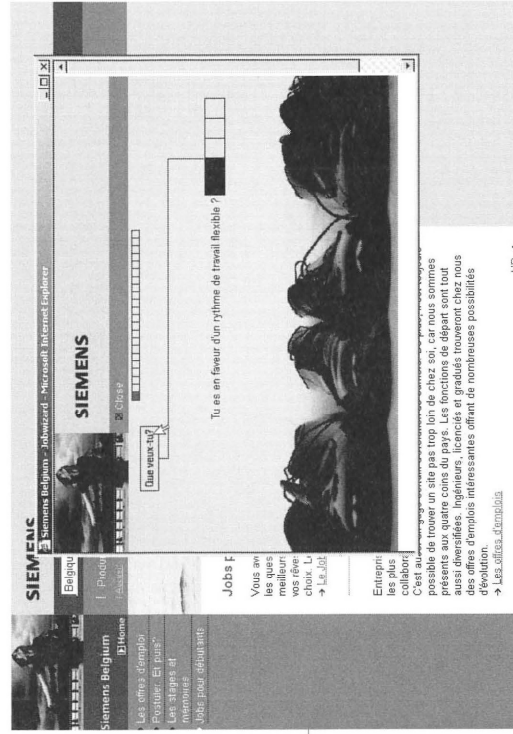
Table 32 McDonald's website: use of redundancy

United Kingdom (UA 35)



Unclear structure, windows popping up not indicated clearly

Belgium (UA 94)



Pop up window indicated clearly, clear structure

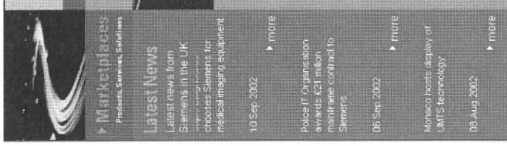
Complexity

Table 33 Siemens website: complexity vs. limited choices

Limited choices

United Kingdom (UA 35)

Permanent moving news ticker offering dozens of information bits



Multiple options

Belgium (UA 94)



Static menu, remaining the same on the whole website

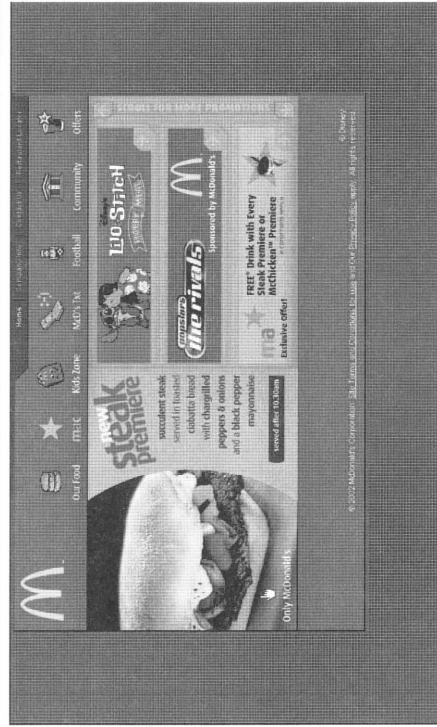
Limited options

Table 34 Siemens website: amount of options provided

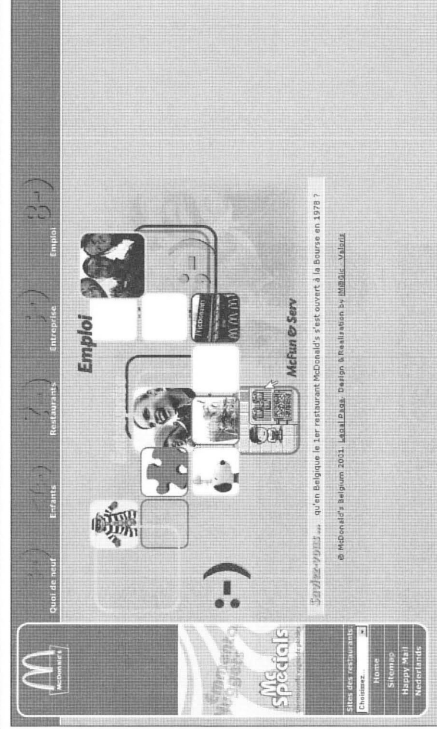
Again, we can find an example corroborating these assertions by comparing the UK (low UA) with Belgium (high UA). At the McDonalds website (table 35) we find navigation that uses quite inconsistent icons throughout the website. The icons used on the Belgian website are consistent to a much greater extent.

Likewise, the imagery on the Siemens website is much more consistent and redundant on the Belgian website than on the British website (tables 36 and 37).

United Kingdom (UA 35)



Belgium (UA 94)



Less consistent imagery

Consistent imagery

Table 35 McDonalds website: usage of consistency

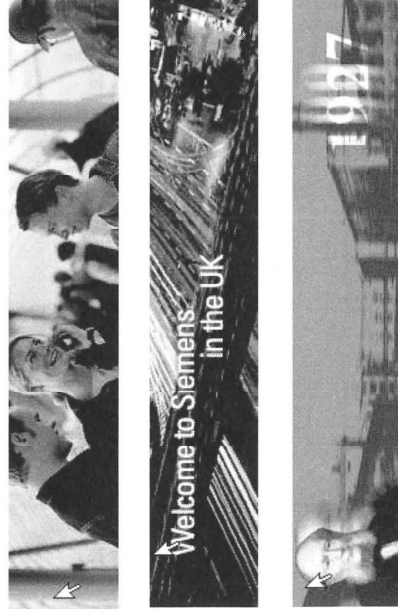
Long- vs. short term (time) orientation (LTO)

Mental Model

Hofstede's theory seems to imply that long-term, time-oriented countries would more actively pursue the long-term perspective.

The following example (table 37) shows the difference in mental model concerning long-term time orientation: Pakistan (low LTO) mentions in this text on the Siemens website the size and locations of the company. China (high LTO) focuses on the long-lasting history of the company.

United Kingdom (UA 35)



Belgium (UA 94)



Varied, ambiguous, less consistent imagery

Simple, clear, consistent imagery

Table 36 Siemens website: *variety vs. consistency*

Interaction

Regarding interaction in short-term, time-oriented countries we can assume that distance communication is accepted as more efficient, and therefore, anonymous messages are tolerated more. Inhabitants of long-term, time-oriented countries may prefer face-to-face communication, harmony, and to achieve that harmony, personalized messages.

We find an example of this pattern at the Hitachi website (*table 38*). The US (low LTO) website offers a contact page on which the user just can find a web form to place a message. At the Singaporean (high LTO) website, we find a web form as well as personal contact information. The personal information is positioned at the top of the page, so it seems more likely that the user selects this personal form of communication.

Pakistan (LTO 0)	China (LTO 118)
<i>Siemens Pakistan Engineering Co. Ltd., with headquarters in Karachi and two regional branches in Lahore and Islamabad, is one of the largest international companies in Pakistan.</i>	<i>Siemens co-operation with China began in 1872.</i>
Emphasis on size	Emphasis on history

Table 37 Siemens website: importance of time

HITACHI
Inspire the Next

CONTACT US

Feedback

Please help us serve you better! Give us your feedback, and recommendations. When you are done, press SEND at the bottom of the page. Or email feedback@hitachi.com.

1.800.HITACHI
1.800.HITACHI was established to give our U.S. customers a way to reach Hitachi products and service information.

First Name *
Last Name *
Email *
Country *
Display Name *
Subject *Comments
SEND

HITACHI
Inspire the Next

Product Category: [Make a Selection]

Hitachi Home Electronics Asia (S) Pte Ltd
10 Collyer Quay
Hitachi Tower #20-00
Singapore 049318
Tel: (65) 536 2521
Email: singapore@hitachiconsumer.com

For Corporate related matters, please use this form to contact Hitachi Home Electronics Asia (S) Pte Ltd (HHEB):

For consumer / products related enquires, please visit us at CustomerService.Latitea.

Name *
Company *
Designation *
Contact Number *
E-mail *
Your Country * [Singapore]
Message *
SEND Clear

No personal no-electronic information, just Web form mail contact

Personal, no-electronic communication information on top

Preference for face-to-face communication

Table 38 Hitachi website: usage of communication methods

Appearance

Short-term, time-oriented countries seem more likely to focus on achieving goals quickly; hence, they might tend to show fewer things, avoid overly ornamented imagery and focus on achieving practical goals. Long-term, time-oriented countries might do just the opposite.

Table 39 shows the usage of imagery in long-term oriented countries in comparison with short-term oriented countries. China (high LTO) uses warm, fuzzy images and pictures of groups, whereas Pakistan (low LTO) concentrates on showing tasks or products.

Design Observations

Visual syntax patterns

The previous analysis has concentrated on specific cultural dimensions and, within each, the likely characteristics of user-interface components. The following section discusses observations among the data collected that concern visual syntax and their relation to culture dimensions.

For example, comparing the images that are placed on each of the thirty-eight localized websites of PeopleSoft, we find the following patterns.

Power Distance

Ordered by Power Distance (table 40) it is conspicuous that:

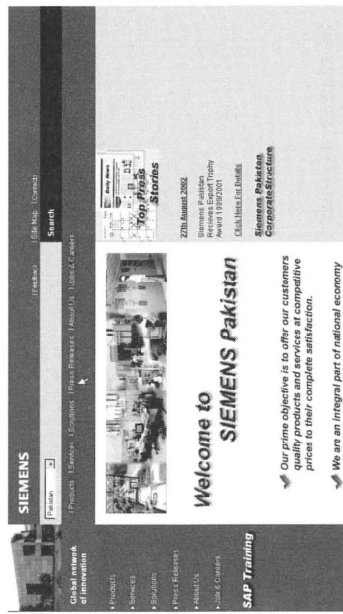
- All countries that abstain from a picture on the front page have a very low power-distance value.
- The eight highest countries regarding their PD value show the picture of a man.

Individualism

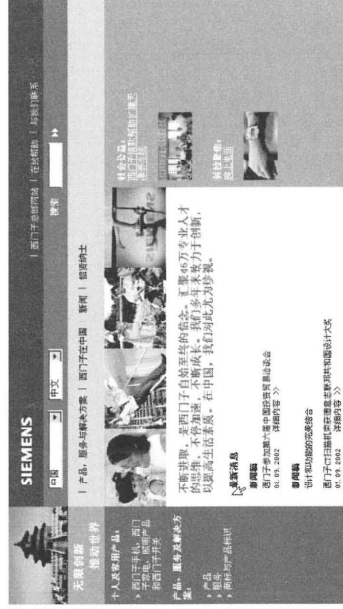
Regarding individualism (tables 41 and 42), we see the following.

- The “individualism” of the pictures at the PeopleSoft website increases with the amount of IDV value, i.e., the eleven lowest individualism countries show only two different pictures, while the high IDV countries favor unique, or at least more varied images and they tend to emphasize close-ups.

Pakistan (LTO 0)



China (LTO 118)



Concentration on showing tasks or products



Warm, fuzzy images, pictures of groups

Table 39 Siemens website: task-oriented vs. group-oriented

VISIBLE LANGUAGE 38.1



Low	(6)*	High
Guatemala (8)	Taiwan (17)	New Zealand (79)
Ecuador (8)	Singapore (20)	Canada (80)
Panama (11)	Thailand (20)	Netherlands (80)
Venezuela (12)	Chile (23)	Great Britain (89)
Columbia (13)	Hong Kong (25)	Australia (90)
Indonesia (14)	Malaysia (26)	USA (91)
Costa Rica (15)	Mexico (30)	
Peru (16)		
	Philippines (32)	
	Uruguay (36)	
	Brazil (38)	
	Argentina (46)	
	Japan (46)	
	India (48)	
	Spain (51)	
	Finland (63)	
	Germany FR (67)	
	Norway (69)	
	Ireland (70)	
	France (71)	
	Sweden (71)	
	Denmark (74)	
	Belgium (75)	
	Italy (76)	

Table 41 PeopleSoft website: front page imagery in order of IDV *Number in parentheses indicates Hofstede's value for individualism

- The arrangement of the pictures of the low individualism countries is very symmetrical.
- Among the fifteen lowest rated countries regarding IDV, there are no people shown on the Siemens localized website imagery, whereas we can find images of people in those countries that have a higher IDV.

Masculinity

Regarding masculinity (*table 43*) we observe the following.

- The countries with the lowest masculinity index show no pictures. The Netherlands (MAS 14) provides a picture of a man who looks the most androgynous among all localized front-page pictures.
- Japan, the country with the highest MAS index (MAS 95),

selected four different pictures that appear randomly. The pictures are chosen very “symmetrically.” Two men, two women, two of them looking directly into the eyes of the viewer, the gaze of the others is directed out of the picture. Italy (MAS Rank 70) shows a man and a woman with a gesture of connection. Great Britain (MAS rank 66) is the only country that chose three people to give the company’s first impression: three women working in front of a laptop.

Long-Term (Time) Orientation

- The two countries with the highest long-term time orientation are the only ones that show the picture of a relatively mature women. (*table 44*)

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Low	High
Guatemala (6)*	Denmark (74)
Ecuador (8)	Belgium (75)
Panama (11)	Italy (76)
Venezuela (12)	New Zealand (79)
Columbia (13)	Canada (80)
Indonesia (14)	Netherlands (80)
Pakistan (14)	Great Britain (89)
Costa Rica (15)	Australia (90)
Peru (16)	USA (9)
Taiwan (17)	Austria (55)
Singapore (20)	Finland (63)
Thailand (20)	South Africa (65)
Chile (23)	Germany FR (67)
Hong Kong (25)	Switzerland (68)
Malaysia (26)	Norway (69)
Portugal (27)	Ireland (70)
Yugoslavia (27)	France (71)
Mexico (30)	Sweden (71)
Philippines (32)	
Greece (35)	
Uruguay (36)	
Turkey (37)	
Brazil (38)	
Argentina (46)	
Japan (46)	
India (48)	
Spain (61)	

Table 42 Siemens website: front page imagery in order of IDV *Number in parentheses indicates Hofstede's value for individualism



Low	High
Sweden (5)*	Philippines (64)
Norway (6)	Great Britain (66)
Netherlands (14)	Germany FR (66)
Denmark (16)	Ireland (68)
Costa Rica (21)	Mexico (69)
Finland (26)	Italy (70)
Chile (28)	Venezuela (73)
Thailand (34)	Japan (95)
Guatemala (37)	
Uruguay (38)	
Peru (42)	
Spain (42)	
France (43)	
Panama (44)	
Taiwan (45)	
Indonesia (46)	
Singapore (48)	
Brazil (49)	
Malaysia (50)	
Canada (52)	
Belgium (54)	
Argentina (56)	
Colombia (64)	
India (56)	
Hong Kong (57)	
New Zealand (58)	
Australia (61)	
USA (62)	
Ecuador (63)	

Table 43 PeopleSoft website: front page imagery in order of MAS

* Number in parentheses indicates Hofstede's value for masculinity

Consumer websites vs. business-to-business websites

When examining Coca-Cola and McDonalds (tables 46 and 47) as representatives of consumer-oriented websites, it is clear that the page-content focus is on entertainment and fun.

Regarding the design, only the main corporate signs (color and logo) are the same on each website; the design varies greatly from country to country. There is also significant variation in navigation, and even the sections of content provided differ from website to website.



Low	Philippines (19)	Canada (23)	Great Britain (25)	USA (29)	New Zealand (30)	Australia (31)	Germany FR (31)	Sweden (33)	Netherlands (44)	Singapore (48)	Thailand (56)	India (61)	Brazil (65)	Japan (80)	Taiwan (87)	Hong Kong (96)	China (118)	High
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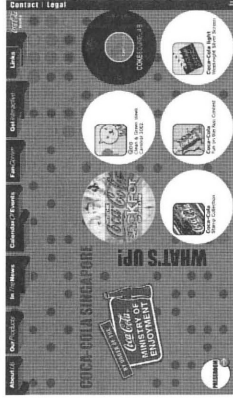
Table 44 PeopleSoft website: front page imagery in order of LTO

*Number in parentheses indicates Hofstede's value for long term orientation

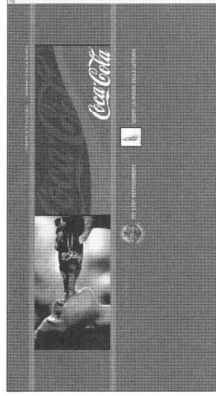
USA



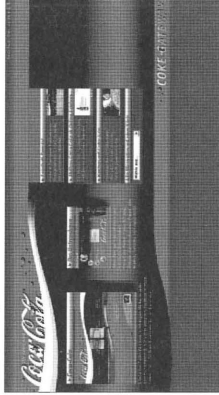
Singapore



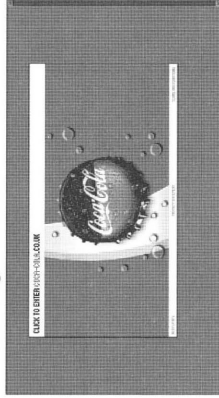
Italy



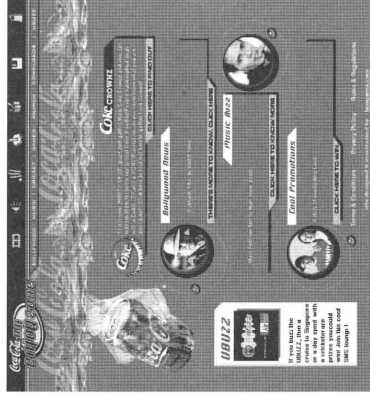
Germany



United Kingdom



India



China

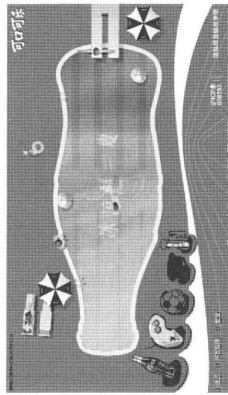
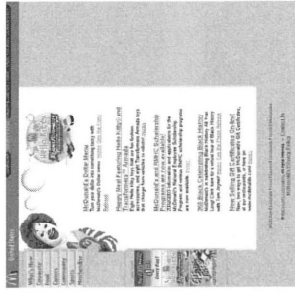


Table 45 CocaCola websites differ greatly from country to country

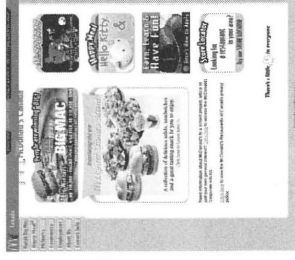
Contrast that variation with more business-to-business related websites (tables 47 and 48). They do not vary that much; they are localized but in more subtle ways. The content is largely the same on each localized website, and the design stays within a corporate framework.

Starting from this observation, we can assume that companies that have the end user in mind will care more about the appropriate localization of their websites. Presenting a global image is less important than meeting the needs of the consumer in each country. It appears that business-to-business (B2B) websites focus more on corporate identity.

USA



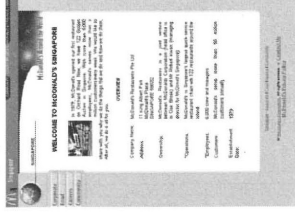
Canada



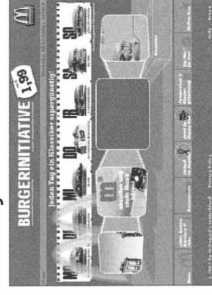
Japan



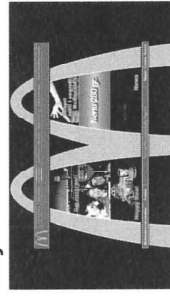
Singapore



Germany



Italy



India



Table 46 McDonald's websites differ greatly from country to country

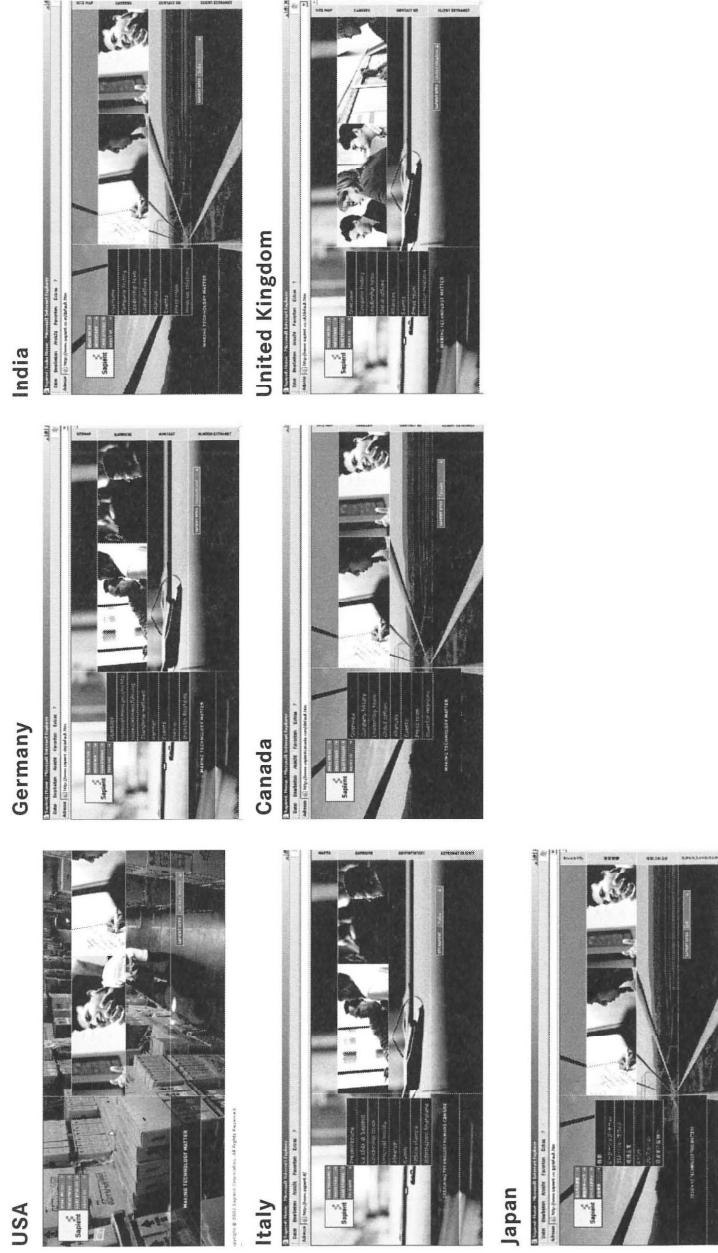


Table 47 Sapient localized websites show subtle difference

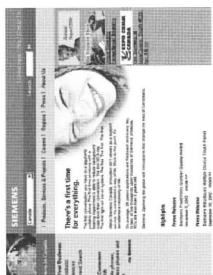
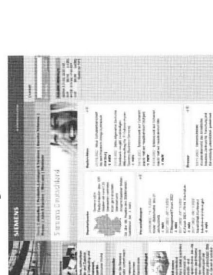




<p>USA</p> 	<p>Canada</p> 	<p>India</p> 
<p>Italy</p> 	<p>Germany</p> 	<p>United Kingdom</p> 
<p>Japan</p> 	<p>China</p> 	<p>Singapore</p> 

Table 48 Siemens' localized websites

Another important factor within this observation is the use of content management systems (CMS); it seems that most end-user oriented websites do not use a global CMS – it would be very costly and labor intensive to produce such a CMS for that many different websites within a company. B2B companies tend to use CMSs, which probably is also a reason for these kinds of websites to be less localized in terms of culture.

Combination of dimensions

During the course of investigation, it was not foreseen that at least two countries differ strongly from the standard approach to corporate style patterns: Italy and Great Britain. The following section shows examples and tries to interpret this fact.

Italy	All other countries
<div style="border: 1px solid black; padding: 5px;"> <div style="background-color: #cccccc; text-align: center; padding: 2px;">Clients</div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;"> Industries Clients </div> <p>Per oltre 10 anni abbiamo lavorato con le più importanti aziende di tecnologia per realizzare concreti risultati di business.</p> <p>In Italia siamo presenti dal gennaio 2000 e abbiamo già lavorato per economiche del paese:</p> <ul style="list-style-type: none"> Alinaweb Associazione Banca Italiana BTTicino </div>	<div style="border: 1px solid black; padding: 5px;"> <div style="background-color: #cccccc; text-align: center; padding: 2px;">Clients</div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;"> Industries Clients </div> <p>For more thi such as the:</p> <ul style="list-style-type: none"> Adobe Alcoa American Air American Ca assenta hom American Ce </div>

Table 49 Sapiant website: Italy is the sole country that separates Italian and worldwide clients

Italy is different

PD	IDV	MAS	UA
Rank 34	Rank 7	Rank 4	Rank 23

Visiting the client section of the Sapiient website, the user finds a list of worldwide Sapiient clients, except in the Italian version where the user finds a list of Italian clients. To see the worldwide Sapiient clients, one additional click is necessary. The same is true for the “leadership team” section: all other countries list the worldwide senior officers first and append the names of the local leadership team. Italy lists their Italian leaders first.

The United Kingdom is different

UK	PD	IDV	MAS	UA
Rank 34	Rank 7	Rank 4	Rank 23	Rank 23

Within the whole version of Sapiient’s United Kingdom website, the UK website uses imagery differently from the other countries. Examining how these two countries score in Hofstede’s cultural dimensions, we find that the UK, as well as Italy, have very low power distance values on the one hand and relatively high individualism values. The low power distance might support the unilateral change regarding corporate specifications; the combination with the high power distance is an additional supporting factor for this “stepping out of line.”

Italy

Senior officers - Italia

- Gianfilippo Cuneo
- Karim Bibawi
- Alfio Puglisi
- Guido Crespi
- Valeria Martinetti

Senior officers - Corporate

- Jerry A. Greenberg
- J. Stuart Moore

All other countries

Senior officers

- Jerry A. Greenberg
- J. Stuart Moore
- Preston B. Bradford
- Chris Davey
- Sherry D. Desai
- Benoit Gauchern
- Alan Herrick
- Steven J. Hoffman
- Susan D. Johnson
- Tracy Keogh
- Don R. Nelson
- Jane E. Owens

Deutschland

- Arndt Paulenberg
- Dr. Christian Overstall

Table 50 Sapiient website: Italy lists Italian leaders first



United Kingdom	All other countries
	
	

Table 51 Examples for the different usage of imagery on the UK Sapiient website

Conclusion

In this semi-formal exploration of websites, we found that the method used (described at the beginning of this text) helps to organize and analyse the collection of data.

Initial observations suggest that cultural habits run deeply and operate even under constraints of global design specifications. In high individualism and low power distance countries, variations from standard practice are likely to be most frequently observed.

We wish to point out that presenting the examples cited, while useful to illustrate patterns, does not necessarily mean that, *ipso facto*, any particular pattern is the right way to design or

revise a user interface for a particular application or culture. The designer must take both context and culture into account. In addition, the user-interface designer also might consider how these patterns may influence cultures and design conventions, which undergo a continuous process of change.

One likely result of such research is a “culturebase” with specific conditions and predictable results that would inform a content management system, e.g., for large corporate websites. However, to draw specific conclusions and to use them in a content management system, more data are needed. This research method seems interesting and productive. Further research could produce quantitative and qualitative results that may feed culture-localization templates and tools.

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Websites

The websites were analyzed from Oct. 3rd - Nov. 4th 2002. The following URLs point to the global gateways of the websites.

http://www.coca-cola.com
 http://www.hitachi.com
 http://www.ibm.com
 http://www.mazda.com
 http://www.mcdonalds.com
 http://www.mercedes.com
 http://www.peoplesoft.com
 http://www.sap.com
 http://www.sapient.com
 http://www.siemens.com

Author notes

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Valentina-Johanna Baumgartner studied humanities at the University of Graz and Bremen and is a graduate from the Fachhochschule Joanneum in the field of Information Design. In the early 1990s she co-founded "mavas - Webengineering and Screenusability" and was involved in numerous design projects for the web. During her work at Aaron Marcus and Associates and her thesis work (A Practical Set of Cultural Dimensions for Global User-Interface Analysis and Design), she specialized in the field of intercultural user interface design. Currently she is working for Drei, a Hutchison 3G subsidiary in Austria in the field of telecommunications.