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Cross-Cultural User-Experience Design: What? So What? Now What?



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Presentation Summary

- Introduction and some definitions
- Applying culture to user-experience design theory and practice
- Some challenges ahead
- Looking toward the future: evolution and revolution

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Introduction

- Modern technology and commerce permit global distribution of products, services
- User diversity: Ever increasing variety of group demographics and individual needs/wants
- Traditional user-interface design and usability disciplines: Improve performance and productivity
- User-experience (UX) design issues: Even more complex and challenging
- Culture analysis offers a way to understand, even measure, differences and similarities of UX

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Some Definitions: User Interface and Information-Visualization

- User-interface components
 - **Metaphors:** Essential concepts in words, images, sounds, touch
 - **Mental Models:** Organization of data, functions, tasks, roles, of people at work or play, static or mobile
 - **Navigation:** Movement through mental models via windows, dialogue boxes, buttons, links, etc.
 - **Interaction:** Input/output techniques, feedback
 - **Appearance:** Visual, verbal, acoustic, tactile
- Information visualization/sonification
 - Visualizations of structures and processes
 - Abstract vs. representational
 - Classical: Tables, forms, charts, maps, diagrams
 - Innovations: Hyperbolic browser, Tree maps, Table lens

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Some Definitions: User-Experience (UX) Design

- Enlarged scope of objectives for products/services
 - Usable: Efficient, effective, satisfying (ISO definition)
 - Useful
 - Appeal, delight, fun, engagement, emotions, branding
- Experience covers all stakeholder "touch-points"
 - Buyer, customer, user, learner, expert, advocate, staff, investor
- Focus on content, brand, emotions
- Evaluation techniques shift
 - Ethnographic analysis, shadowing, as well as focus groups, tests
 - Underlying emotional motivations of "non-rational" customers
 - Users involved within socio-cultural context

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User-Experience Spaces: Opportunity Spaces



- I-ware = Me-ware, My-ware
- You-ware = Love-are
- Fun-ware
- Buy-ware = Sell-ware
- Know-ware = Who-ware, What-ware, Why-ware, Where-ware, When-ware
- Be-ware

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Culture as a Context and Technique

- Culture interested in large-scale and small-scale group behaviors (rituals), leaders/followers, values, artifacts, signs
- Many culture models exist as bases for analysis, design, evaluation
- Culture analysis related to semiotics/semiologie, the science of signs: what do things “mean”
- Culture affects every aspect of development
- Culture-centered design seems “inevitable”

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UX Development Process + Culture and Globalization Awareness

- **Plan:** brainstorming
- **Research:** technology, design issues, strategies
- **Analyze:** user profiles, use scenarios, prototypes
- **Design:** content, applications, brand, storytelling
- **Implement:** scripting, coding, final production
- **Evaluate:** focus groups, user tests, heuristic evals.
- **Document:** guidelines, patterns, specifications
- **Train:** courseware, tutorials, mentoring
- **Maintain:** continuing client relations

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Design

- Becomes embedded in group and local cultures
- Implies that “meaning” derives both from the designer *and* what the user brings to the artifact
- Culture-studies suggest that in the era of instant, global media, cultures are always being affected and evolving
 - Remember: Chinese culture was not always “Confucian”
- As with communication (you cannot “not communicate”), you cannot escape being biased culturally
- All objects are cultural objects


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Focusing: the Web

- Global
- Immediate communication, interaction, and UX
- Web = Cultural artifact
- Need for greater understanding of “localization”
- Localization issues far beyond translation

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In a trans-global economy, should every Website look like this?



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Which Website for Saudi Arabia is Better?



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Arabia On.Line

Original Revised

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Examples: South Africa, India

- Many races, ethnic groups, languages
- Many challenges, but also opportunities

Beckwith and Fisher, *Rituals of Africa*, Abrams, New York, 2000
 [BusinessWeek, 5 July 2004, p. 14]

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Example: A Present from India

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Example: Food-Shopping Menus

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International Issues

- Geographic, political, linguistic
 - Example: ISO CRT-color, icon, and UI standards
 - Example: Canadian bilingual requirements
 - Example: Currency, time, physical measurements

Singapore Drug Laws
 Apple iLife Website Country/Language Switcher

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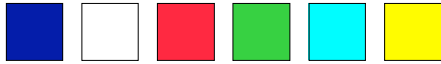

Intercultural

- Religious, historical, aesthetic:
 - Example: Calendars, Le weekend = Thu/Fri in some Moslem states
 - Example: Color/type/signs/terms

[Wall Street Journal, 21Jan04, p B7]
 [Iraq issue = <http://www.npr.org/templates/story/story.php?storyId=4540715>]

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Example: Color Sets

- Sacred Colors
 
- High- vs. Low-Chroma Colors
 

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Example: Flag's Colors Refer to Cultures, Religions, Histories



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Example: Political Colors

- USA
 - Blue/red = liberal/conservative states
- International
 - Iran: Pink = advocates of women's rights/reforms
 - Ukraine: Orange = pro-West
 - Lebanon: Cedar = anti-Syrian independence-minded Lebanese
 - Iraq: Voters in first free elections (with upraised finger)



Vinciguerra, T. (2005). "The Revolution Will be Colorized." New York Times, 13 March 2005, WE-12.

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Aesthetics: Dionysus/Apollo

- Cultural preferences exist for color, layout, textures, and patterns
- Europe/USA/Chinese/Japanese/Indian architecture, painting, sculpture exhibit typical preferences
- Traditional vs. popular styles:
 - Japan: Highest = B+W, asymmetric balance
- Specific attitudes: Body parts, Harel, Prabhu research in China, Japan [IWIPS99 Proc.]

In Korea red is an unlucky colour.

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Localization

- Small-scale communities with preferred jargon, signs, rituals:
 - Affinity group example: USA Saturn owners
 - Social group example: Japanese housewives
 - Web group example (geo-dispersed): MP3.com
 - Not lifestyle groups: Clausen, *Faded Mosaic*, 2000
 - Resources: LISA, Hoft, Sapient.com, etc.

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Business Challenges: How to Account for UX and Culture?

- Determine optimum characteristics: Relies on market and user data
- Assist and appeal to target markets: Achieves short-term and long-term success
- Avoid too many variations: Wastes time and money

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Culture Models and Culture Dimensions

- Kluckhohn and Strodtbeck: Value orientations
- David Victor: Cultural features
- Edward Hall: Context and time
- Fons Trompenaars (including Parson's Pattern Variables): *Riding the Waves of Culture*
- Geert Hofstede: Culture dimensions
- Ruth Benedict, *Patterns of Culture*, 1939

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Kluckhohn and Strodtbeck: Value Orientations, 5 Existential beliefs

- Character of human nature (good, evil, mixed; changeable or given)
- Relationship to nature (mastery, harmony, mastered by)
- Time (past, present, future orientation)
- Human action (doing, being, becoming)
- Relationships to others (individualism, lineality, collectivity)

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Victor, Hall, Trompenaars: Other Theoretical Bases

- Structure of language and culture
- Context: Focus on verbal/ nonverbal communication; information in explicit code or in physical environment
- Time: Focus on past/ present/ future; one/ many things at a time
- Additional existential dimensions

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Geert Hofstede's Cultural Dimensions

- *Cultures and Organizations: Software of the Mind*, Geert Hofstede, McGraw-Hill, 1997
- Hofstede examined IBM employees in 50 countries, 1978-83; analyzed statistical data
- Culture: Patterns of thinking, feeling, acting programmed by a particular group, not "refinement of the mind," civilization
- Differences of cultural manifestations: rituals, symbols, heroes/heroines, values

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Hofstede's 5 Dimensions of Culture

- Power-distance
- Collectivism vs. individualism
- Femininity vs. masculinity
- Uncertainty avoidance
- Long- vs. short-term orientation

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Issues with Hofstede's Culture Model

- Old data, pre-post-modern (no emphasis on media, sociology of culture, politics of culture)
- Corporate subjects only
- Assumes one culture per country
- Assumes fixed, unchanging relationships
- Gender roles, definitions debatable
- Seems too general, stereotypical
- Use widespread, but debated, even condemned

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1. Power Distance (PD)

- Extent to which less powerful members expect, accept unequal power distribution
- High PD countries
 - Centralized power in few hands; tall hierarchies
 - Ideal boss = benevolent autocrat, good father
 - Subordinates expected to be told what to do
- Low PD countries
 - Subs and Supers consider each other equals
 - Changeable roles; decentralized, flat hierarchy

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Key Differences: High Power Distance

- Inequalities expected and desired**
- Theory: Less powerful dependent on more
- Reality: Polarization of dep vs. counterdep
- Parents teach obedience; are respected
- Teachers: Initiate, give wisdom, respected
- Orgs hierarchical, centralized; big salary range**
- Boss = benevolent autocrat; subords reactive**
- Mgr. privileges, status expected, popular

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Key Differences: Low Power Distance

- Inequalities minimized; interdependence**
- Parents/children treat/ed as equals
- Teachers treated as equals; co-initiate
- More educ person has less authority values
- Flatter hierarchies in organizations**
- Decentralization popular; narrow salary ranges**
- Subs consulted; few privileges/status symbols
- Boss = resourceful democrat

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Implications for Global UXDesign: Examples for High Power Distance

- Structured, guided access to information
- Emphasis on larger social/ moral order (e.g. nationalism/ religion brought into Web context)
- Focus on expertise (authoritative content) and leaders (rather than customers/employees)
- Integrated security, unhidden "restrictions"
- Importance of certifications, awards, logos
- Social role used to organize information (e.g. special managers' sections)

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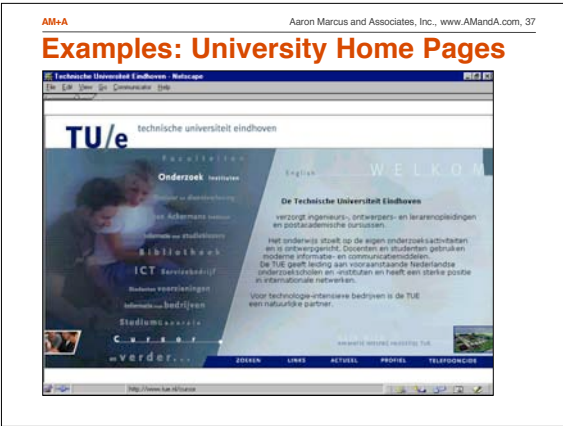
Examples of PD Index (PDI) in Web

Contrasting University Websites:

- Malaysia (PDI rating of 104; highest in Hofstede's index)
 - www.uum.edu.my (Universiti Utara Malaysia)
- Netherlands (PDI = 38; 40/53)
 - www.tue.nl (Technische Universiteit Eindhoven)

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Examples: University Home Pages

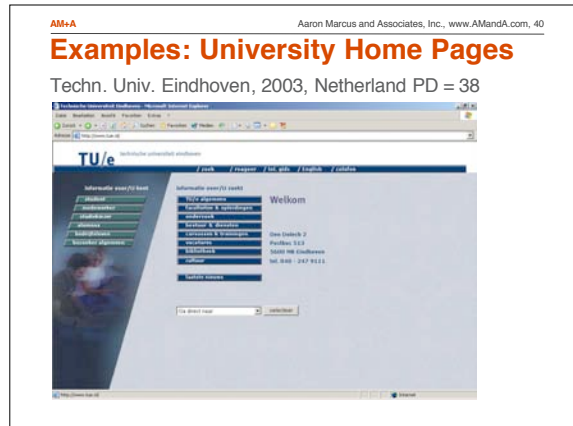


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Examples of PD Index (PDI) in Web

Contrasting University Websites 2003:

- Panama (PDI = 95)
 - www.utp.ac.pa (Universidad Tecnológica de Panamá)
- Netherlands (PDI = 38; 40/53)
 - www.tue.nl (Technische Universiteit Eindhoven)



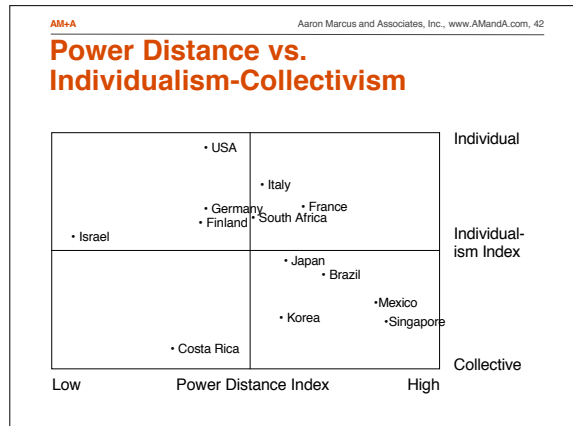
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Individualism vs. Collectivism in Societies

- **Individualism:** Ties between individuals loose: everyone expected to look after one's self or his/her immediate family (nuclear families)



- **Collectivism:** People from birth integrated into strong, cohesive in-groups, which continue to protect them in exchange for unquestioning loyalty (extended families)



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Examples of Individualism vs. Collectivism

- **Work:** Personal time, freedom, challenge vs. training, physical conditions, use of skills
- Extrinsic vs. intrinsic motivation at work: Conditions, material rewards vs. work itself
- **Family:** Honesty/truth vs. harmony
 - Talking vs. not talking
 - Guilt cultures vs. shame cultures
 - Self-respect vs. face
- **Education:** private vs. public schools

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Key Differences: Individualism

- Individual soc/econ interests over collective
- Right to privacy; private opinions expected
- Laws and rights same for all
- Restrained state in economy; high GNP/capita
- Political power of voters; press freedom
- Individual self-actualism = ultimate goal
- **Ideology of freedom**

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Key Differences: Collectivism

- Collective soc/econ interests over individual
- Group(s) invade private life, opinions
- Laws/rights per group; state controls press
- State dominates economy; low GNP/cap
- Political power of interest groups
- Harmony and consensus = ultimate goals
- **Ideology of equality**

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Implications for Global UX Design: Individualism

- Focus on maximizing personal achievement ("Expect the extraordinary")
- Materialism and consumerism demonstrate individual success
- Controversial/ argumentative speech and extreme claims encouraged ("truth")
- Images of youth/ activity rather than age/ wisdom ("doing," not "being")

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Implications for Global UX Design: Collectivism

- Individual roles downplayed (e.g. product shown on its own); focus may be on group
- Personal goals often intrinsic
- Preference for socially supportive and constrained claims; controversy discouraged because of its tendency to divide people (relationships, not truth)
- Respect for tradition (historical focus)

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Examples of Individualism/Collectivism on the Web


National Parks:

- Individualism: United States (IDV = 91; highest rating)
 - www.nps.gov/glba/evc.htm (Glacier Bay National Park)
- Collectivism: Costa Rica (IDV = 15; 46/53)
 - www.tourism-costarica.com/ (National Parks of Costa Rica)

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3. Femininity vs. Masculinity

- Distinction: Genders vs. gender roles
 - Generally: Assertiveness vs. modesty
- Traditional Gender Roles
 - Men: Assertive, competitive, tough
 - Women: Home/children, people-oriented, tender



[Time, 12 Apr 04, p23;
The Hindu, 28 Mar 04, p1]

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Masculinity vs. Femininity

- Masculinity: Distinct gender roles
 - Men: assertive, tough, focused on material success
 - Women: modest, tender, concerned with quality of life
- Femininity: Gender roles overlap
 - Both men and women = modest, tender, concerned with quality of life

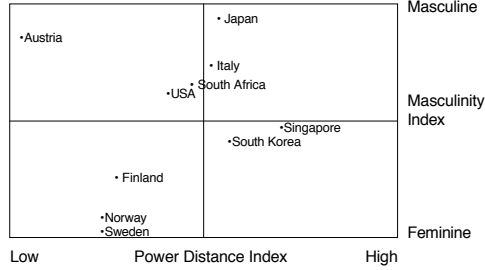
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Masculinity Index Values for Selected Countries

- 95 Japan
- 79 Austria
- 62 USA (South Africa = 63)
- 53 Arab countries (great variations)
- 47 Israel
- 43 France
- 39 South Korea
- 05 Sweden

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Power Distance vs. Masculinity



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Traditional Masculine Work Goals

- Earnings
- Recognition
- Advancement
- Challenge

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Traditional Feminine Work Goals

- Manager: Good working relation with direct supervisors
- Cooperation: Work with people who cooperate well
- Living area: Live in desirable location for one's self and family
- Employment security: Have security and be able to work for as long one wishes

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Implications for Global UX Design: Masculinity

- Traditional gender/ family/ age distinctions emphasized; work tasks/ roles given preference
- Mastery most important; Websites designed for exploration and control
- Games/ competitions held grab attention
- Artwork may be utilitarian/ instrumental

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Implications for Global UX Design: Femininity

- Gender/ work roles blurred
- Mutual exchange and support more important than mastery; Website should be task-oriented and provide quick results for limited task
- Poetry/unifying values may focus attention
- Natural images, traditional art, soft focus used to generate emotional/aesthetic appeal

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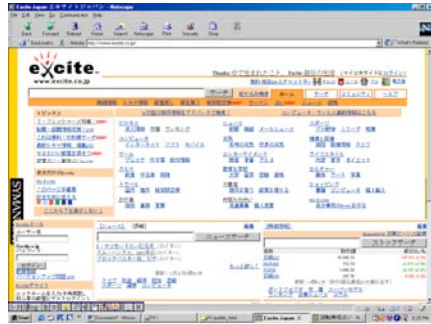
Examples of Masculinity/ Femininity on the Web

Gender-oriented sites:

- Masculinity: Japan = 95 (highest MAS)
 - woman.excite.co.jp - women's site
 - www.isize.com/top - site for young adults
- US = 52 (15/53)
 - www.chickclick.com
- Femininity: Sweden = 5 (lowest of 53 nations)
 - se.excite.com


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Excite/Japan for Males, Females




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Excite/Japan for Males, Females



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USA and Sweden



- USA: Chickclick.com for chicks
- Sweden/Excite: no gendered sites

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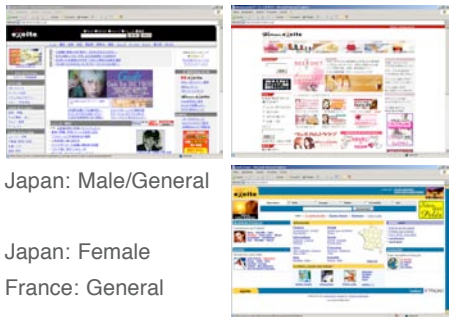
Examples of Masculinity/ Femininity on the Web

Gender-oriented sites 2003:

- Masculinity: Japan = 95 (highest MAS)
 - www.excite.co.jp - women's site
 - www.nike.jp/women - nike women's site
- US = 52 (15/53)
 - www.nike.com
- Femininity: France = 43 (35+36/53)
 - www.excite.fr
- South Korea = 39 (41/53)
 - www.nike.co.kr

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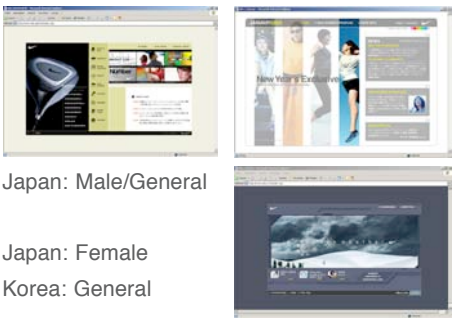
Excite for Males, Females



- ↑ Japan: Male/General
- Japan: Female
- ➔ France: General

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Nike for Males, Females



- ↑ Japan: Male/General
- Japan: Female
- ➔ Korea: General

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4. Uncertainty Avoidance

- Feeling threatened by uncertain/unknown
- Fear/risk vs. anxiety: Known vs. unknown
- Countries vary in formality, punctuality, certainty requirements
- Extreme uncertainty creates intolerable anxiety; law, religion seek to reduce it
- Intolerance of ambiguity = variant of uncertainty avoidance

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Low Uncertainty-Avoidance Countries

- Quiet, easy-going, indolent, controlled, lazy
- What is different is curious (or ridiculous)
- Schools: students respect plain language, accept teacher who says, "I don't know"
- Definitions of clean/dirty; safe/dangerous differ widely by country

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High Uncertainty Avoidance Countries

- People seem busy, emotional, aggressive, active
- Shun ambiguous situations; look for structure that makes events interpretable and predictable, prepared to engage in risky behavior to reduce ambiguities, like starting a fight, instead of waiting
- Equate dirty and dangerous tightly
- What is different is dangerous
- Schools: Expect teachers to be experts with all the answers

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Implications for Global UX Design: High UA

- Keep it simple
- Results/ implications of actions need to be revealed
- Make attempt to prevent looping/ becoming "lost in cyberspace"
- Constraints/ task animations/ models should be used to reduce "user error"
- Carefully encode meaning through multiple redundant cues

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Implications for Global UX Design: Low UA

- Complexity and risk valued: don't protect users from failure
- Less effort put into controlling navigation
 - Links open new windows
 - OK to take people out of original site
- Help system focuses on information; task orientation secondary
- Coding of color/ shape/ texture cues used to maximize information; need not be redundant

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Examples of Uncertainty Avoidance on the Web

Airline Companies:

- Belgium = 94 (5+6/53)
 - www.sabena.com
- UK = 35 (47/53)
 - www.britishairways.com

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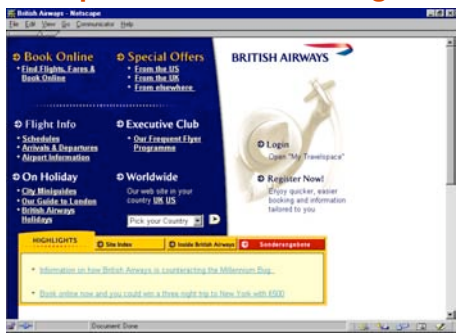
Examples: Airline Home Pages



The screenshot shows the Sabena website home page with a dark blue background. It features the Sabena logo and a navigation menu with links for 'ONLINE BOOKINGS', 'TIME TO FLY', 'QUALIFYER', 'AROUND THE WORLD', 'ABOUT US', and 'SPECIALS'. The page also includes a header for 'The new advertising print campaign 1999' and an illustration of a person swinging on a rope.

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Examples: Airline Home Pages



The screenshot shows the British Airways website home page. It features a navigation menu with links for 'Book Online', 'Flight Info', 'On Holiday', 'Special Offers', 'Executive Club', and 'Worldwide'. The page also includes a 'Login' button and a 'Register Now!' button. The background is white with a blue and red color scheme.

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Examples of Uncertainty Avoidance on the Web

Airline Companies 2003:

- Belgium = 94 (5+6/53)
 - www.sabena.com
- UK = 35 (47/53)
 - www.britishairways.com

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Examples: Airline Home Pages



Sabena British Airways

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Comparison of UA for 2003 Websites

- Travel booking pane
 - Sabena, Belgium: 19
 - British Airways, United Kingdom: 16
- Outside the travel booking pane
 - Sabena, Belgium: 23
 - British Airways, United Kingdom: 43
- Culture differences survives design improvements!

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5. Long vs. Short Term: Confucian Dynamism

- 1. Stable society requires unequal relations
- 2. Family is prototype of all social organizations
- 3. Virtuous behavior to others = not treating others as one would not like to be treated
- 4. Virtue re one's task in life = trying to acquire skills and education, working hard, being frugal, being patient, persevering

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Long-term orientation (LTO) Ranking for Some of 23 Countries

- 01 China
- 04 Japan
- 17 USA
- 22 Nigeria
- 23 Pakistan

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Virtue vs. Truth

- Rokeach Value Survey (RVS) vs. Chinese value survey (CVS)
- "...the Indian and the Chinese minds seem to take a position different from the Western one when it comes to the need for defining Truth."
- Search for truth (belief-oriented) vs. search for virtue (practice-oriented)

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Comparing Studies of Culture

- Three dimensions appear across all cultures: power distance, individualism-collectivism, masculine-feminine
- Fourth dimension depends on culture:
 - Western: UA = search for truth
 - Eastern: Confucian dynamism, or long-term orientation = search for virtue

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Implications for Global UX Design: Long-Term Orientation

- Practice more important than theory
- Accomplishing the task sufficient; expertise not required
- Personal network provides resources for achievement

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Examples of Long/Short-Term Time Orientation on the Web

Siemens:

- Germany = 31 (14/23)
 - www.siemens.com/de
- China = 118 (highest LTO)
 - www.siemens.com.cn

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Examples: Germany and China



Siemens Germany



Siemens China

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Examples of Long/Short-Term Time Orientation on the Web

Siemens 2003:

- Pakistan = 0 (lowest LTO)
 - www.siemens.com.pk
- Germany = 31 (14/23)
 - www.siemens.com/de
- China = 118 (highest LTO)
 - www.siemens.com.cn

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Examples: Siemens

- ↑ Siemens Pakistan
- Siemens Germany
- ➔ Siemens China



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Summary: China vs. Germany

- China (Long-term time orientation):
 - Soft focus
 - Warm, fuzzy images
 - Timeless, classic design
 - Emphasis on people images
- Germany
 - Design that is appropriate just for now (will be outdated in a certain amount of time)
 - Concentration on showing task or product
 - Function, mastery, organization-oriented

AM+A Aaron Marcus and Associates, Inc., www.AMandA.com, 91

How to Work with Cultural Models: Examples from China and Germany

- Honold, Pia, "Learning How to Use a Cellular Phone: Comparison Between German and Chinese Users," *Jour. STC*, Vol. 46, No. 2, May 1999, pp. 196-205. (now Pia Quaet-Faslem)
- Lee, Ook, "The Role of Cultural Protocol in Media Choice in a Confucian Virtual Workplace," *IEEE Transactions on Prof. Comm.*, Vol. 43, No. 2, June 2000, pp. 196-200.
- Chong, Salvendy study of Chinese/US mental models

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Corporate Global Website Design and Culture

- AM+A Study of 12 Corporate Websites+ Culture
 - Long case study in *Visible Language*: 38:1, 2004, 64pp.
 - Short report: *Proceedings of IWIPS 2003*, 10 pp.



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Websites Analyzed

- "Mature" company Websites with parallel content in multiple countries
- Consumer (B2C) and business-to-business (B2B) sites

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

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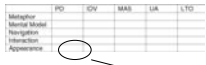
Method: One Culture Model's Dimensions vs. UI Components

- Used Hofstede's model, but could use any other

	PD	IDV	MAS	UA	LTO
Metaphor					
Mental Model					
Navigation					
Interaction					
Appearance					

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Cross-Cultural Matrix




Hofstede Culture Dimension: Power Distance (PD)

		Low PD	High PD
User-Interface Component: Appearance	Appearance	Images of people, groups; daily activities; popular music, symbols, typefaces, layouts, colors; informal speech	Images of leaders; national/corporate/government themes, slogans, insignia, logos, symbols, typefaces, layouts, colors; official music, anthems; formal speech


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Example: Power Distance vs. Metaphors

- Siemens Website:** Personal images vs. official buildings
- Netherlands (PD 38) Malaysia (PD 104)



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

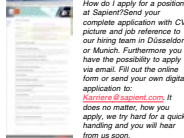


Metaphor for "Home": an official building

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Example: Power Distance vs. Navigation

- **Sapient Website:** amount of options provided
- **Germany (PD 35)** **India (PD 77)**



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: karoline@sapient.com. It does not matter, how you apply, we try hard for a quick handling and you will hear from us soon.

Open access, multiple options




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.

Restricted access and choices, prescribed routes

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Example: Femininity/Masculinity vs. Appearance

- **Mercedes Benz Website:** Use of “soft” design
- **Sweden (MAS 5)** **Germany (MAS 66)**



Välkommen till Mercedes-Benz Sverige

Softer edges and shapes




Clear structure, no cuteness

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Power Distance Patterns


- **Patterns found**
 - All countries not putting a picture on the front page have low PD value.
 - The eight countries with the highest PD value show a picture of a male person.



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Collectivism vs. Individualism

- **Patterns found**
 - The “individualism” of the pictures at the PeopleSoft Website increases with the amount of IDV value
 - The arrangement of the pictures of the low IDV countries is very symmetrical.
 - Among the 15 lowest rated countries regarding IDV, there are no people shown on the Siemens localized Website imagery, but one can find images of people in those countries that have a higher ID.



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Another Approach: Best-of-Breed Culture Dimensions

- **Surveyed: 11 Authors in 9 Sources**
 - Adler, Nancy J.
 - Condon, John C.
 - Hall, Edward T.
 - Hofstede, Geert
 - Kluckhohn, F. R.
 - Parsons, Talcott
 - Strodbeck, Fred
 - Trompenaars, Fons
 - Victor, David A.
 - Wright, Quincy
 - Yousef, Fathi S.
- **Published survey**
 - Baumgartner, Masters thesis
 - Marcus, Baumgartner, APCHI 2004 *Proceedings*, Summary

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29 Dimensions in 9 Sources

- Achievement vs. ascription
- Activity orientation
- Affective vs. neutral
- Authority conception
- Context
- Degree of power
- Economic progress
- Experience of technology
- Face-saving
- Gender roles
- Human nature orientation
- Individualism vs. collectivism
- Instrumental vs. expressive
- Internal vs. external control
- International trade, community
- Long vs. short time orientation
- Meaning of life
- Non-verbal communication
- Political decentralization
- Power distance
- Property
- Resources
- Space
- Specific vs. diffuse
- Technological development
- Time orientation
- Time perception
- Uncertainty avoidance
- Universalism vs. particularism

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Best-of-Breed Dimensions Based on Surveying 57 experts

- Context
- Technological development
- Uncertainty avoidance
- Time perception
- Authority conception
- All others ranked, for use when time, money, circumstances permit further analysis

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Where do We Go from Here?

- Redo previous studies using alternate models
- Rethink development steps, e.g., evaluation
- Rethink UI components, e.g., metaphors
 - New approaches proposed for China, India
- Rethink platforms, e.g., mobile devices
 - Sony-Ericsson Wukong, proposals for new Chinese metaphors
- Consider additional sources of insight
- Educate corporations/professions/users re culture
 - UN Bookstore: no books on culture models, only tourist interest
 - Many studies, theories, books do not include culture

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Chinese vs. American Use of Metaphors, Mental Models

- USA: Inferences, categories; classify by functions, analyze components, infer common features
- Chinese: relations, contexts: classify by interdependence within wholes, rely on subjective experience without sharp difference of self/others, facts/concepts
- Longer performance times for Chinese with USA organization, and similarly for USA with Chinese

Source: Choong and Salvendy, *International Journal of HCI*, 1999

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Example: Contrasting Sorting Styles

Sorting by thematic groupings	Sorting by Function
Kitchen	Appliances
Cooking	Major
Microwave, rice cooker, ...	Microwave ...
Cleaning	Small
Dishwashing liquid, scouring pad, ...	Toaster, blender, ...
Small appliances	Laundry
Toaster, blender, coffee maker, ...	Washer, ...
Food handling	Personal
Sandwich bags, paper plates, ...	Shaver, ...
Bedroom	Home/personal fashion
Bedding ...	Bedding ...
Appliances ...	Brushing ...
Clothing ...	Bathing ...
Dresser ...	Cleaning ...
Bathroom ...	Paper/plastic products ...

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Resulting Differences: Thematic vs Functional Info Structures

- Lower error rates for USA with functions, for Chinese with thematic structures
- Better memory performance for Chinese with thematic
- Better performance (speed, accuracy) time for Chinese using thematic
- Better performance for Chinese using concrete metaphors

Source: Carroll, John M., "Using Design Rational to Manage Culture-Bound Metaphors for International UIs," *IWIPS 99, Proceedings*, p 125-131.

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UX Evaluation and Culture: How does Culture affect...

- User profiles (personas) and scenarios?
 - Culturally appropriate people, tasks, stories
- Testing, questionnaires?
 - Culturally appropriate people, tasks, test environments, questions, techniques
- Video monitoring and ethnographies?
 - Culturally appropriate persons, inquiries, behaviors, environments
- Measurement of objective and subjective "facts"
 - Culturally appropriate collection, emotional reactions

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Challenges to the Classic Culture Models

- Ethnographic approaches
 - Local groups, behaviors, "situated practice,"
- Post-modernism, media studies, sociology of culture, production of culture, politics of culture
 - Critique of sociological phenomena, e.g., power, inequality, social construction of technology, other patterns of social organization
 - Michèle Lamont, Princeton Univ., contemp. sociological theory: <http://www.princeton.edu/~sociolog/grad/courses/fall1995/soc502.html>. Towns in two countries more similar than town to city in each country or two cities to each other..
 - David Brain, New College, Florida, sociology of culture course: http://www.ncf.edu/brain/courses/culture/culture_syl05.htm

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Additional Sources of Insight into UX and Culture

- Persuasion
- Trust
- Intelligence
- Personality
- Cognition

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Dimensions of Persuasion

- Reciprocation
- Consistency
- Social validation
- Liking
- Authority
- Scarcity

Cialdini, Robert (2001). "The Science of Persuasion," *Sci. Amer.*, Vol. 284, No. 2, Feb. 2001, pp. 76-81 (www.influenceatwork.com)

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Dimensions of Trust

- Attraction: Attractive people trusted more
- Dynamism: Activity, e.g., moving hands, text
- Expertness: Relevant skills
- Faith: Belief in predictable future
- Intentions: Revealed objectives and goals
- Localness: Presumed similar values, behavior
- Reliability: Dependable, predictable, consistent

Bailey, Gurak, and Konstan, "An Examination of Trust Production in Computer-Mediated Exchange," Human Factors and the Web 2001 Conference, <http://www.optavia.com/hfweb>

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Dimensions of Intelligence

- Verbal/Image comprehension
- Word/image fluency
- Numerical/graphical fluency
- Spatial visualization
- Associative memory
- Perceptual speed
- Reasoning
- Image: Self/Other awareness

Gardner, *Frames of Mind*, 1985

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Dimensions of Personality

- Agreeableness: Attitudes toward other people
 - Trust, honesty, altruism, cooperation, modesty, sympathy
- Extroversion: Energy, enthusiasm around others
 - Outgoing, sociable, assertive, energy, enthusiasm, excitement seeking
- Neuroticism: Emotional reaction to pressure, stress
 - Anxiety, irritability, depression, self-consciousness, moodiness, stress
- Conscientiousness: Organized, persistent in goals
 - Efficient, orderly, dutiful, achievement-oriented, self-disciplined, careful
- Openness: Open to and interested in **culture**
 - Imaginative, artistic, broad interests, curious, intellect., unconventional

Dr. Samuel D. Gosling, Psych Res Fndtn, U of TX, NYT, 010305, C1

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Even Cognition Culture-Biased?

- Basic patterns of thought are cultural: Aristotelean "logic" is "European"
- Western "rational" vs. Eastern simultaneous conflicts
- Tests conducted on Japanese, USA participants

Nisbett, Richard E. (2003). *The Geography of Thought: How Asians and Westerners Think Differently . . . and Why*. New York: The Free Press, New York, 263 pp.

Nisbett, Peng, Choi, Norenzayan (2001). "Culture and Systems of Thought: Holistic vs. Analytical Cognition," *Psychological Review*,

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UX Issues Related to Culture, 1/4

- Are basics of usability culture-biased? Efficiency, productivity, simplicity, usefulness...for what?
- How can culture models be added to theories of utility, sociability, community, entertainment computing, design?
- How best to map UI components to culture dimensions?
- How can corporations and organizations include more cultural theory in development process?

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UX Issues Related to Culture, 2/4


- Online training: Friend/guru? Tradition/skills?
- Interaction styles: informal vs. formal, harmony vs. honesty, sincerity vs. scheming?
- Content: challenging vs. feel-good?
- Rewards: Money vs. group acclaim?
- Conflict: Frequent vs. seldom? Chatroom flaming OK? Clashing opinions OK?



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UX Issues Related to Culture, 3/4

- Personal vs. group opinions? China: "Personality"?
- Shame vs. guilt: Personal Webcams, SMS OK?
- Individual vs. collective cultures: role of community, chatroom behavior, hiring sites, coop work sites?
- Management/training? Most for individual, not collective cultures, e.g., honesty and confrontation



[Bangalore Times, 30 Mar 04, p1]

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UX Issues Related to Culture, 4/4

- Work sites: Task vs. personal relation?
- Different men, women sites/apps? Service orientation?
- Role of advertising, hyperbole? Different in masculine vs. feminine cultures?
- Gender differences for job sites: Careers? Interest in subject? Skills vs contacts?
- Culture difference: Activities outside the home?
- Western vs. Eastern: Truth vs. virtue/practical?

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Conclusion: Evolution vs. Revolution in the Future

- Computer-mediated communication and interaction occurs in a culture context
- UX development must account for culture
- Models, methods exist; many research issues
- Design professionals cannot ignore the issues
- Future development of tools, templates, treasure chests of patterns, knowledge
- UX: ultimate merging of sciences and humanities, not C.P. Snow's "Two Cultures" separately

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Resources

- ACM/SIGCHI: chi-intercultural@acm.org, www.HCIBib.org/SIGCHI/Intercultural
- AIGA/Center for Cross-Cultural Design: <http://designforum.aiga.org/content.cfm?Alias=crossculturalnode>
- American Anthropological Association's Internet Resources: <http://www.aaanet.org/resinet.htm>

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- Harel and Prabhu, "Global User Experience (GLUE), Design for Cultural Diversity: Japan, China,...India," *Proc. IWIPS-99*, Rochester, ISBN 0-9656691, pp. 205-216.
- Hofstede, Geert (1997). *Cultures and Organizations: Software of the Mind, Intercultural Cooperation and its Importance for Survival*, McGraw-Hill, New York, ISBN 0-07-029307-4.
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Cross-Cultural User-Experience Design: What? So What? Now What?



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