Global Information Systems:

Cultural Aspects (3)

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  - Use-Case Model
- Test
  - Test Case
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  - Test Script

[Source: http://www.epfwiki.net/wikis/openup/]
Definitions of Culture

“Culture is the collective programming of the mind which distinguishes the members of one category of people from another.” (Hofstede, 1984)

“Most social scientists today view culture as consisting primarily of the symbolic, ideational, and intangible aspects of human societies. The essence of a culture is not its artifacts, tools, or other tangible cultural elements but how the members of the group interpret, use, and perceive them. It is the values, symbols, interpretations, and perspectives that distinguish one people from another in modernized societies; it is not material objects and other tangible aspects of human societies. People within a culture usually interpret the meaning of symbols, artifacts, and behaviors in the same or in similar ways” (Banks et al. 1989)
Definitions of Culture

Culture is defined as the “[…] definitive, dynamic purposes and tools (values, ethics, rules, knowledge systems) that are developed to attain group goals” (Mabawonku, 2003)

Culture includes “[..]every aspect of life: know-how, technical knowledge, customs of food and dress, religion, mentality, values, language, symbols, socio-political and economic behavior, indigenous methods of taking decisions and exercising power, methods of production and economic relations, and so on.” (Verhelst, 1990)

The system of shared beliefs, values, customs, behaviours, and artifacts that the members of society use to cope with their world and with one another, and that are transmitted from generation to generation through learning (Bates, Plog, 1990)
How does culture influence GSD / GLIS?

- Impact on
  - Working style
  - Group behavior
  - Communication
  - Design
  - ...

- How to represent culture / which aspects should be analyzed?

- How do these aspects influence design and development processes?
More perspectives on “culture”

- Organizational or corporate culture: Management style, rewards, working atmosphere
- Professional culture: Formal education within a group of professionals
- Functional culture: Functional roles within the organization
- Team culture: Common work experiences
Culture Levels

- Organizational
- Regional / National
- Professional
### Eastern vs. Western Management (Haghirian, 2007)

<table>
<thead>
<tr>
<th>Western Management</th>
<th>Eastern Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hierarchical, egalitarian command, segmented concern</td>
<td>Free-form command, roles loosely defined, holistic concern</td>
</tr>
<tr>
<td>Professional managers, position related to function</td>
<td>Social leaders often with high sounding titles for low ranking jobs</td>
</tr>
<tr>
<td>Particularism, specialized career path possibly with rapid evaluation and promotion, individually oriented</td>
<td>Non-specialized career paths, slow evaluation, regimented promotion, socially oriented</td>
</tr>
<tr>
<td>Decentralization of power</td>
<td>Centralization of power</td>
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<tr>
<td>Mobility Stability</td>
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<tr>
<td>Direct approach</td>
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<tr>
<td>Systematic analysis, standardization, categorization, classification, conceptualization, precision</td>
<td>Ambiguity, reaction, adaptation</td>
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<tr>
<td>Long-term set planning</td>
<td>Often lack of formal set planning, high flexibility in adjustment</td>
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<tr>
<td>Explicit control mechanisms</td>
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<tr>
<td>Organizations and systems adapt for change</td>
<td>Leaders/managers adapt to change</td>
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*Adapted from: Haghirian, P.: Management in Japan – The kaisha in the 21st Century, Keio University, Japan, 2007*
Hofstede’s “Dimensions of Culture” (1)

- Model to compare cultures
- Culture as a set of typical attributes / behaviours (manifestations of culture)
  - Values
  - Rituals
  - Heroes
  - Symbols
- Based on a study for IBM in 64 countries / follow-up studies
Hofstede’s “Dimensions of Culture” (2)

- **Analysis dimensions**
  - **Power distance index (PDI):** Common position to diversities within a country and the people’s position towards authorities.
  - **Individualism-index (IVD):** Degree, to which individuals in a country wish to be free from dependencies to other persons and the authorities.
  - **Masculinity index (MAS):** Degree to represent gender-roles as part of common norm, school, family and workplace as well as politics.
  - **Uncertainty avoidance index (UAI):** How do individuals feel threatened by uncommon or insecure situations.
  - **Long term orientation (LTO):** Time-orientation of a society (e.g., planning horizon).
### Hofstede’s “Dimensions of Culture”

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### Values for Long-Term Orientation Index (LTO)

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[Source: http://www.geert-hofstede.com/hofstede_dimensions.php]
Critical Analysis

- Empirical study in a corporate culture
- Results were evaluated in hundreds of settings
- Relative values seem to be stable (while absolute values are changing)
- Not applicable to all contexts
- Interpretations for GSD and specific components (e.g., communication) are questionable
7 Dimensions of Trompenaars and Hampden-Turner

- universalism versus particularism
  - Rules vs. relationships
  - Ideas can be applied anywhere – or regarding certain circumstances
- individualism versus collectivism
  - IDV
- neutral versus affective
  - Emotional involvement
- specific versus diffuse
  - Proximity between people, involvement in activities
- achievement versus ascription
  - Relationship to other people
  - Is reputation based on people's „objective“ achievement or there position
- past, present, or future and sequential or synchronous
  - Relationship to time and sequencing
- internal- or external-oriented
  - Dealing with the environment
14 Dimensions of Henderson (in the field of education / learning)

- Epistemology: Objectivism – Constructivism
- Pedagogical Philosophy: Instructivist – Constructivist
- Underlying Psychology: Behavioral – Cognitive
- Goal Orientation: Sharply-focused – Unfocused
- Experiential Value: Abstract – Concrete
- Teacher Role: Didactic – Facilitative
- Program Flexibility: Teacher-Proof – Easily Modifiable
- Value of Errors: Errorless Learning – Learning
- Motivation: Extrinsic – Intrinsic
- Accommodation of Individual Differences: Non-Existent – Multi-Faceted
- Learner Control: Non-Existent – Unrestricted
- User Activity: Mathemagenic – Generative
  - Initiated by a certain instructional activity – or created by the learners
- Cooperative Learning: Unsupported – Integral
- Cultural Sensitivity: Non-Existent – Integral
Context Metadata (Pawlowski, Richter, 2007)

**Information & Knowledge Systems**

- Internet security
- Culture
- Demographical development
- Learner satisfaction
- Religion
- Technical infrastructure
- Rights
- History
- Politics
- Geography & education infrastructure
- Companies
- Rules, standards and agreements
- Human actors
- Financial aspects
- Media richness
- State of development
Requirements: Aspects and Relations (Damian, Zowghi, 2003)
Requirements Engineering

- Planning
  - Identifying user needs
  - Formalizing user needs
  - Development intention document (OpenUP)

- Conception: Requirement analysis
  - Refining vision and project objectives
  - Identifying functional and non-functional aspects
  - Architecture
  - Risks
  - Use cases

- Review / Negotiation
Requirements: Specifics in GLIS

- Participants: Involvement of people in remote teams
- Common modeling language / tools (e.g., UML) to avoid misunderstandings
- Separate versions in case of distributed user groups (UI requirements)
- Non-functional requirements regarding cultural aspects
- Focus on clear review process
- …
At the end of this phase, the following results should be ready:

- Requirements planning
  - Analysis
  - Process
  - Review / negotiation
  - Requirements report
  - Architecture requirements
  - Use cases

- Cultural awareness
  - Culture profiles for countries, organizations
  - Culture specific requirements
Culture Profiles

Culture Profile Instance (Nation / Region)
- IMS LIP
  - Identification
  - Goals
  - Qualifications
  - Activities
  - ...

Culture Profile Instance (Group)
- Culture Profile Specification
  - General
  - Reference
  - Educational
  - Culture
  - Communication
  - ...

Culture Profile Instance (Actor)
- Experience 1: Study
  - Netherlands
- Experience 2: Project
  - Korea
- Native Culture: Germany
  - ...

RCDEO
- Competency description
- Evidence
  - ...

E-Portfolio
- Organizations
- Identification
- Resources
- Products
  - ...

Instantiation
- Contains Characteristic
- Contains Product
- Defined Culture Competencies
- Presentation

Defined Culture Competencies
- Global Information Systems

Contains Product
- 1934-2009 UNIVERSITY OF JYVÄSKYLÄ
Tools

- Process Design
- Coordination Tools
- Awareness Tools
- Specific Tools (Translation)
- Simple support mechanisms!
  - Culture Clouds
Summary

- Models to represent culture…
  - Have been developed for different purposes and context
  - Vary in their level of abstraction
  - Can be used as a guideline to identify influence factors
- No model is validated to cover all influence factors for a design and development process
- Besides: Other requirements have to be taken into account!
The Open Unified Process – Disciplines

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  - Test Log
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**Roles**

**Artefacts / Support**

[Source: http://www.epfwiki.net/wikis/openup/]
Questions

- Define culture as a generic term including different perspectives.
- What are the differences between the model of Hofstede and Henderson?
- How would you describe your own culture?
- Which aspects should be in the focus when designing a knowledge management systems?
References


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