Supporting Work in Distributed Organizations

George Engelbeck
georgee@cisco.com
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Overview

• Approach to understanding distributed organizations and their processes.
• Five models for representing knowledge about organizations.
  – Agent - Exercise 1
  – Cultural - Exercise 2
  – Process - Exercise 3
  – Artifact
  – Physical
• Questions

Cognitive Approach

Distributed Cognition Approach

Modeling Distributed Organizations

• Models
  – Agent
  – Cultural
  – Process
  – Artifact
  – Physical

Agent Model

• Purpose
  – Understand the general architecture of the organization.
  – Understand what the people in the system know and what they can be expected to do.
• Focus
  – Knowledge, skills, responsibilities, and collaborations of agents.
Agent Model

**Responsibilities:**
1. Contacting the cab company.
2. Knowing where they want to go.
3. Paying for the cab ride.

**Skills:**
1. Knows some English.
2. Has a phone.

**Abilities:**
1. Can drive a car.
2. Knows the area.

Exercise 1

- Create an Agent model for the taxicab company.

Things to look for...

- Missing knowledge or skills
- Missing responsibilities
- Mediated collaborations

Cultural Model

- **Purpose**
  - Understand the “culture” and organizational pressures.
  - Understand the motivations of the organizational groups.
- **Focus**
  - Attitudes and pressures on organizational groups.

Exercise 2

- Create a cultural model for the taxicab company.
Things to look for...

- Prevailing attitudes
- Conflicting pressures
- Barriers to adoption
- What is needed for “buy in.”

Process Models

- Processes (work) can be modeled using agents, artifacts, tasks, representations, and communication channels.

Channels

- How representations get passed from one place to another.

Exercise 3

- Create a process model for scheduling a pickup.

Example Process Flow
What to look for...

- Mediating artifacts
- Mediating agents
- Unnecessary channels
- Unnecessary tasks
- Process bottlenecks
- Organizational workarounds
- Pass-through processes
- Processes where outputs are not used
- A focus on outputs rather than outcomes

Artifact Model

- Purpose
  - Understand the representations used by the organization and how they are transformed.
  - Understand requirements around artifacts
    - legal
    - robustness
- Focus
  - Conceptual data

Artifacts

- How representations get captured.

Artifact

http://www.andystaxigroup.com/pages/reservus.htm

What to look for...

- Domain objects and attributes.
- Terminology.
- Business rules
  - Service area
- New issues
  - Coupons
  - Fares
- Addressing customer concerns “...assured of a great rate and a great ride. Isn't that better than taking your chances at the airport?”

Physical Model

- Purpose
  - Understand how the layout of the work area channels work.
  - Understand how the layout of the work area impacts collaboration and communication.
- Focus
  - Openness versus privacy.
  - Placement of artifacts.
  - Channels.
Physical Model

Things to look for...
- Barriers to working together
- Barriers to privacy
- Business data
- New communication channels
  - Physical awareness

Distribution in time and space - Four square model

Questions

References