Global Information Systems:

Introduction and Assumptions (1)

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Where I am from...

Global Information Systems, University of Jyväskylä (JYU)

- **Focus area**
- Global Information Systems (GLIS)
- **Knowledge Management & E-Learning**
- Internationalization / Globalization; support of globally distributed groups
- Cultural aspects for learning and knowledge management
- Support through Information and Communication Technologies
- Standardization, Quality Management and Assurance for E-Learning
- Adaptive Systems

- **Projects**
- OpenScout: Management education in Europe and North Africa as application field for open content
- COSMOS / Open Science Resources: Exchange of Scientific Content
- ASPECT: Open Content and standards for schools
- iCOPER: New standards for educational technologies
- Nordlet: Nordic - Baltic community of Open Educational Resources Exchange
- LaProf: Language Learning Open Educational Resources for Agriculture

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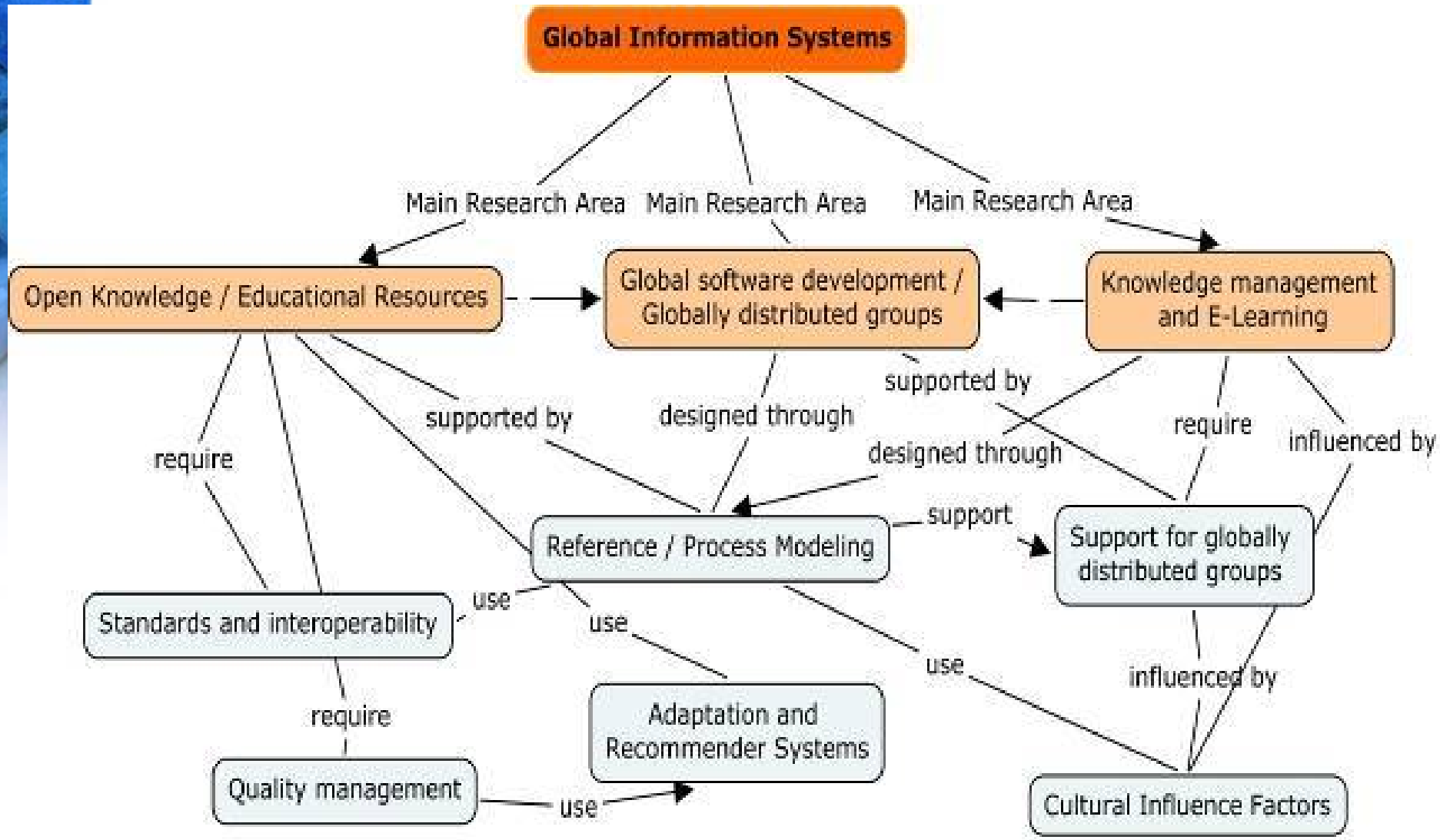
Global Information Systems



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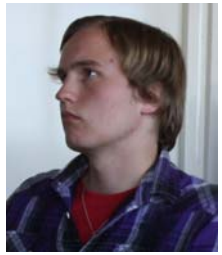

Henri Pirkkalainen

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Contents

- Motivation
  - Introductory Scenario
  - Expectations
- Global Information Systems
  - Definition and Scope
  - Examples
  - Questions, problems, opportunities
- Outlook on the Course

[Source: http://www.engrish.com/]

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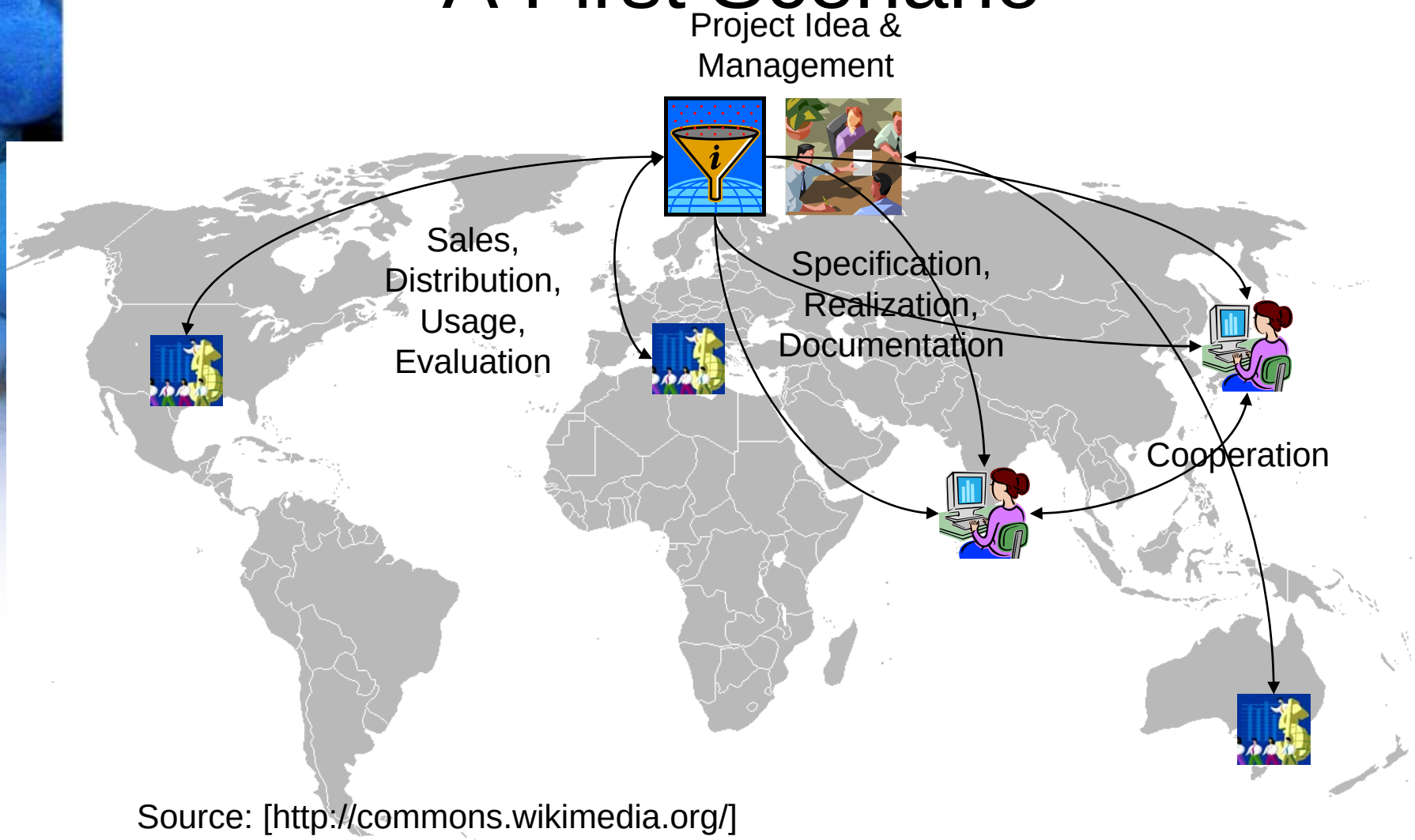
A First Scenario



Source: [http://commons.wikimedia.org/]

Sample: yahoo.co.kr

Sample: yahoo.de

What can you expect?

- Analyze and evaluate management and development problems in globally distributed organizations
- Decide whether an information system should be build in an international environment
- To identify differences in culture in general, in management and communication
- To design and develop systems to be used in a international context
- To evaluate systems' adaptation and adoption

Course Organization

- L1: Introduction
- L2: Global Information Systems: Framework and Design Approaches
- L3: Cultural aspects / Requirements analysis
- L4: Globally Distributed Teams
- L5: Localization and Internationalization
- Special Lectures: Modeling global processes; Trust and awareness in global settings

- Case Study

Approach

- Course outline
  - Lecture
  - Guiding Questions
  - Discussion
  - Assignment / Case Study & Presentation
  - Examination
- Interaction & Discussion
  - Preparation: Slides, readings & recent papers
  - Preparation (2): Questions on Papers
  - Questions: E-Mail, Forum, Skype (jan_m_pawlowski)

Your expectations?

- Why did you choose this course?
- Which experiences do you have in the field?
- Which issues would you like to discuss?

Characteristics

- Economical, organizational, technological factors

- Strategy and management of globally distributed processes
- Communication in distributed teams
- Coordination of geographically distributed processes
- Technical infrastructure
- Usability
- Cultural issues
- Domain specific issues
- …

- Decisions: Outsourcing (Organization), Offshoring (Location), …
- Competencies: Management, cooperation, cultural issues

Definitions

- Global Software Development (GSD): Developing software in geographically distributed teams
- Global Information Systems (GLIS) are systems produced and/or used in a global context
- GSD $\subseteq$ GLIS

Motivators (Sangwan, 2006)

- Limited trained workforce
- Differences in development costs
- Shorter production life-cycle through shift models
- Technological advancements
- Closeness to target markets

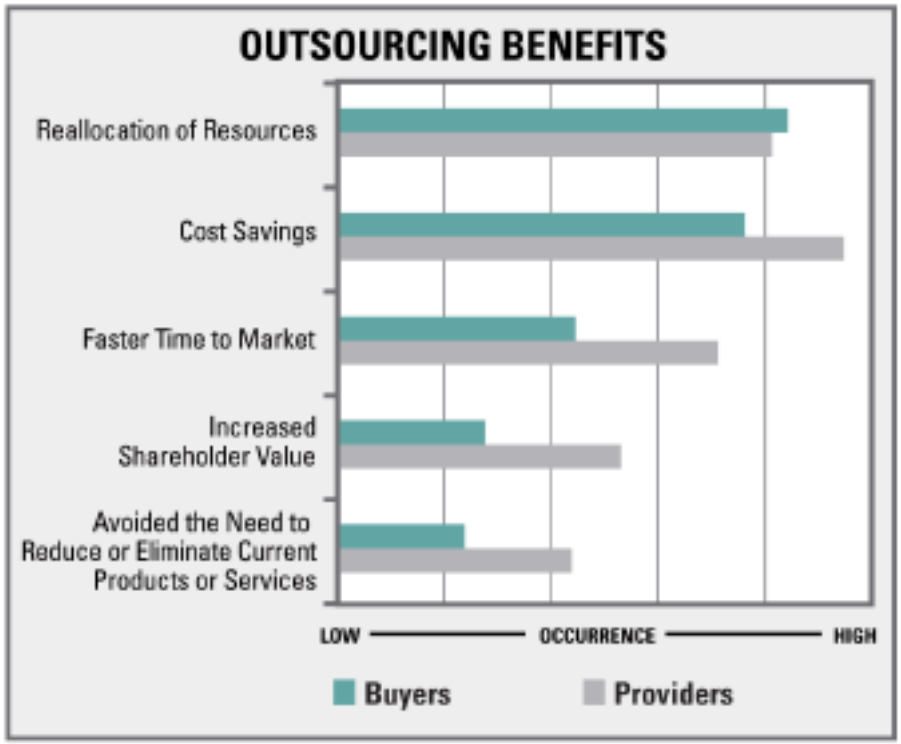
Some facts on outsourcing (1)

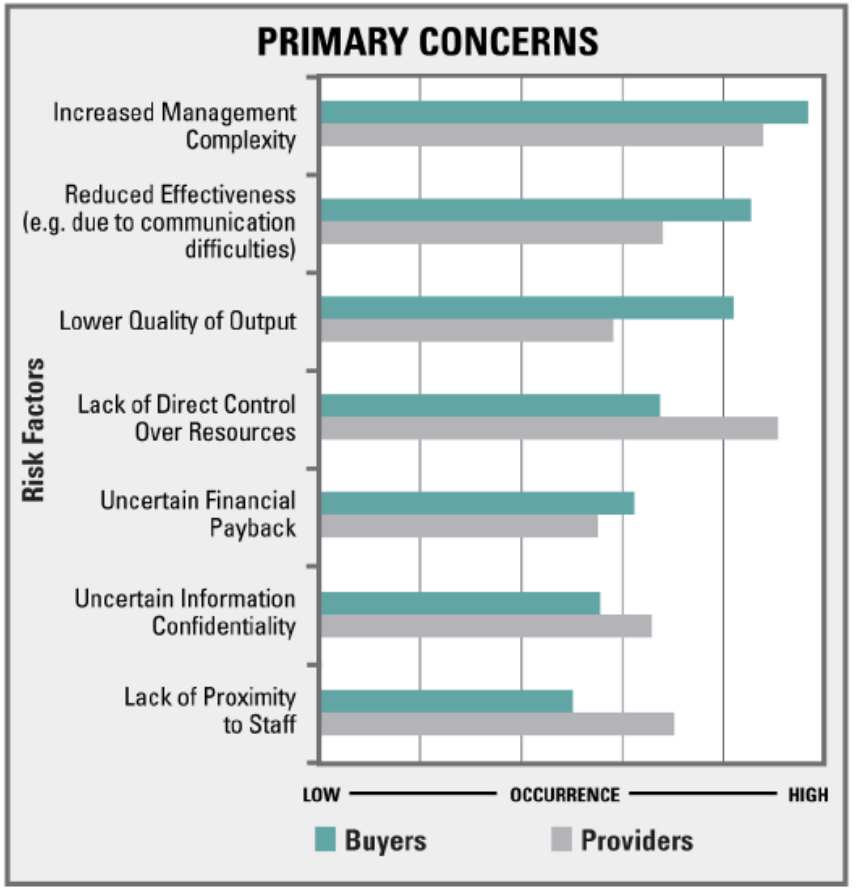
	Buyers					Providers	
	Today			2004	2002	Today	
	OVERALL	ONSHORE	OFFSHORE	OVERALL	OVERALL	ONSHORE	OFFSHORE
Satisfied	78%	81%	62%	74%	69%	84%	86%
Neutral	7%	11%	30%	16%	8%	16%	7%
Dissatisfied	15%	8%	8%	10%	23%	0%	7%

[Source: DiamondCluster 2005: Global IT Outsourcing Study

http://diamondconsultants.com/PublicSite/ideas/perspectives/downloads/Diamond2005OutsourcingStudy.pdf]

Some facts on outsourcing (2)





[Source: DiamondCluster 2005: Global IT Outsourcing Study

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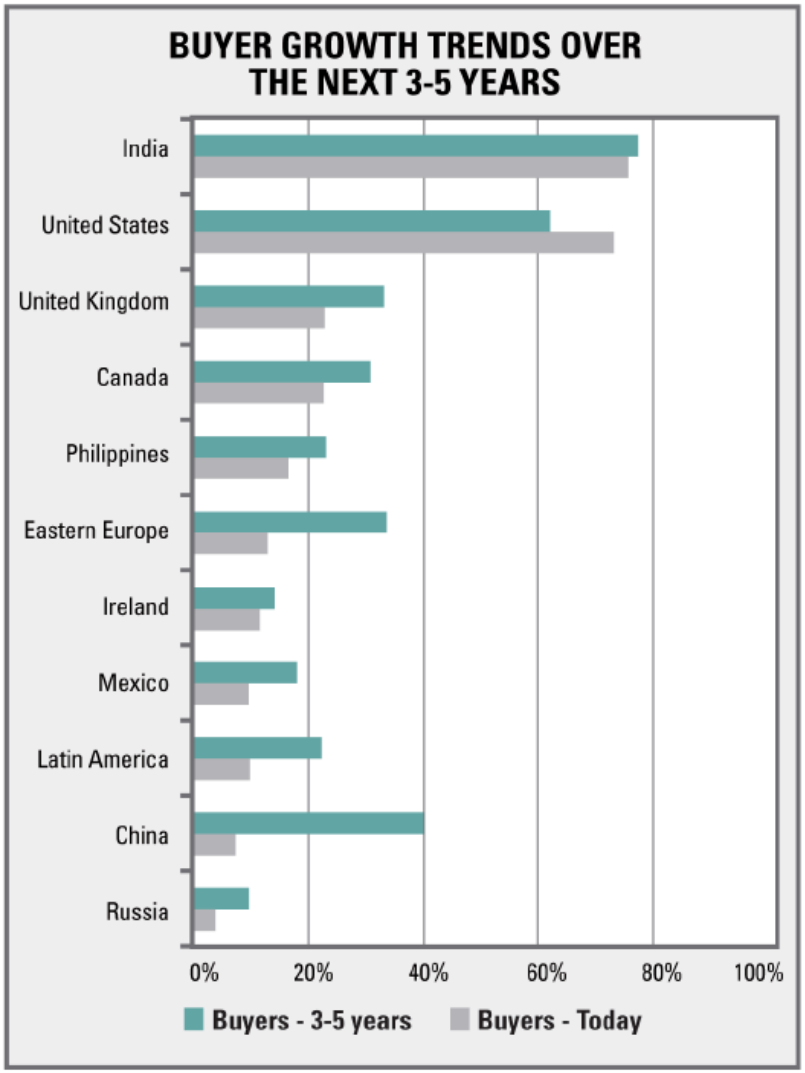
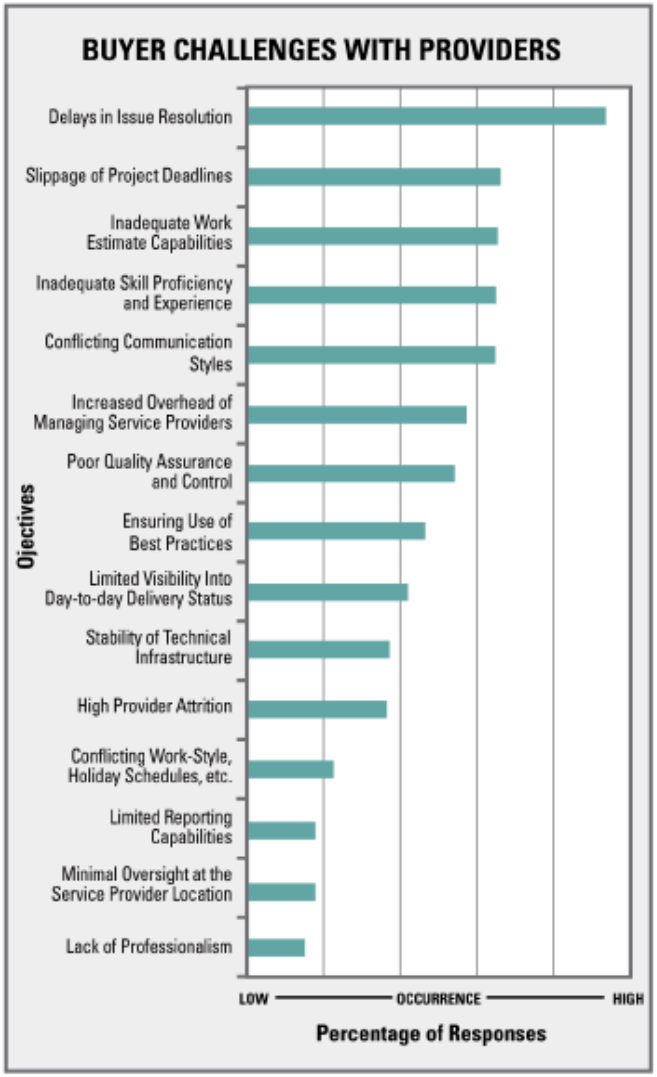
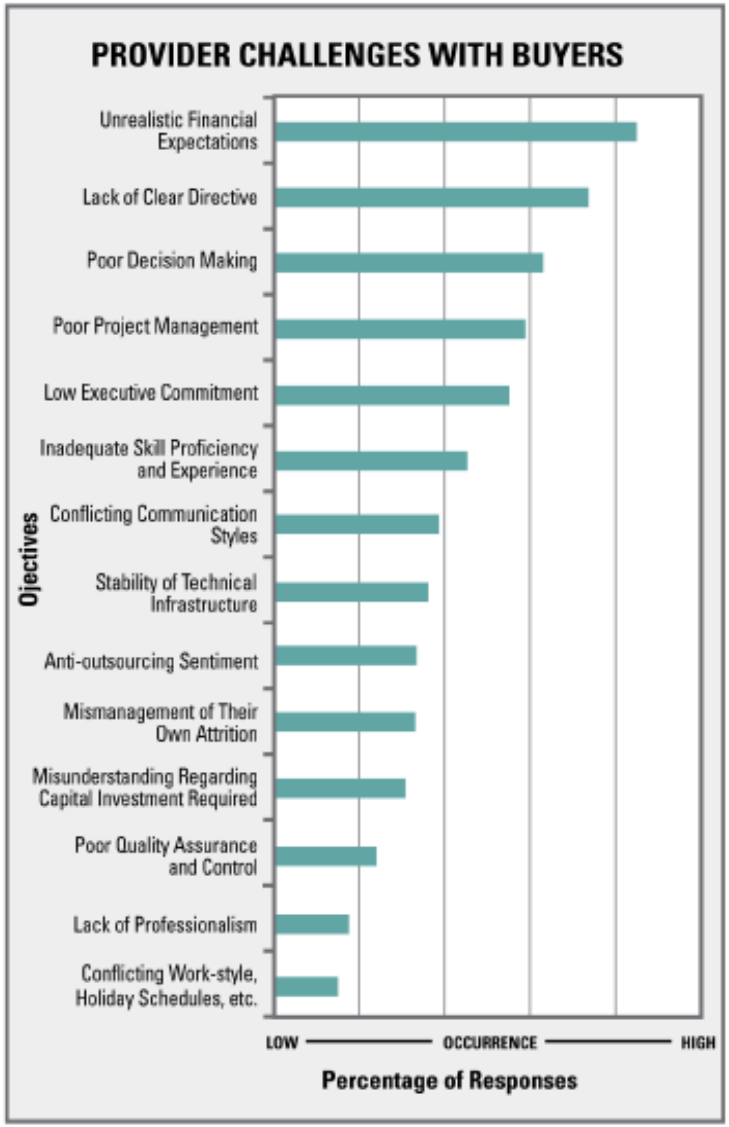
Some facts on outsourcing (3)



Some facts on outsourcing (4)





[Source: DiamondCluster 2005: Global IT Outsourcing Study http://diamondconsultants.com/PublicSite/ideas/perspectives/downloads/Diamond2005OutsourcingStudy.pdf]

Influence Factors

- CARMEL (1999)
  - Geographical dispersion
  - Loss of communication richness
  - Coordination breakdown
  - Loss of team awareness
  - Cultural differences

Influence Factors

- EVARISTO (2003)
  - Trust
  - Level of dispersion
  - Type of stakeholders
  - Type of projects
  - Synchronicity
  - Complexity
  - Systems methodology
  - Perceived distance
  - Policy and standards
  - Culture

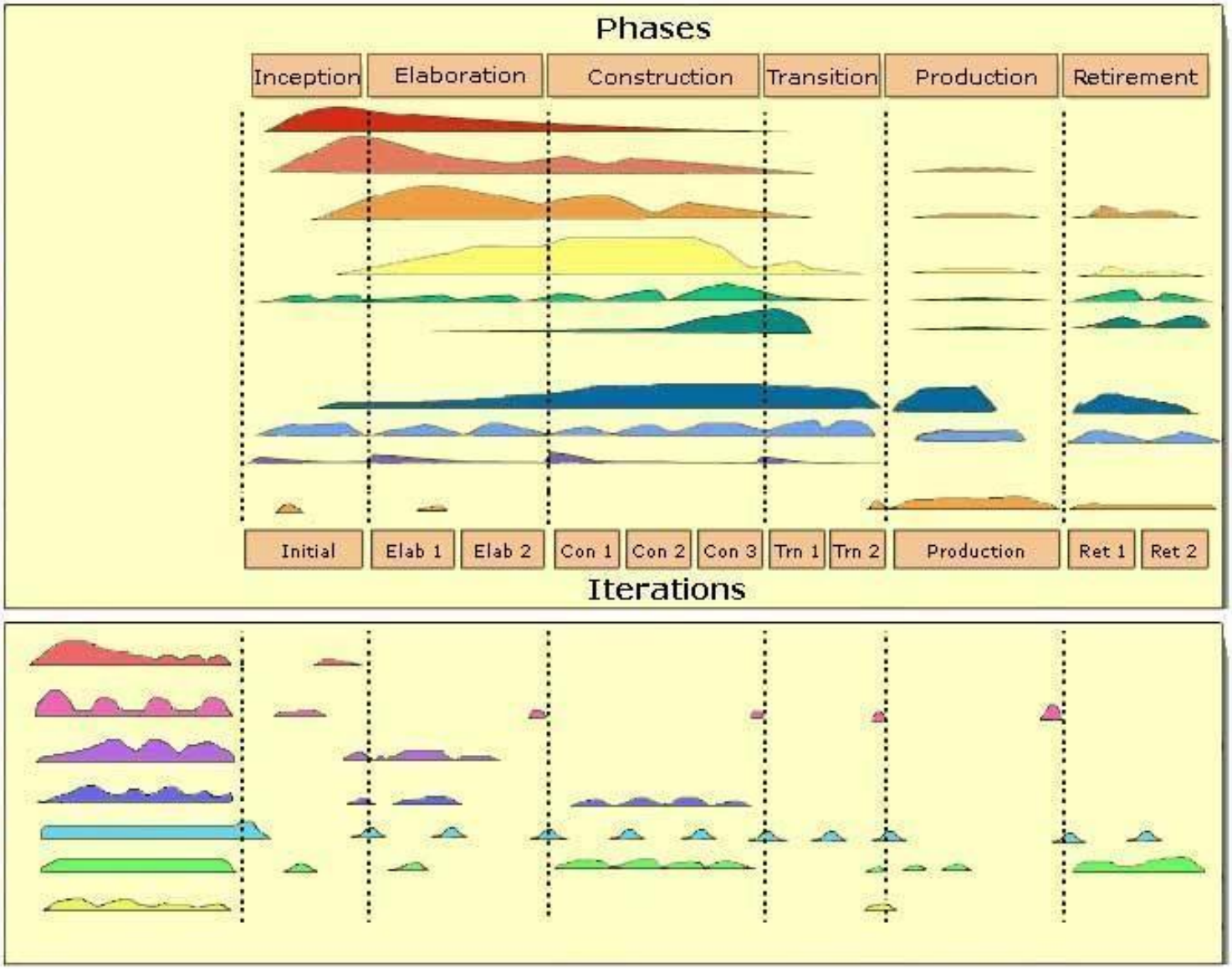
Success Factors

- SANGWAN et al. (2006)
  - Reduce Ambiguity: e.g., processes, management, design
  - Maximize Stability: e.g., design specifications, informal communication
  - Understand dependencies : e.g., temporal, functional, technical
  - Facilitate coordination: e.g., guidelines, standards, meetings
  - Balance flexibility and rigidity: e.g., working culture, decision making

Sample scenarios (by location)

- Offshore outsourcing of software development / programming
  - Main aspects: coordination, communication
- Software development for multiple markets / countries / cultures
  - Main aspects: Culture, systems / interface design

Key Concepts: Enterprise Unified Process



Key Concepts: Culture Profiles

IMS LIP
- Identification
- Goals
- Qualifications
- Activities
- …

Culture Profile Specification
- General
- Reference
- Educational
- Culture
- Communication
- …

Instantiation

Culture Profile Instance (Nation / Region)

Culture Profile Instance (Group)

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

E-Portfolio
- Organizations
- Identification
- Resources
- Products
- …

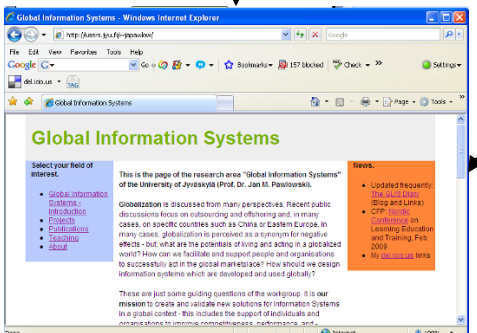
Contains Characteristic

Contains Product

Presentation

Defined Culture Competencies

RCDEO
- Competency description
- Evidence
- …



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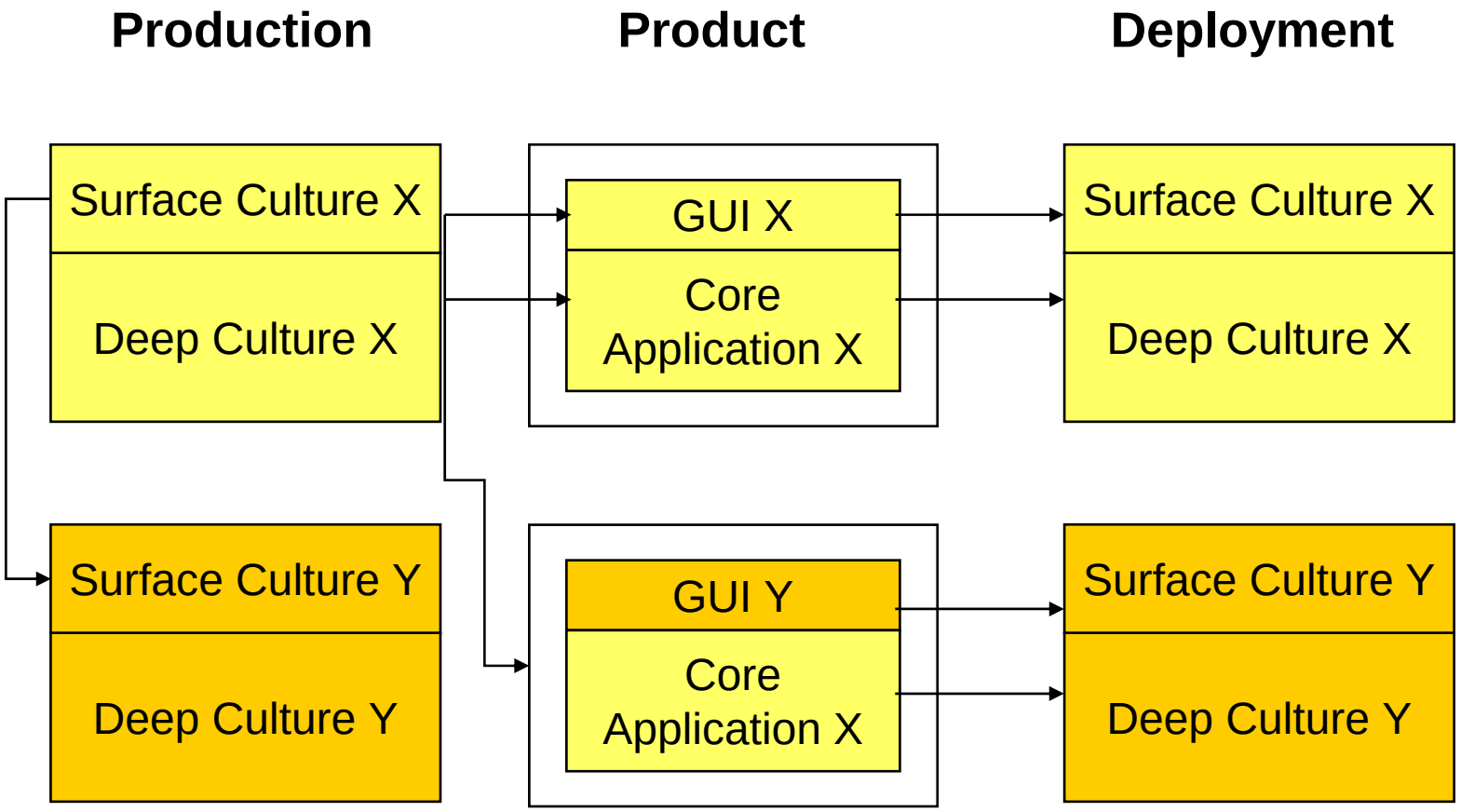
Key Concepts: Distributed teams

- Managing cultural differences (see L3)
- Considering adjustment to calculate productivity and potential difficulties
- Phases of cultural adjustment
  - Enthusiasm
  - Conflict Stage
  - Integration Stage
  - Adaptation Stage

Key Concepts: Internationalization



Summary

- Wide field with a variety of approaches
- Different scenarios leading to different solutions
- Some influence factors are common to all approaches, e.g.,
  - Communication / coordination
  - Stakeholder
  - Infrastructure / systems architecture
  - Culture

Questions

- How can global software development processes be classified?
- Which factors influence factors affect the development process?
- Which advantages / disadvantages do you expect from a distributed development process?

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- More references will be listed in each lecture

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