

# IS/IT outsourcing services – basic

RNDr. Stanislav Michelfeit

## Goals of today's lecture

- **To present concept of whole course**
- **To present trends that motivate establishment of Service Science, Engineering and Management ( Service Science, or SSEM)**
- **To define IT/IS outsourcing in context of SSEM**

# Agenda

- **Goals (5 min)**
- **Service Science (45 min)**
  - Current economic evolution
  - Service definition
  - Basic terms, content
- **Break (10 min)**
- **IT/IS outsourcing (45 min)**
  - Definition of outsourcing
  - IT stages, trends
  - Current status outsourcing services
- **Discussion (5 min)**

## Why did you select informatics/computer science?

- **It is cool.**
- **I enjoy it.**
- **I had no other idea.**
- **Parents decided instead of me.**
- **Parents prohibit me from studying it.**
- **There is good salary.**

# Picturing Economic Evolution

## Delivery Form

Products

Services

Material

Machines, Chemicals  
Automotive  
Fashion Goods  
Consumer Products

Tourism, Retail  
Transportation  
Construction  
Health Care

**End product**

Information

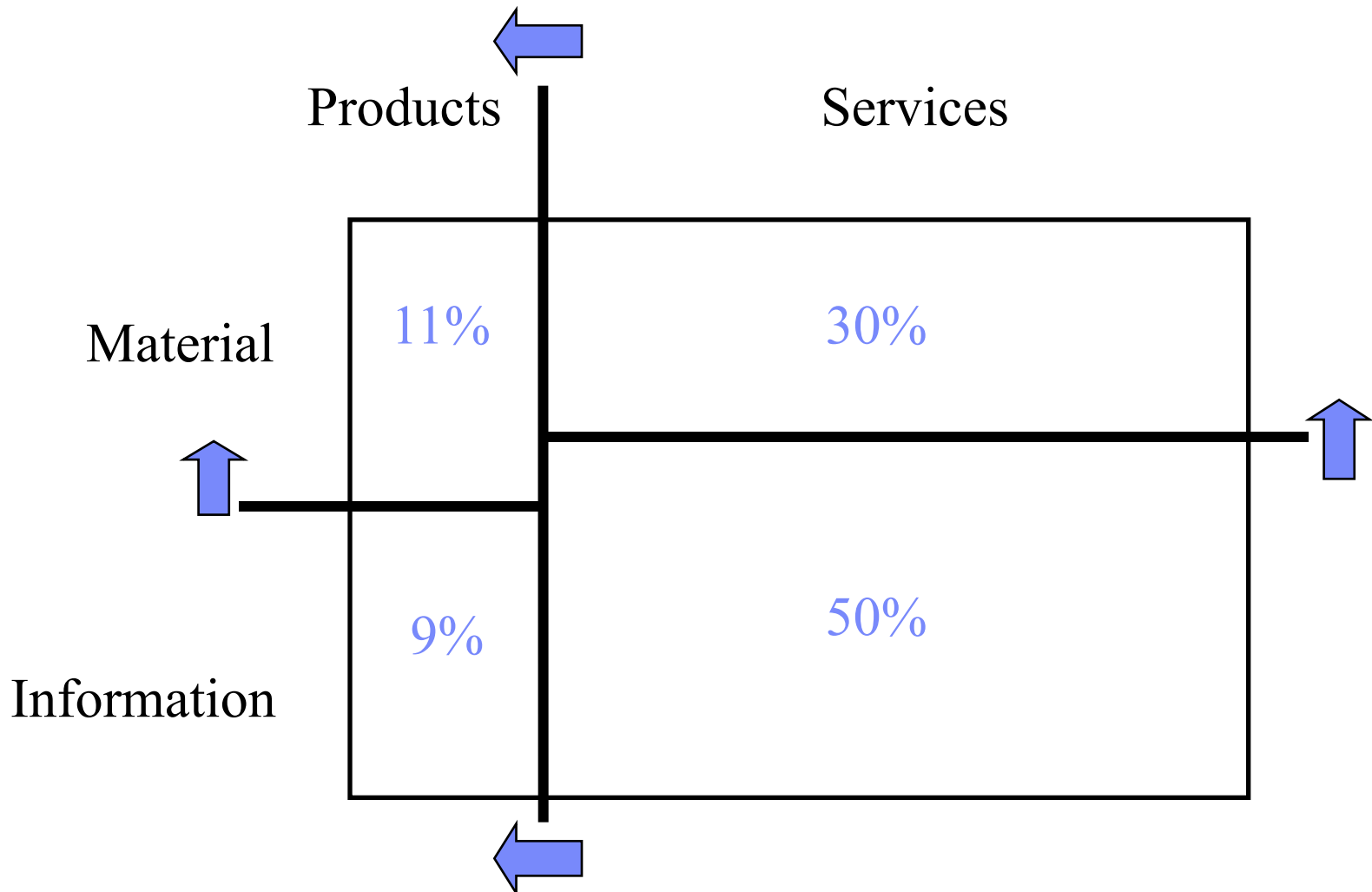
Books, Magazines  
Computers, PDA's  
Film, Music  
Software, Games

Financial Services  
Radio, TV  
Telecommunication  
Legal, Consulting

	<p>Machines, Chemicals Automotive Fashion Goods Consumer Products</p>	<p>Tourism, Retail Transportation Construction Health Care</p>
<p><b>End product</b></p> <p>Information</p>	<p>Books, Magazines Computers, PDA's Film, Music Software, Games</p>	<p>Financial Services Radio, TV Telecommunication Legal, Consulting</p>

# Why Now?: US GNP Today and in the Future

*From Uday Karmarkar: "Service industrialization in the global economy"  
 Also author of HBR article: "Will you survive the services revolution?"*

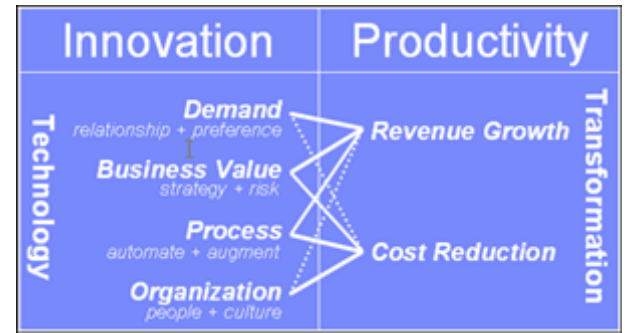
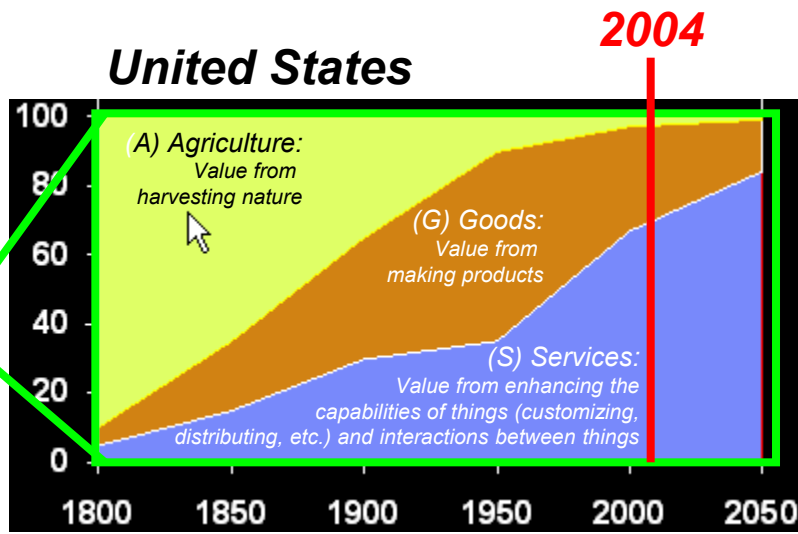
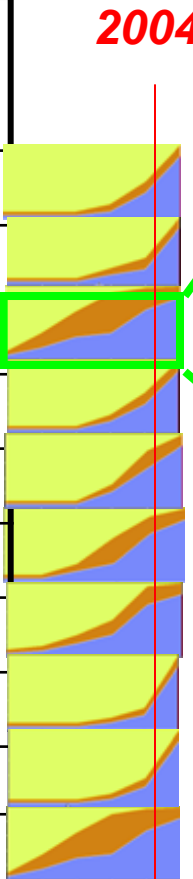


# Why Now?

The world is becoming a service system.

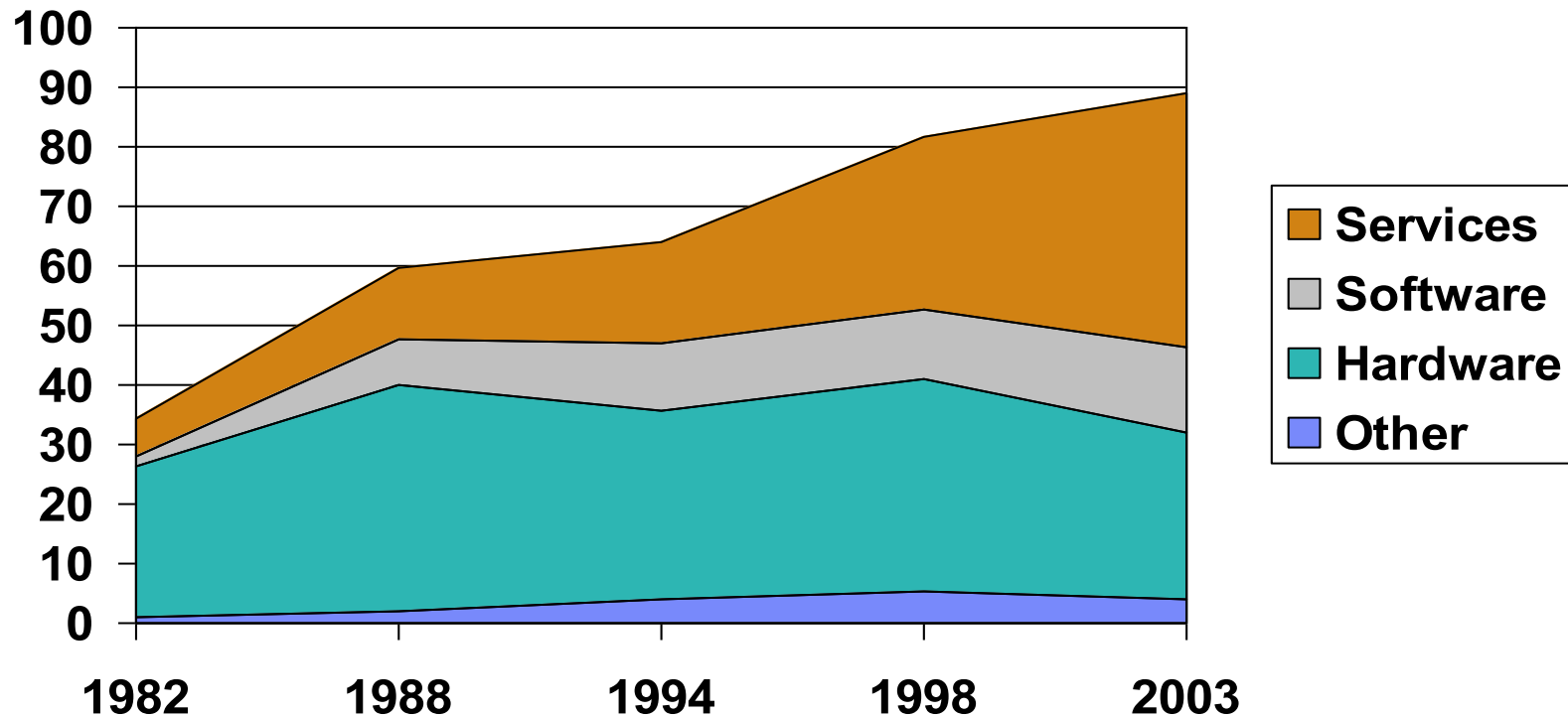
**Top Ten Nations by Labor Force Size**  
 (about 50% of world labor in just 10 nations)  
 A = Agriculture, G = Goods, S = Services

Nation	% WW Labor	% A	% G	% S	25 yr % delta S
China	21.0	50	15	35	191
India	17.0	60	17	23	28
U.S.	4.8	3	27	70	21
Indonesia	3.9	45	16	39	35
Brazil	3.0	23	24	53	20
Russia	2.5	12	23	65	38
Japan	2.4	5	25	70	40
Nigeria	2.2	70	10	20	30
Banglad.	2.2	63	11	26	30
Germany	1.4	3	33	64	44



**The largest labor force migration in human history is underway, driven by urbanization, global communications, low cost labor, business growth and technology innovation.**

# Service Science: Why Now? IBM's perspective





# What is service?

## **Service = performance pay**

- **Intangible output, heavily quantified and measurable**
- **No stockable**
- **Unmovable**
- **Consumption is parallel with delivery**
- **Customer „on-line“ cooperate on result**
- **Customer is often „co-creator, co-supplier“**
- **Specification is difficult**

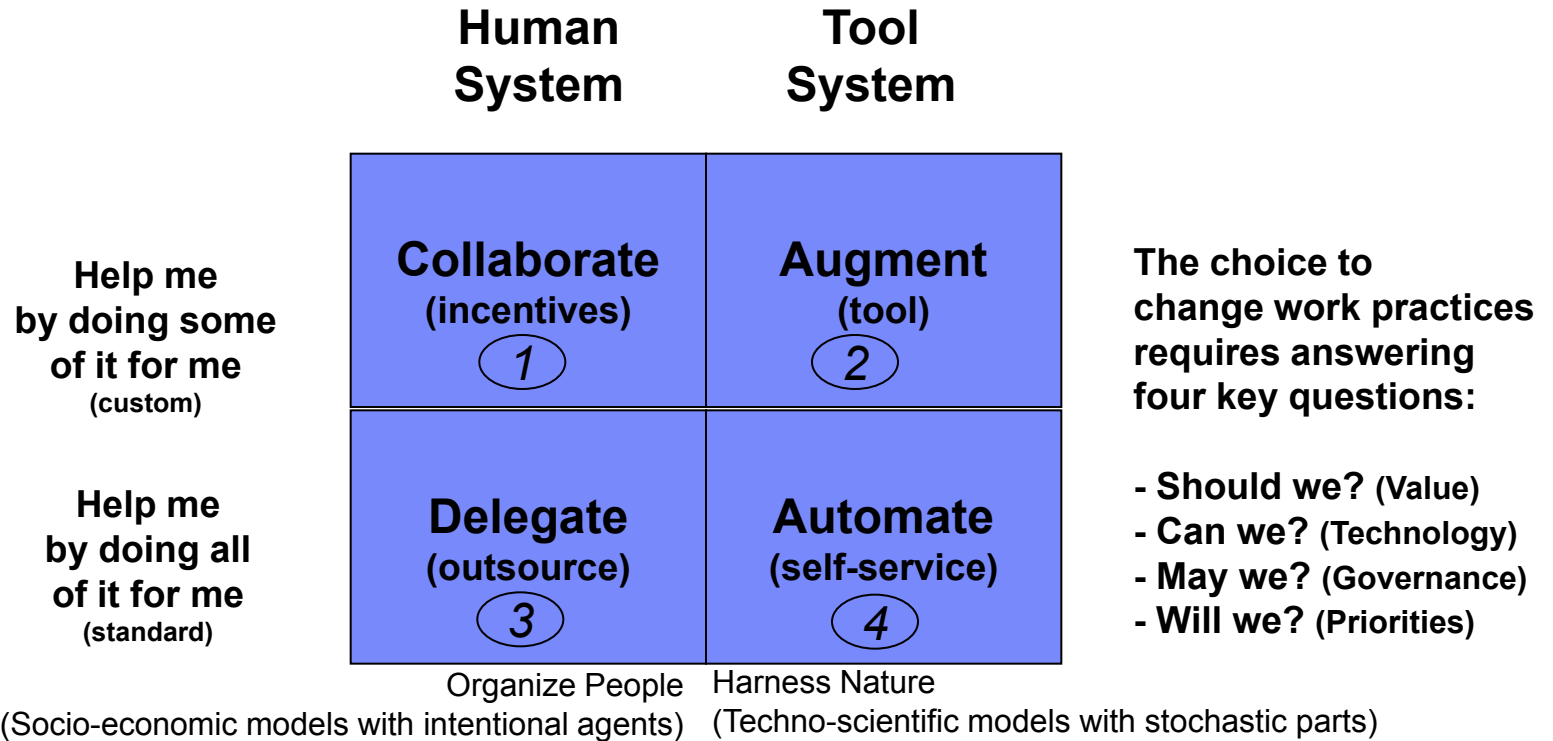
## Growth of services is having an impact on academics...

Areas	Revise	Aggregate	Integrate?
Operations Research	<b>Service Operations</b>	<b>Multidisciplinary Service Excellence Centers</b>	<b>Service Science</b>  <i>Service Design, Engineering, Management</i>
Management Science	<b>Service Management</b>		
Industrial & Systems Engineering	<b>Service Engineering (Enterprise Transformation)</b>		
Marketing	<b>Service Marketing</b>		
Contracts & Negotiations	<b>eSourcing</b>		
Computer Science	<b>Service Computing, Web Services</b>		
<b>Management of Technology &amp; Innovation</b>			
<b>Service Professions, PSM degrees Entrepreneurship degrees</b>			

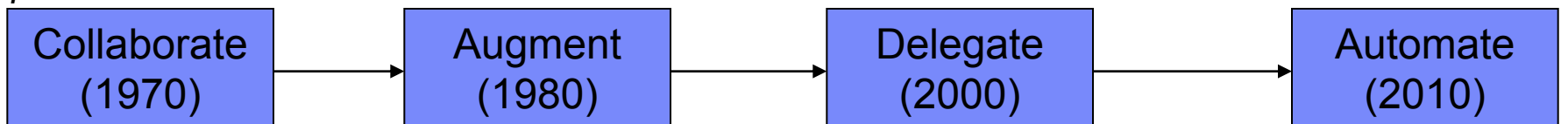
# Terms & Definitions, Service Science

- Definition 1: The application of scientific, management, and engineering disciplines to tasks that one organization beneficially performs for and with another ("services").
  
- Definition 2: The study of service systems.
  - Evolution: Services systems evolve in difficult to predict ways because of naturally emergent and rationally designed interactions between economic entities, acting in the roles of clients and providers.
  - Interactions & Value Coproduction: Service systems are made up of large numbers of interacting clients and providers coproducing value. Each economic entity is both a client and a provider. The economic value of knowledge distributed among people, organizations, technological artifacts, and relationships is in constant flux.
  - Specialization & Coordination: One mechanism for creating value is specialization of clients and providers, which results in the need for coordination via markets, organizational hierarchies, and other mechanisms. Specialization creates efficiency. Efficiency creates profits and leisure. Profits and Leisure create investment (profits to innovation) and new demand (leisure to new aspirations).

# Service Science Core Questions: How do work systems reconfigure? What role does innovation play? Can integration relationships be found across different types of work system?



**Example: Call Centers**



Experts: High skill people on phones

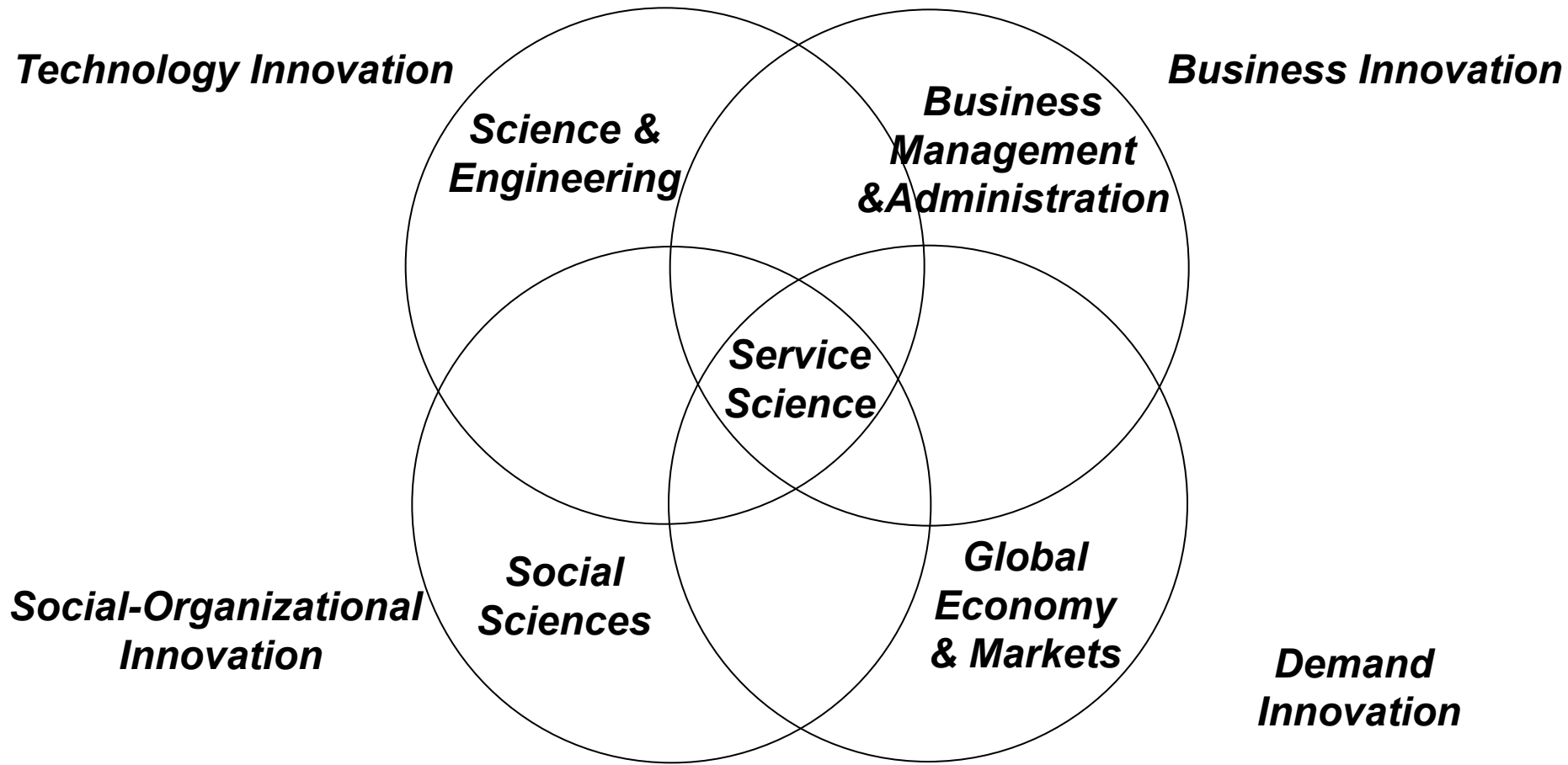
Tools: Less skill with FAQ tools

Market: Lower cost geography (India)

Technology: Voice response system

# Why Service Science?

The world needs more service innovation & systematic approaches to service innovation must be interdisciplinary



**SSEM = Service Sciences, Engineering, and Management**

## Outsourcing - definition

- **„Outside resource using“**
- **Contractual relationship, which assign responsibility for some functional area to external resources**
- **It is delegation of some activities on specialized organization**
- **Company handover entire responsibility for certain activity to external supplier**

## Outsourcing IT

- **IT/IS Outsourcing is delegation of operation, maintenance and administration activities ITC**
- **IT/IS Outsourcing is prerequisite of industrialization/standardization of seservices**
- **Information services are dominant in advance economics**

# Frankly, I'm more worried about the professors





## IT evolution stages

- **0 – 1982**
  - Proper solution
- **1982 – 1999**
  - Standard solution
- **1999 –**
  - Outsourcing solution

# Characteristic and cost structure

## ■ 0 – 1982

### – Characteristic

- Mainframes and terminals
- Punch cards data management
- Batch processing, proper application development

### – Local cost (fix cost)

- High cost for development and maintenance of proper solution
- Dependence on lack of skilled resources
- High cost for availability and security

# Characteristic and cost structure

## ■ 1982 - 1999

### – Charakteristika

- PC and PC Server
- Standard interactive application
- Data entered directly by users

### – Internal and external cost (variable and fix cost)

- High investment to buy HW and SW
- Low recoverability (ROI)
- High cost for availability and security

# Characteristic and cost structure

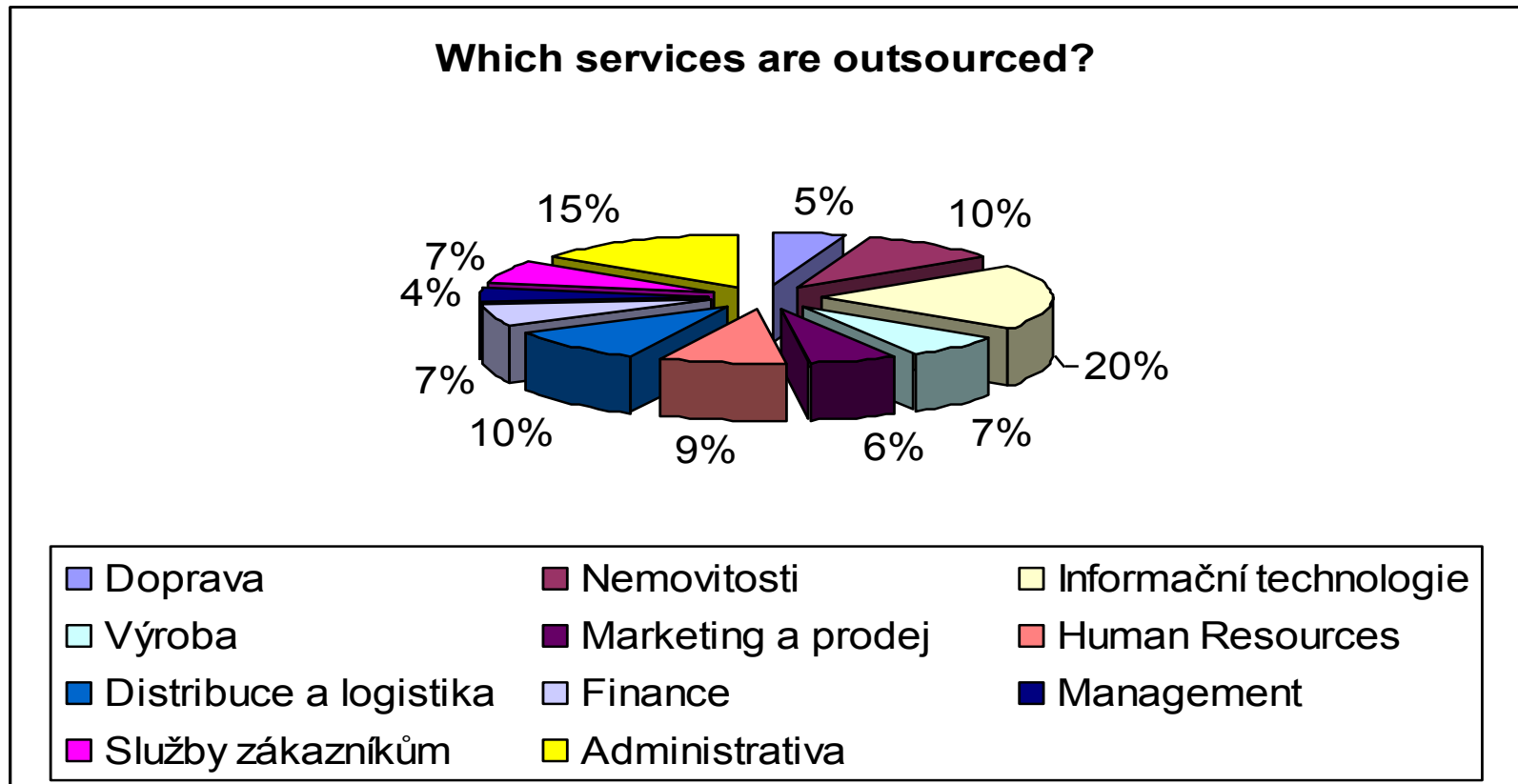
- **1999 -**
  - Characteristic
    - Independence on HW (Shared datacentre)
    - Standard services
    - Distributed infrastructure
  - External cost (variable cost)
    - Only variable cost (performance pay)
    - Independence on lack of skilled resources
    - High availability and security

# IT Spending 2002-2007 (Gartner Dataquest (December 2003))

	<b>2002 (\$B)</b>	<b>2007 (\$B)</b>	<b>CAGR (%)</b>
Agriculture, Mining and Construction	27.6	34.0	4.29
Communications	361.5	410.9	2.59
Discrete Manufacturing	229.1	274.1	3.65
Education	42.5	54.3	5.03
Financial Services	356.2	436.9	4.17
Healthcare	68.7	90.0	5.55
Local and Regional Government	106.3	135.8	5.02
National and International Government	143.7	184.9	5.17
Process Manufacturing	158.5	194.3	4.16
Retail Trade	103.3	125.8	4.03
Services	146.2	195.6	5.98
Transportation	85.4	103.8	3.99
Utilities	80.3	103.1	5.14
Wholesale Trade	72.3	87.3	3.84
<b>Total</b>	<b>1,981.5</b>	<b>2,430.7</b>	<b>4.17</b>

# Outsourcing trends

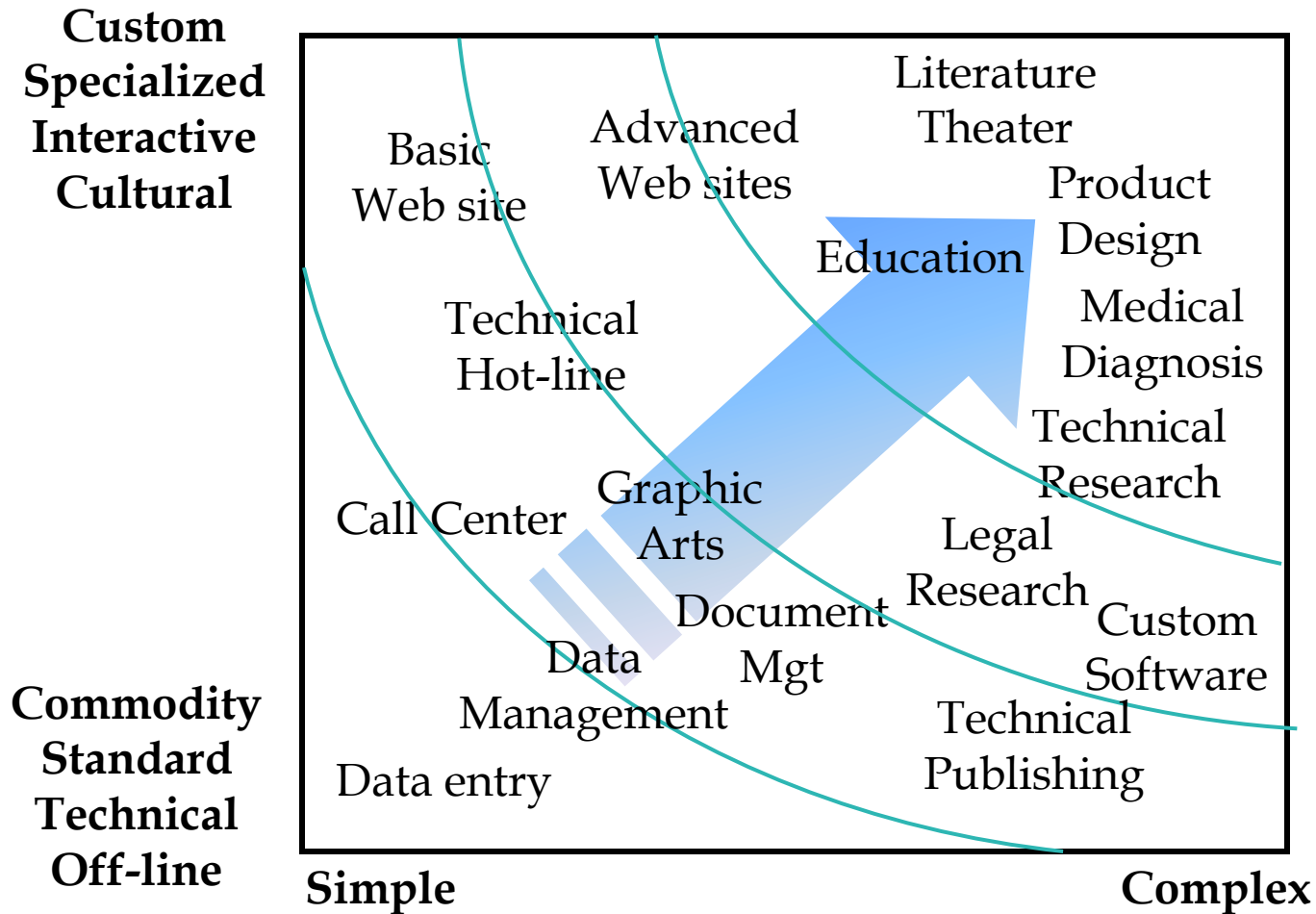
## ■ Outsourcing by towers



# Types of outsourcing

- **Personal outsourcing**
  - Staff and services providing
- **Complexní outsourcing**
  - Staff, services and all resources providing
- **Partial outsourcing**
  - Staff, services and some resources providing
- **Business process outsourcing (BPO)**
  - Services providing

# IT-enabled Services





## Benefits and opportunities of outsourcing

- **Economical – financial**
  - Clarity and cost reduction
- **Personal**
  - Availability of skilled staff
- **Administrative – factual**
  - Risk delegation on outsourcing supplier

# Service Level Agreement

- **Basic specification, conditions and rules**
  - Service description, metrics, payment conditions
- **Hard metrics**
  - availability, response time
- **Soft metrics**
  - Quality of outsourcing services

# Discussion

- **Thank you for your attention**