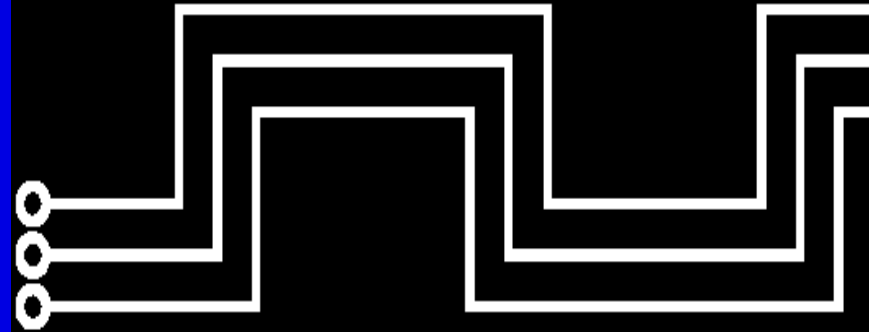


# PA194

## Introduction to Service Science

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# Organization

Lessons (real time, recorded)

Test at the end of semester

50% open and 50% optional questions

Knowledge presented here will be examined at state exam

Information are important to understand other lessons in context of services

# Why introduction to Service Science

To understand subject of your study

To accept new way of thinking

To adapt to new conditions

IT is the most dynamic domain in the world

Service Science is trying to interconnect IT and „the rest of the world“

# What is service?

services are processes, performances, or experiences that one person or organization does for the benefit of another

In all cases, service involves deployment of knowledge, skills, and competences that one person or organization has for the benefit of another, often done as a single, customized job ([Lusch](#) & [Vargo](#))



# Characteristics of a service

Services we speak about are information and knowledge intensive

Output is intangible, hard to quantifiable and measurable

Non-storable

Lack of mobility

Consumption runs simultaneously with the supply

The customer is presented on the production

Hardly specifiable

# What is science?

to help service managers to achieve standardization

assembly of standardized modular service elements in several "customizable" but highly predictable permutations

customers seek for value standardization because it reduces variability and usually helps bring prices down

services in the digital economy employ standardization and mass customization

a new service definition might focus on the technical nature of modern-day service

# Key Trends

## Services have become a driving force in economics around the world

- Services represent more than 70% of global GDP.
- The services sector in EU accounts for almost 70% of EU GDP.
- Also manufacturing industries include more and more services. There are becoming part of tangible and intangible products

## Services are more and more knowledge and information intensive

- They are necessary to provide the service
- Also, they are needed to get the value from the service

## Service innovation is recognized as key for the economic growth and competitiveness

- Academic programs and research activities in engineering and business schools didn't meet the needs of this sector.
- Universities, governments and industry start to work together to ensure that service become a distinct and legitimate area for research and teaching.

## ICT plays a major role in services innovation and realization

- The most of the services are unfeasible without IT

# Industry request

Industry signals that most of entry level engineers lack necessary skills especially in soft skills and in legal and economical framework.

In detail:

Ability to communicate effectively to technical and non-technical audience

Ability to self educate

Ability to work in heterogenous teams

Willing to take risks, experiments, and to be innovative

Global engagement



# History of Service Science (SeS)

## Founded by IBM (2004)

- The founder is Jim Spohrer
- On the field of IT
- To understand how provide IT services

## Basic principles

- IT is a service
- No matter if it is internal or external
- Basic motivation is to understanding of needs of those who are final „recipients“ of the service



# Relation to information

Work of informatics specialists is about work with information

SeS is the reaction to one serious problem on IT market

Do they know all semantics and consequences?

# Example of the problem

## Description

- Organization has a problem
- This problem can be solved by a IT solution (tools)
- There is a lot of IT companies able to supply this kind of solution

## Questions

- How would IT expert recognize the right identification of customer's problem?
- How does customer recognize the IT expert offers the right solution for his company?

# Solution of problem

To be able to answer both questions we need:

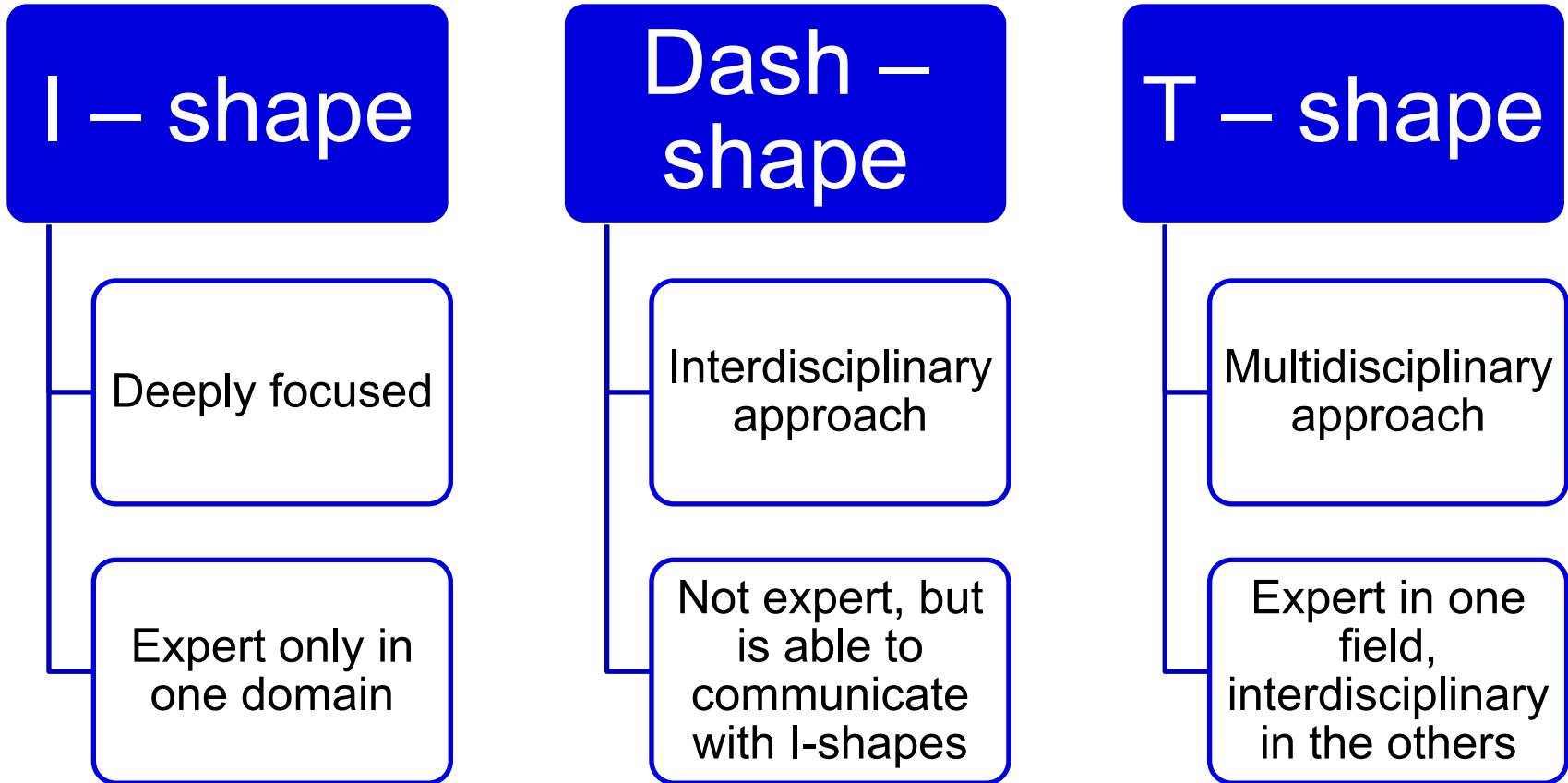
- IT expert that has knowledge from both sides
  - Is able to analyze problem on customer's side
  - He knows proper IT tools
  - Has multidisciplinary knowledge
- IT expert is able to act on any side of the market (customer or supplier)

This expert should be a Service Science educated

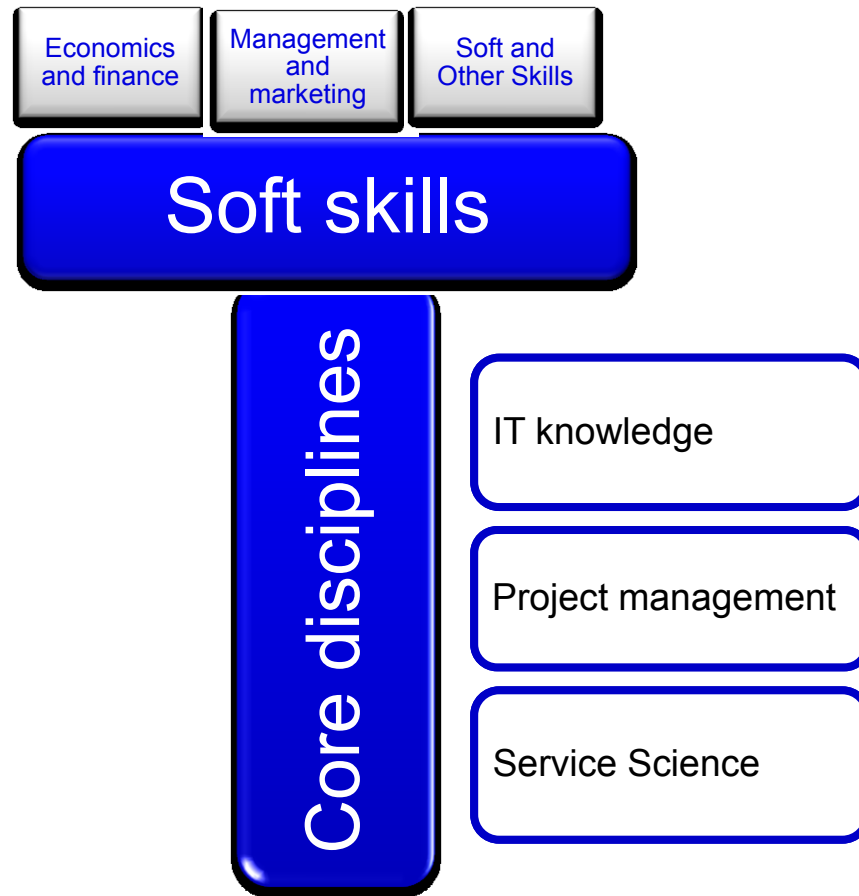
# What (dam) is the Service Science?

Service Science means curricula, training, and research programs that are designed to teach individuals to apply scientific, engineering, and management disciplines that integrate elements of computer science, operation research, industrial engineering, business strategy, management sciences, and social and legal sciences, in order to encourage innovation in how organizations create value for customers and shareholders that could not be achieved through such disciplines working in isolation. (U.S. National Innovation Investment Act, 2007)

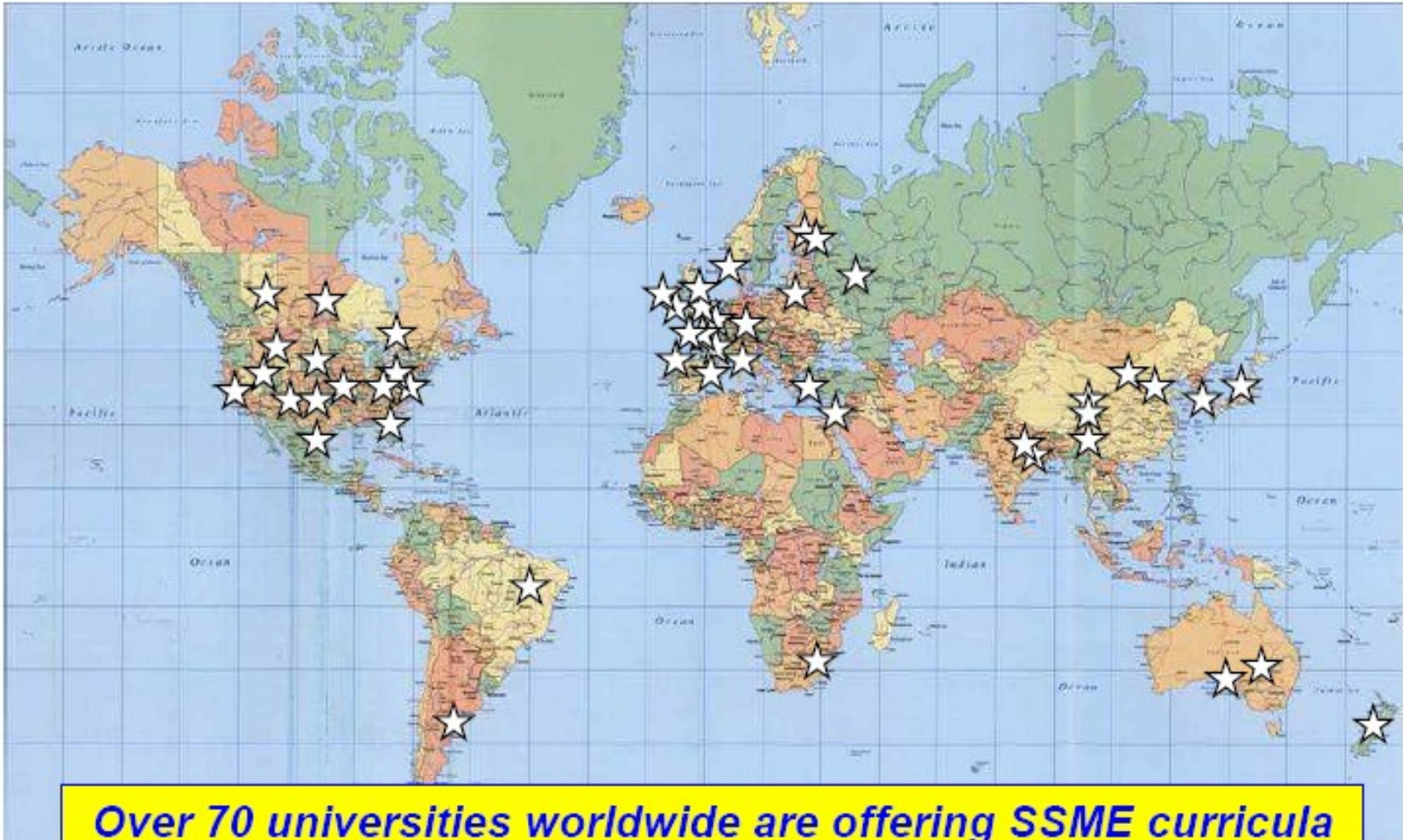
# Multidisciplinarity



# T – shape professionals



# Growing interest and engagement in SSME worldwide



**Over 70 universities worldwide are offering SSME curricula and courses, many more starting with SSME programs**



# Academics reaction to Service Science

Mostly taken by economics universities and faculties

- New way of marketing
- Easily viewed potential
- New tool for service analysis
- Service Science succumbed to effort to cut the relation with IT
  - Economists are concentrated to service analysis
  - IT tools are not in the center of their interest
- Positive – developing Service Dominant Logic (Vargo + Lush, 2004, 2006)
  - The center of interest is user and his needs, not a product he is using for their satisfaction

# Service Science on Academics Field

## Informatics faculties

- Different approaches
- Mostly one lesson or course, added to existing programs
- Only few discovered the potential and offers whole study program, designed and oriented to Service Science

## Question

- Is Service Science more IT or more Economic, Social, Managerial ...?

# Why should SeS have dominant IT?

Unique relation between Services and IT

- No one can provide knowledge and information intensive service without using IT.

Accounting principles are the same for more than 300 years

And marketing and management principles and approaches are changing in period of 10 – 20 years

In opposite IT is extremely dynamic domain

- Technology is changing all time
- Smart phones, tablets
- Clouds, big data, security

Therefore, providing services needs a **knowledge about the most actual IT tools, techniques and their optimal usage**

Service Science is a great enrichment of IT and brings new challenges and perspectives to IT

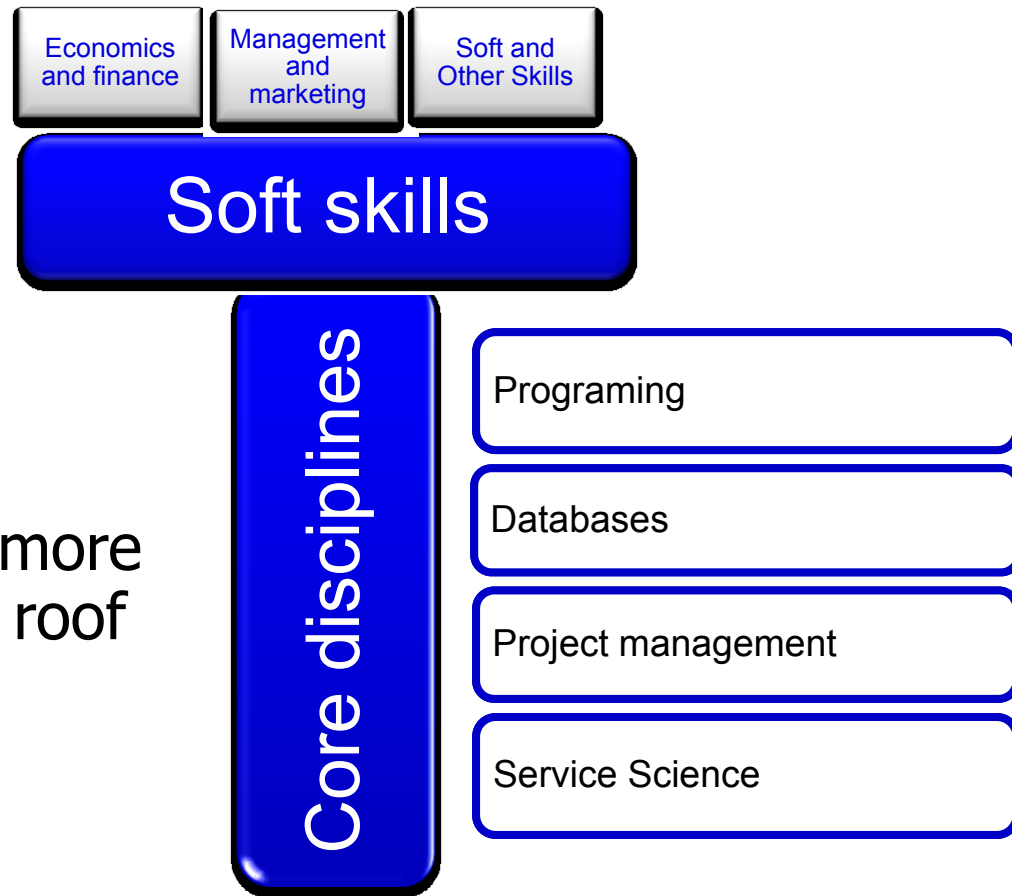
# Master study program



Service Science, Management and Engineering (2008 – 2020)

Service development management (since 2020)

# T – shape professionals



The leg should be more dynamics than the roof

# Interim project

## Why?

- To prove the knowledge and its structure
- Unique – comparing other study programs
- For the students – to gain real experience
- For companies – to get the valuable resource

## Short (business)

- For business partner
- 5 months, 4 days per a week

## Long (research)

- Mostly for research or university partners
- 10 months, 2.5 days per a week

# Laboratory of service systems

Laboratory focused to implementation of service thinking

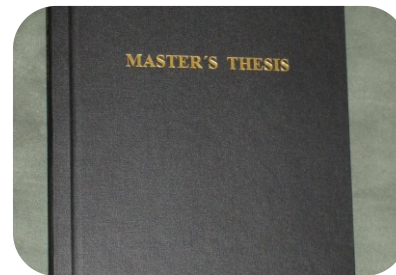
The main topic nowadays is Smart Cities

We cooperate with the cities in Czech Republic and with main stakeholders of Smart concept (Czech Smart City Cluster, Ministry of local development)

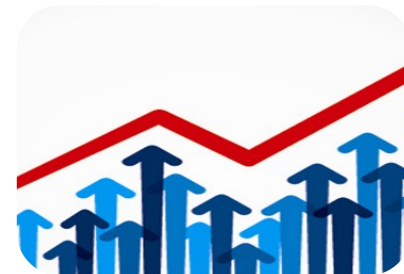
More info:



Interim



Diploma  
thesis



2 credits per  
semester

# Content of the course

Goods and Service Dominant Logic

Role of information in in GDL and SDL

Service systems and imperfect information

Service systems

Applications of SeS

Marketing concepts in SDL

Service Science, Management and Engineering



# Conclusion

Service Science is strongly related with IT

Service Science changed the service market

Service Science means different approach to the education

T-shape education is necessary for the success on labor market