SSME(AD) … and Art & Design

Towards a Science of Services. Value and Symbols

Theodor Borangiu, Ph.D
University Relations Manager IBM Romania

IBM Innovation Centre, March 1, 2010

Agenda

- What is **service science** ? Value and symbols

- What's been going on with service science?

- Physical symbol systems

- Many disciplines and views of service

- Emergence of Service Science

- Future of Service Science. Where are we going ?

What the is Service Science ? Value and Symbols

Basic Elements

Value
Studied by *economics* (price, labour, supply and demand, …). Value is necessarily **cocreated** as a result of interactions of multiple entities.

Value Cocreation
Primary object of study service science

Service Sectors
Government, education, medical and healthcare, banking & insurance, business consulting, IT services, retail & wholesale, tourism & entertainment, transportation & logistics, supply chains

By traditional *economic segmentation*, the service sector accounts for most of the world's economic activity

Service System Entity (SSE)
(*people, families, businesses, organisations, nations*,…)
A system that includes one or more people and a number of technologies that adaptively computes and adjusts to the changing value of knowledge (innovation)

Physical Symbol System
- Perform reasoning about the value of knowledge
- Guide internal behaviour of SSE & mediate interactions with other SSEs
- Provides a link between mathematics, physics [quantity relationship proofs] and computer science [efficient representation of algorithms]
- Symbol manipulation = mechanism for value cocreation
- Symbolic reasoning = process of valuing - allows one to model the world better and to take better actions

Service
Value cocreation phenomena that arise among interacting service system entities

Service sector employment

In 2006 the service sector's share of global employment overtook agriculture for the first time, increasing from 39.5% to 40%. Agriculture decreased from 39.7% to 38.7%. The industry sector accounted for 21.3% of total employment.

- International Labour Organization

http://www.ilo.org/public/english/region/asro/bangkok/public/releases/yr2007/pr07_02sa.htm
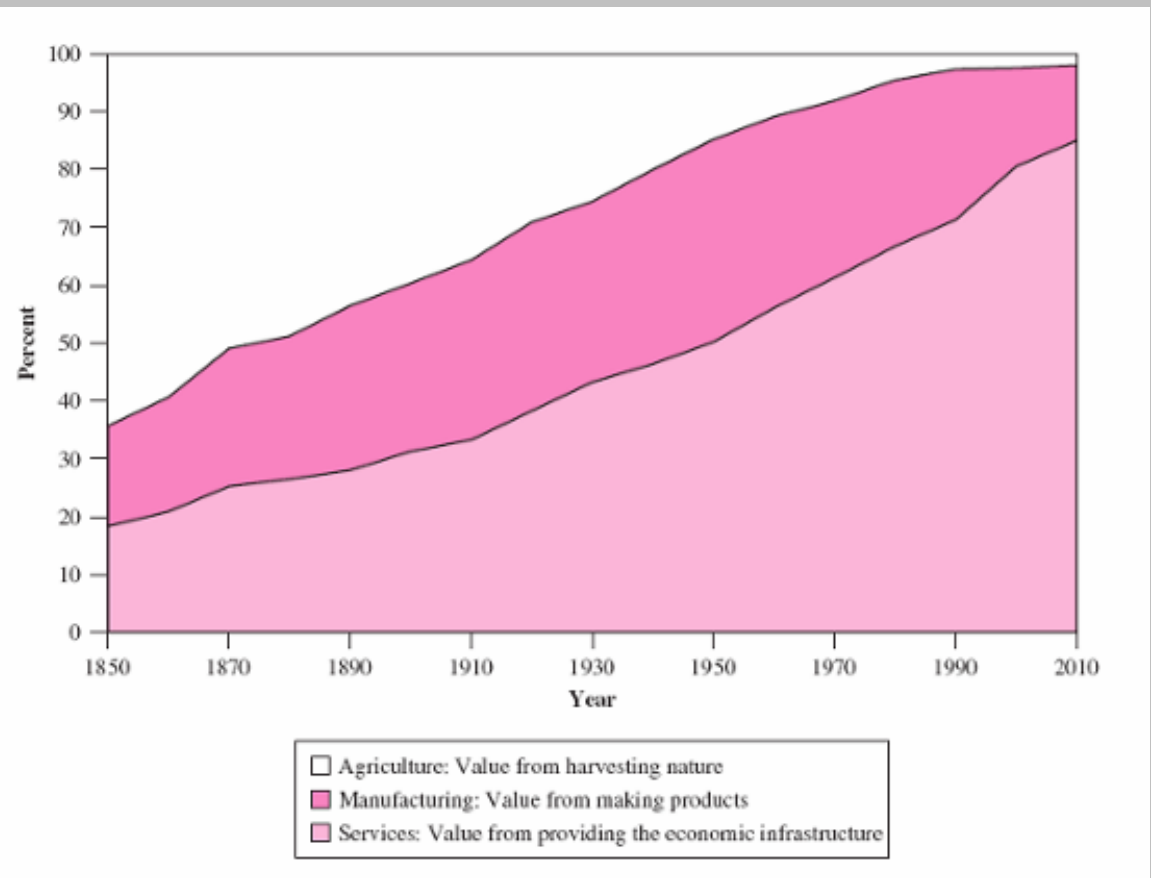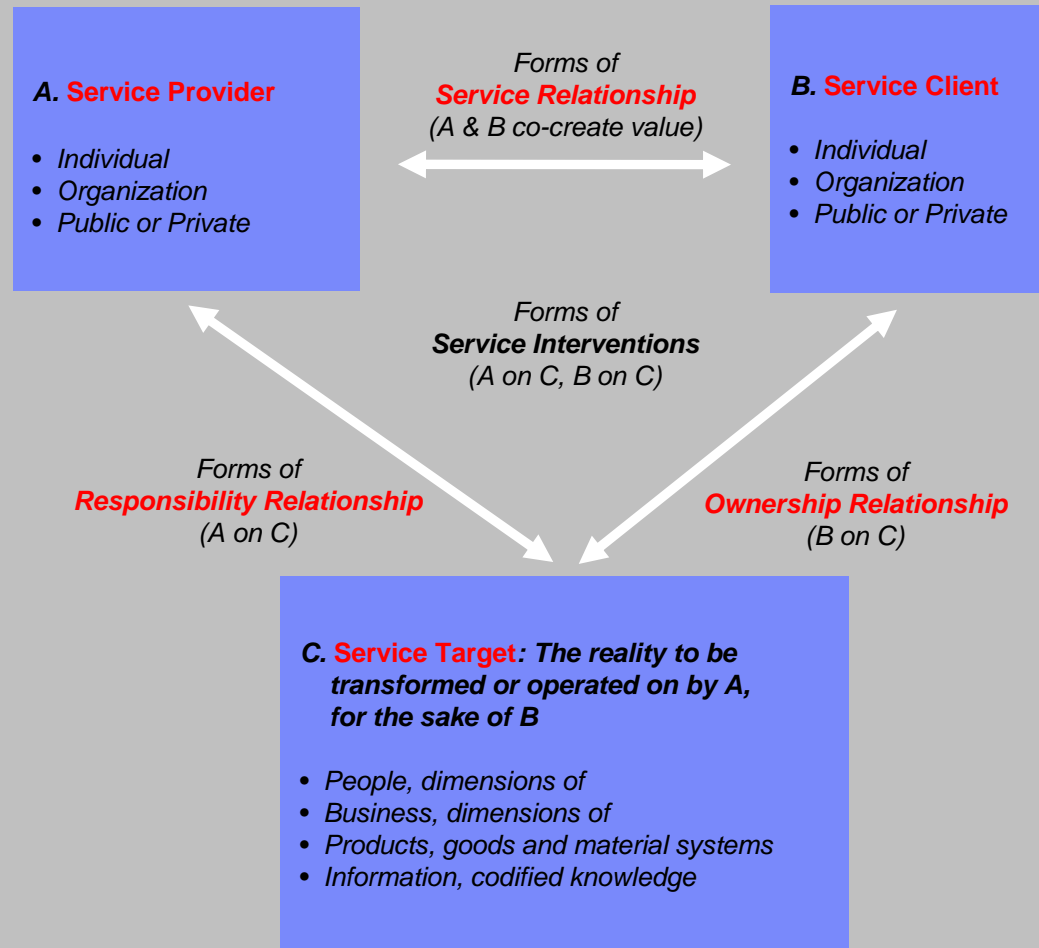

Fitzsimmons & Fitzsimmons (2008)

What the is Service Science ? Value and Symbols

Service is the application of competence for the benefit of another entity

- Service involves at least **two entities**:
  - › one applying competence and
  - › another integrating the applied competences with other resources

  and determining benefit (*value co-creation*)

- We call these interacting entities **service systems**: *a dynamic value co-creation configuration of resources*, including people, organizations, shared information (**language, laws, measures, methods**), and technology, *connected to other service systems by value propositions.*

A. Service Provider

- *Individual*
- *Organization*
- *Public or Private*

Forms of
Service Relationship
(A & B co-create value)

B. Service Client

- *Individual*
- *Organization*
- *Public or Private*

Forms of
Service Interventions
(A on C, B on C)

Forms of
Responsibility Relationship
(A on C)

Forms of
Ownership Relationship
(B on C)

C. Service Target: **The reality to be transformed or operated on by A, for the sake of B**

- *People, dimensions of*
- *Business, dimensions of*
- *Products, goods and material systems*
- *Information, codified knowledge*

Service Science is about building common language

An analogy can be made with **Computer Science**. The success of CS is not in the definition of a basic science (as in physics or chemistry for example) but more in its ability *to bring together diverse disciplines*, such as mathematics, electronics and psychology to solve problems that require they all be there *and talk a language that demonstrates common purpose*.

Service Science may be the same thing, only bigger: an interdisciplinary umbrella that enables economists, social scientists, mathematicians, computer scientists and legislators (to name a small subset of the necessary disciplines) to cooperate to achieve a larger goal - analysis, construction, management and evolution of the most complex systems we have ever attempted to construct – the service system

What the is Service Science ? Value and Symbols

National authorities commit to Service Science

The U.S. National Innovation Investment Act

Service Science defined- *"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, operations research, industrial engineering, business strategy, management sciences, and social and legal sciences,

in order to
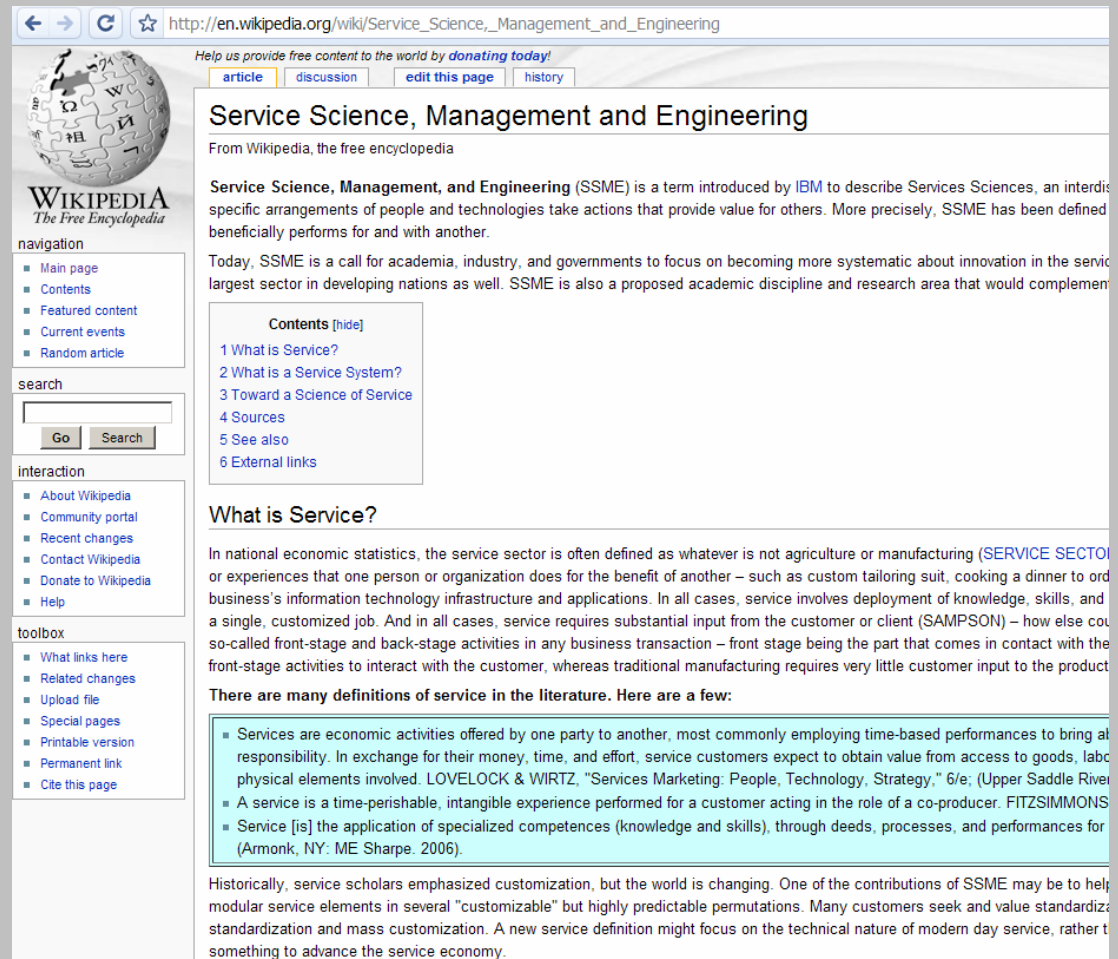
encourage innovation in how organizations create value for customers and shareholders that could not be achieved through such disciplines working in isolation.

What the is Service Science ? Value and Symbols

IBM's definition of SSME

Service Science, Management, and Engineering (SSME) is a term introduced by IBM to describe Service Science, an interdisciplinary approach to the study, design, & implementation of services systems – complex systems *in which specific arrangements of people and technologies take actions that provide value for others*.

More precisely, SSME has been defined as the *application of science, management, and engineering disciplines* to **tasks** that one organization *beneficial-ly performs for and with* another.

Succeeding through Service Innovation

UNIVERSITY OF CAMBRIDGE

IBM

Succeeding through Service Innovation
A Service Perspective for Education, Research, Business and Government

A White Paper based on
- Cambridge Service Science, Management and Engineering Symposium (July 2007)
- The consultation process (October – December 2007)

Today, SSME is a *call for academia, industry, and governments* to focus on becoming more systematic about **innovation** in the service sector. SSME is also a proposed academic discipline and research area that complement the many disciplines contributing to knowledge on services.

Service Science is emerging as a distinct field. Its vision is to discover the underlying logic of complex service systems and to establish a common language and shared frameworks for service innovation. To this end, an *interdisciplinary* approach should be adopted for research and education on service systems.
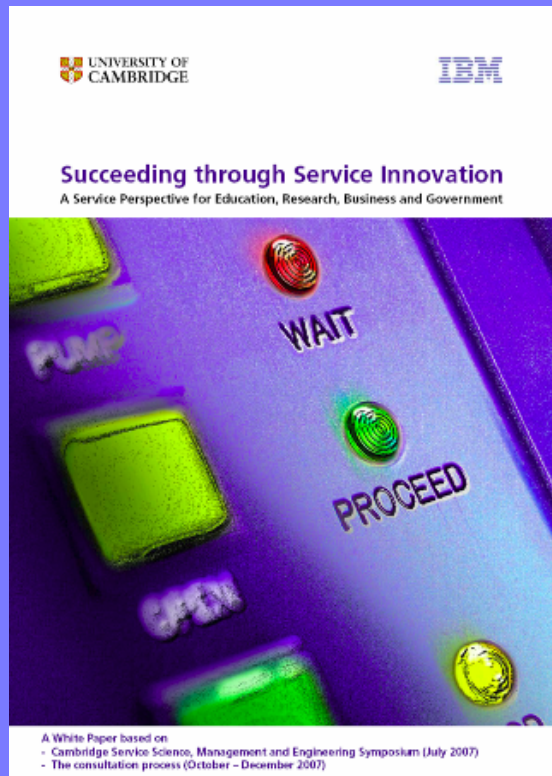
- *For education:* Enable graduates from various disciplines to become *T-shaped professionals* or *adaptive innovators*; promote SSME education programs and qualifications; develop a modular template-based SSME curriculum in higher education and extend to other levels of education.

- *For research:* Develop an interdisciplinary and intercultural approach to service research; build bridges between disciplines through grand research lines; establish *service system* and *value proposition* as foundational concepts; work with practitioners to create data sets to understand the mechanisms of service systems; create modelling and simulation tools for service systems.

- *For business:* Establish employment policies and career paths for T-shaped professionals; review existing approaches to service innovation; provide funding for service systems research; develop appropriate organizational arrangements to enhance industry-academic collaboration; work with stakeholders to include sustainability measures.

- *For government:* Promote service innovation and provide funding for SSME education and research; demonstrate the value of Service Science to government agencies; make public service systems more comprehensive and citizen-responsive; encourage public briefings.

9   http://www.ifm.eng.cam.ac.uk/ssme/

Evolution. What's going on with Service Science ?

A complex history of Service Science

How have been service systems been modelled ?

Mathematical and Computer models; Stochastic nature of capacity limits under var. demand; Queuing theory

Optimal learning

Exploration and exploitation in organizational learning: Competencies and relationships:
- Update [exploration] in rapidly changing environments
- Maintain [exploitation] in very stable environments

Optimal investing

The Service-profit chain; direct and strong relationship between profit, growth, customer loyalty, customer satisfaction, value of goods and services delivered to customer

B2B service

- Service value chain management;
- Globally integrated enterprise

Service innovation

- Is necessarily customer-focused
- Customer change and service innovation must keep up to reduce customer costs while increase customer value

Ultimate result of service growth

- Service innovation links productivity gains to increasing knowledge about customers

Goods and Services

- *Customer perspective*: **Service** = a perspective on **value creation from the point of view of the customer**
- *Provider perspective*: **"Offerings"** = **goods + services**
- *Core concept* **"service"** (in the singular) is underlying both **"goods"** and **"services"**
- A provider offers a value proposition (the offering) to the customer, but value actualization occurs in a separate customer process

Value = outcome of **cocreation interactions** between providers (with offerings) & customers (with actualization)

Evolution. What's going on with Service Science ?

Goods-dominant logic – GDL [contrasting goods & services]

- Purpose of economic activity is to make and distribute units of output (or goods)

- Goods are embedded with utility (value) during manufacturing

- Goal is to maximize profit by efficient production and distribution of goods
  - goods should be standardized
  - produced away from the market
  - inventoried till demanded

- **GDL hides the fundamental nature of exchange**

- Services are
  - Value-enhancing add-ons for goods
  - A particular (inferior) type good, characterized by
    - Intangibility
    - Heterogeneity (non-standardization)
    - Inseparability (of production and consumption)
    - Perishability

Value Creation

Product/Value Delivery

Value Destruction

Supplier → Supply/Value Chain → Producer → Consumer
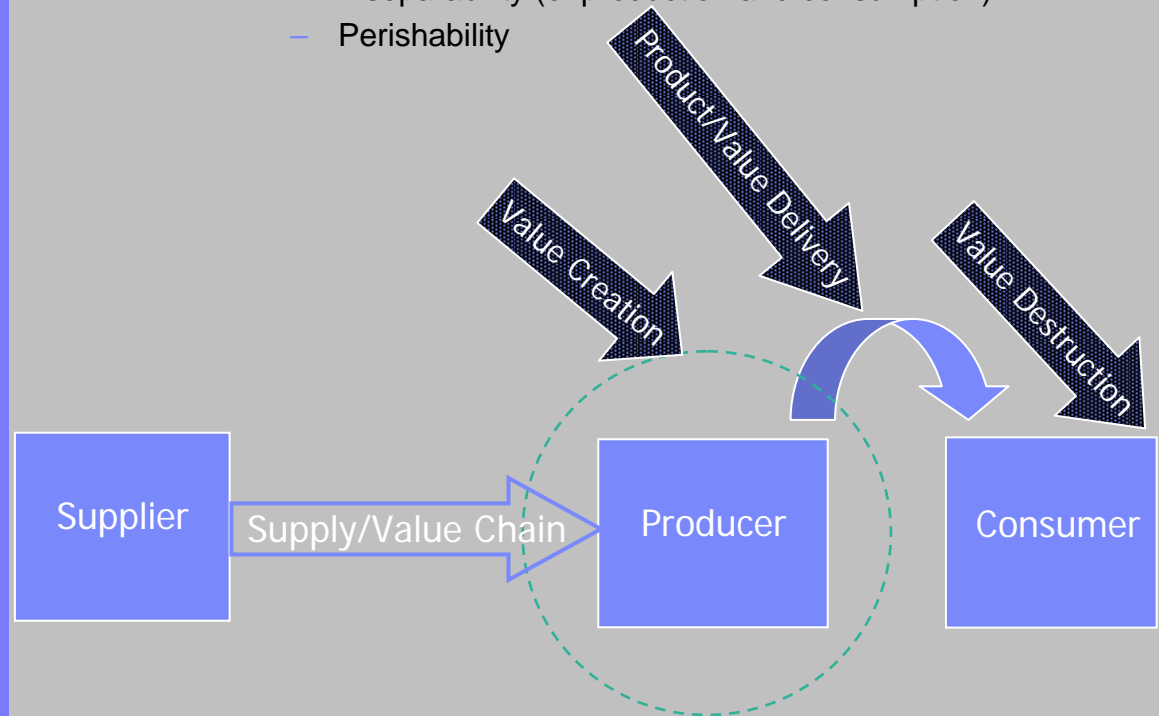
Evolution. What's going on with Service Science ?

Service-dominant logic – SDL [contrasting goods and services]

- Service is the application of competences for the benefit of another entity

- Service is exchanged for service

- Value is always co-created

- Goods are appliances for service delivery

- All economies are service economies

- All businesses are service businesses

- **SDL views service-for-service exchange as the fundamental driver of the economy**

Service = the process of one or more entities applying competences (knowledge, resources) for the benefit of another
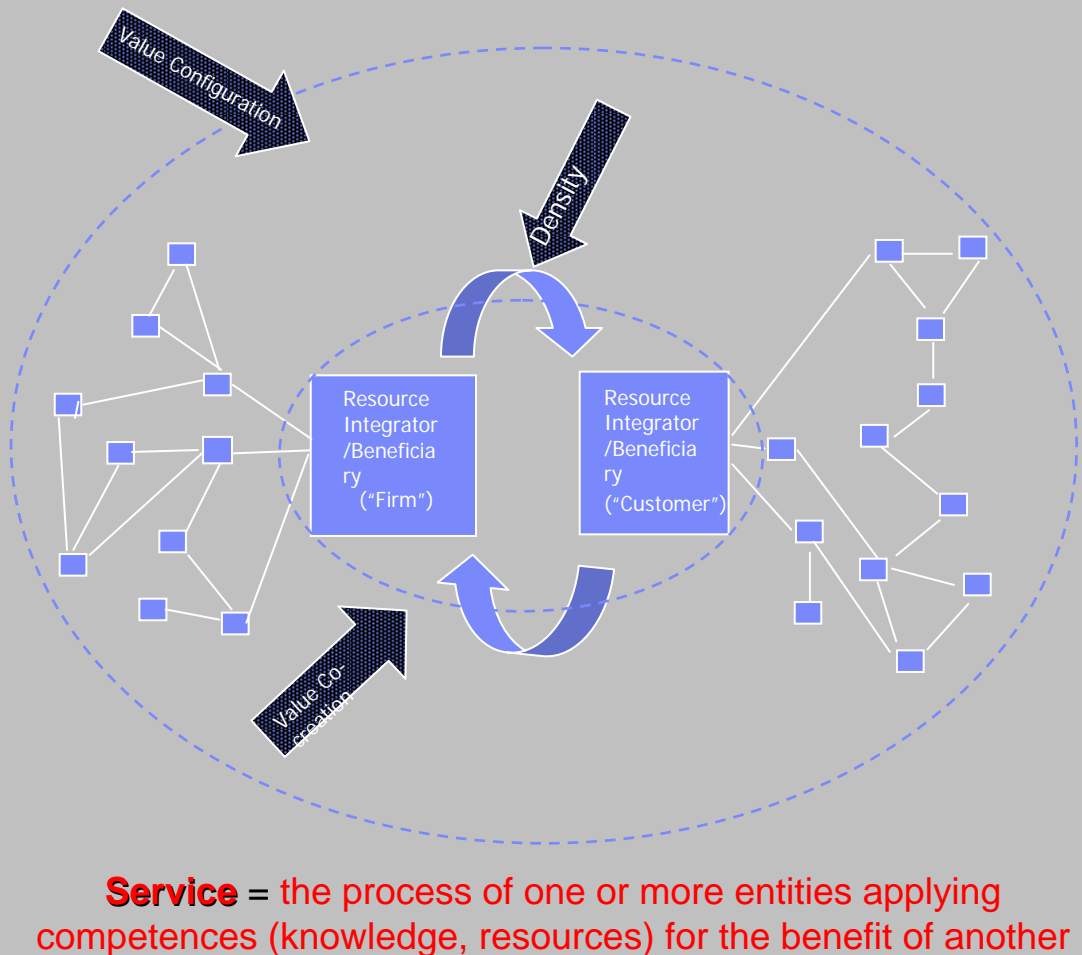
On Value in Service Systems…

- Value depends on the capabilities a system has to survive and accomplish other goals in its environment. Taking advantage of the service another system offers means incorporating improved capabilities. **Value can be defined as system improvement in an environment**

- **Experience and knowledge of provider and customer** provide hints as to what is reasonable to exchange for some new capability.

- All ways that systems work together to improve or enhance one another's capabilities can be seen as being *value creating*. Systems may each depend on capabilities the other provides. Neither may measure or judge explicitly what is exchanged, **but each provides service for, and creates value with, the other** nonetheless.

European Management Journal (2008) 26, 145–152

ESCP-EAP
European School of Management
journal homepage: www.elsevier.com/locate/emj

ELSEVIER

UNIVERSITY of GLASGOW

On value and value co-creation: A service systems and service logic perspective

Stephen L. Vargo[a], Paul P. Maglio[b,*], Melissa Archpru Akaka[a]

[a] Shidler College of Business, University of Hawaii, Manoa, USA
[b] IBM Almaden Research Center, 650 Harry Road, San Jose, California, USA

KEYWORDS
Service-dominant logic;
Service science;
Service system;
Value co-creation;
Value-in-use;
Value-in-exchange

Summary The creation of value is the core purpose and central process of economic exchange. Traditional models of value creation focus on the firm's output and price. We present an alternative perspective, one representing the intersection of two growing streams of thought, service science and service-dominant (S-D) logic. We take the view that (1) service, the application of competences (such as knowledge and skills) by one party for the benefit of another, is the underlying basis of exchange; (2) the proper unit of analysis for service-for-service exchange is the service system, which is a configuration of resources (including people, information, and technology) connected to other systems by value propositions; and (3) service science is the study of service systems and of the co-creation of value within complex configurations of resources. We argue that value is fundamentally derived and determined in use – the integration and application of resources in a specific context – rather than in exchange – embedded in firm output and captured by price. Service systems interact through mutual service exchange relationships, improving the adaptability and survivability of all service systems engaged in exchange, by allowing integration of resources that are mutually beneficial. This argument has implications for advancing service science by identifying research questions regarding configurations and processes of value co-creation and measurements of value in use, and by developing its ties with economics and other service-oriented disciplines.
© 2008 Elsevier Ltd. All rights reserved.

Introduction

Service is the application of competences (knowledge and skills) by one entity for the benefit of another (Vargo and Lusch, 2004, 2006). This definition provides a fresh perspective for understanding economic phenomena, by implying that value is created collaboratively in interactive configurations of mutual exchange. We call these value-creation configurations service systems. Service science is the study of service systems and of the co-creation of value within complex constellations of integrated resources (Spohrer et al., 2007, 2008). It centers on the participants, processes, and

* Corresponding author.
E-mail address: pmaglio@almaden.ibm.com (P.P. Maglio).

Evolution. What's going on with Service Science ?

New view of value-creation processes

An event-based approach to services

With service processes, the customer provides significant inputs into the production process

The customer is always a co-producer

PRODUCTION SYSTEM

CONSUMPTION SYSTEM

Exchange

Process

Preparations

Outcome *Value* *Behavioral response*

Output

Infrastructure

Goods-dominant logic view

PRODUCTION SYSTEM

CONSUMPTION SYSTEM

Process *Co-production*

Preparations *Outcome*

Interactions

Contract
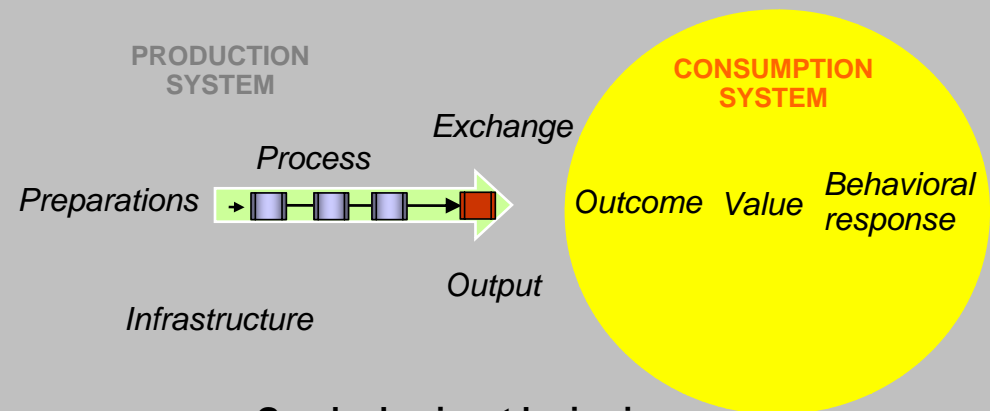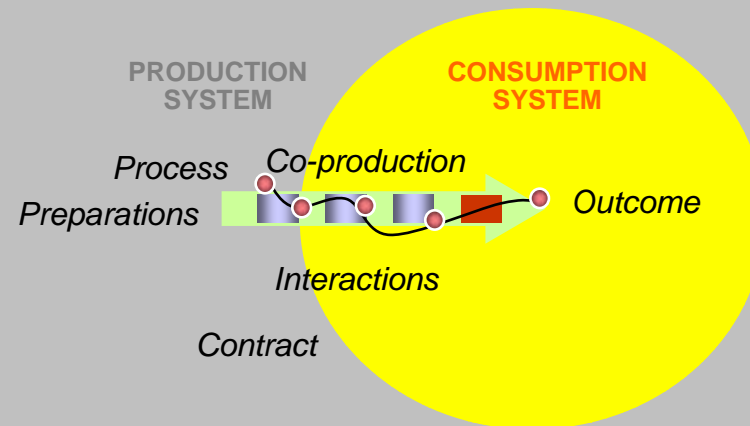
Service-dominant logic view

Evolution. What's going on with Service Science ?

Service-dominant logic requires a new view of processes

Production process

The appointment process

The anamnesis process

The diagnostic process

The treatment process

Preparations | Preparations | Preparations | Preparations

Health events

Service event: Customer input and involvement

Patient episode

Output: What was done to a patient

Outcome: What happened to a patient
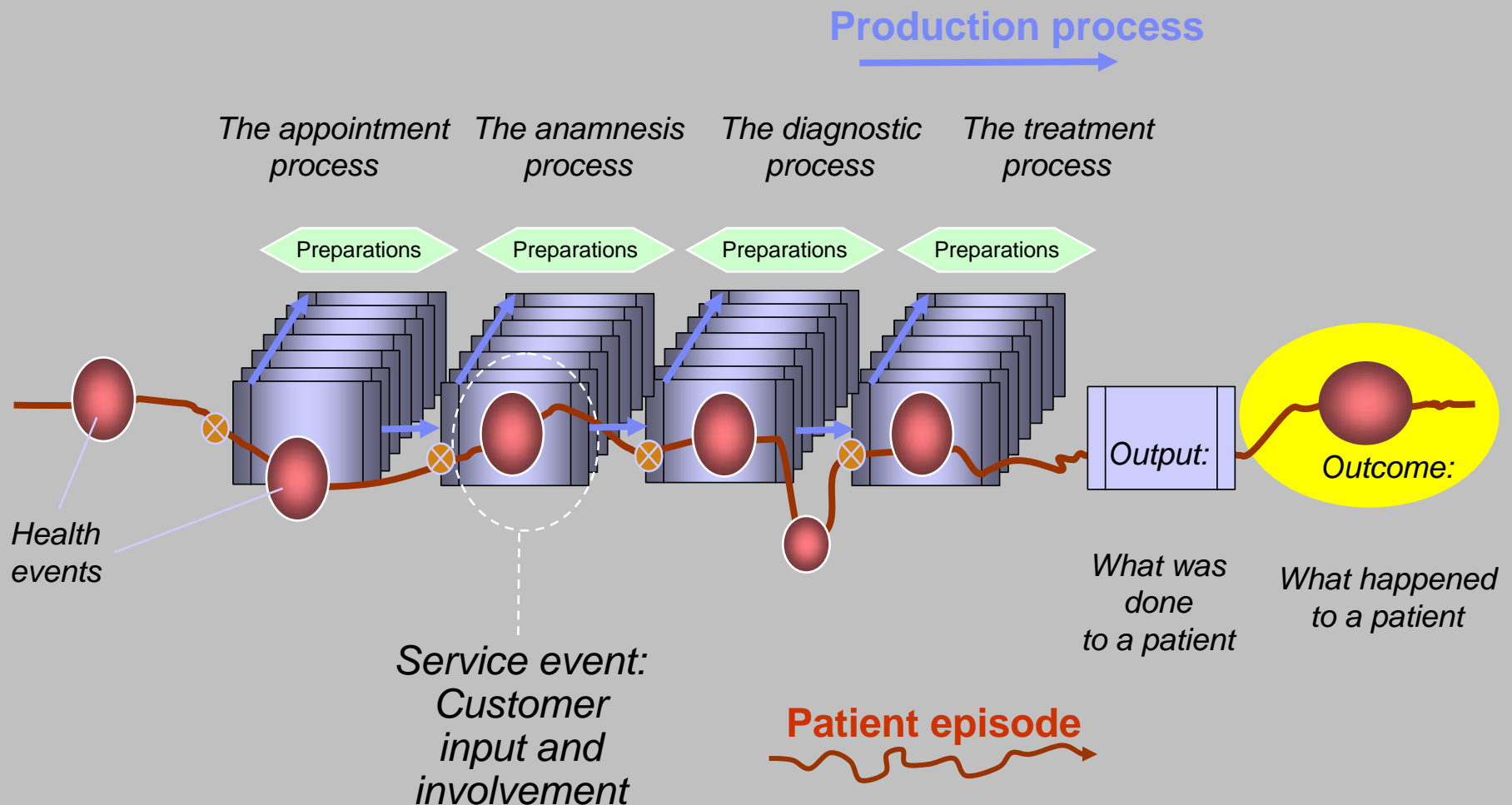
Agreements

- **Negotiation** and re-interpretation of information is at the core of **meaning-making**

- No single window on service delivery performance

- The meaning of information is negotiated in **working and organizational relationships**

- **Negotiating the meaning of IT performance** is the *ongoing work of client – provider collaboration*

  Tools and processes should support the often unacknowledged work of providing "transparent" views – producing good data, deciding what to expose, negotiating meaning

Evolution. What's going on with Service Science ?

Work in organizational context & implications for technology interventions

- **Why**
  - Deliver non-obvious, game changing improvements to the work, technology and organizational structure / business process

- **What**
  - Engagement component (primary)
  - Manage component (secondary)

- **How**
  - Examine individual work practices of SO engagement team members
  - Analyze practices using socio-technical and service system perspectives
  - Identify key issues and challenges in how work is performed today
  - Deliver descriptions, explanations, and potential interventions and solutions
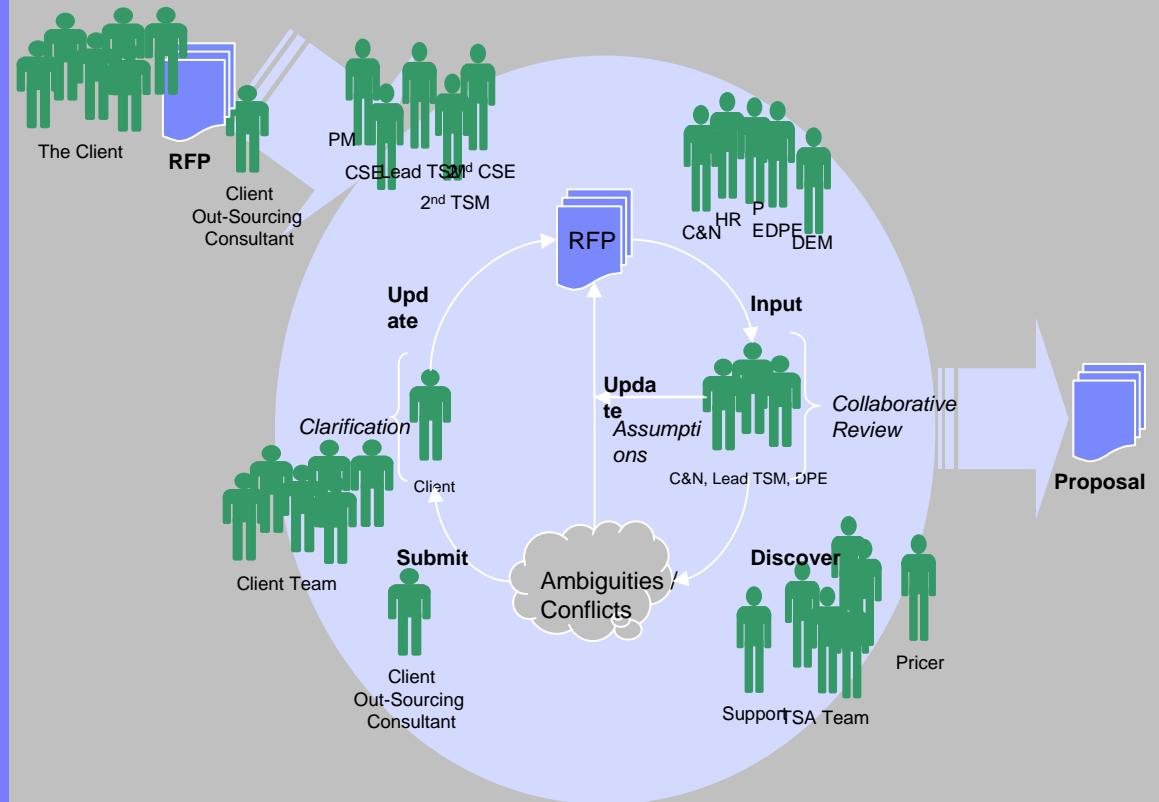
Evolution. What's going on with Service Science ?

How current process elements map to the nature of the work
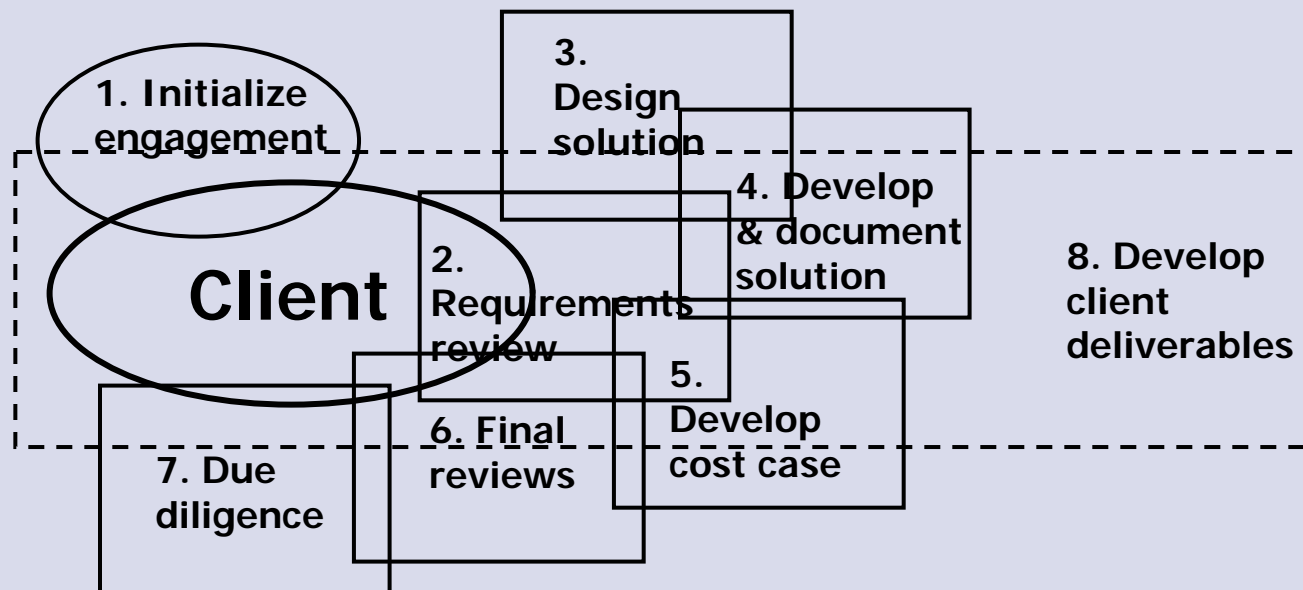
Physical Symbol Systems

1. <u>Resources</u> are the building blocks of service systems

First foundational premise of service science:

> **Service system entities dynamically configure four types of resources**

The named resource **is** **Physical** or **Not-Physical**
(physicists resolve disputes)

The named resource **has** **Rights** or **No-Rights**
(judges resolve disputes within their jurisdictions)

Hierarchical complexity
(*building blocks repeat / nest*)

	Rights	No-Rights
Physical	1. People	2. Technology
Not-Physical	3. Organizations	4. Shared Information
	operant	operand

Formal service systems can contract
Informal service systems can promise/commit
Trends & Countertrends (Evolve and Balance):
Informal <> Formal
Social <> Economic
Political <> Legal
Routine Cognitive Labor <> Computation
Routine Physical Labor <> Technology
Transportation (Atoms) <> Communication (Bits)
Qualitative (Tacit) <> Quantitative (Explicit)

Physical Symbol Systems

2. Value propositions are the building blocks of service system networks

Second foundational premise of service science:

> **Service system entities calculate value from multiple stakeholder perspectives**

A value propositions can be viewed as a request from one service system to another to run an algorithm (the value proposition) from the perspectives of multiple stakeholders according to culturally determined value principles.
The four primary stakeholder perspectives are: customer, provider, authority, and competitor

Value propositions coordinate & motivate resource access

Stakeholder Perspective (the players)	Measure Impacted	Pricing Decision	Basic Questions	Value Proposition Reasoning
1.Customer	Quality (Revenue)	Value Based	Should we? (offer it)	Model of customer: Do customers want it? Is there a market? How large? Growth rate?
2.Provider	Productivity (Profit)	Cost Plus	Can we? (deliver it)	Model of self: Does it play to our strengths? Can we deliver it profitably to customers? Can we continue to improve?
3.Authority	Compliance (Taxes and Fines)	Regulated	May we? (offer and deliver it)	Model of authority: Is it legal? Does it compromise our integrity in any way? Does it create a moral hazard?
4.Competitor (Substitute)	Sustainable Innovation (Market share)	Strategic	Will we? (invest to make it so)	Model of competitor: Does it put us ahead? Can we stay ahead? Does it differentiate us from the competition?

Physical Symbol Systems

3. Access rights are the building blocks of service system ecology

Third foundational premise of service science:

> **The access rights associated with customer and provider resources are reconfigured by mutually agreed *value propositions relationships***

- **Access rights**
  - ▸ Access to resources that are owned outright (i.e., property)
  - ▸ Access to resource that are leased/contracted for (i.e., rental car, home ownership via mortgage, insurance policies, etc.)
  - ▸ Shared access (i.e., roads, web information, air, etc.)
  - ▸ Privileged access (i.e., personal thoughts, inalienable kinship relationships, etc.)
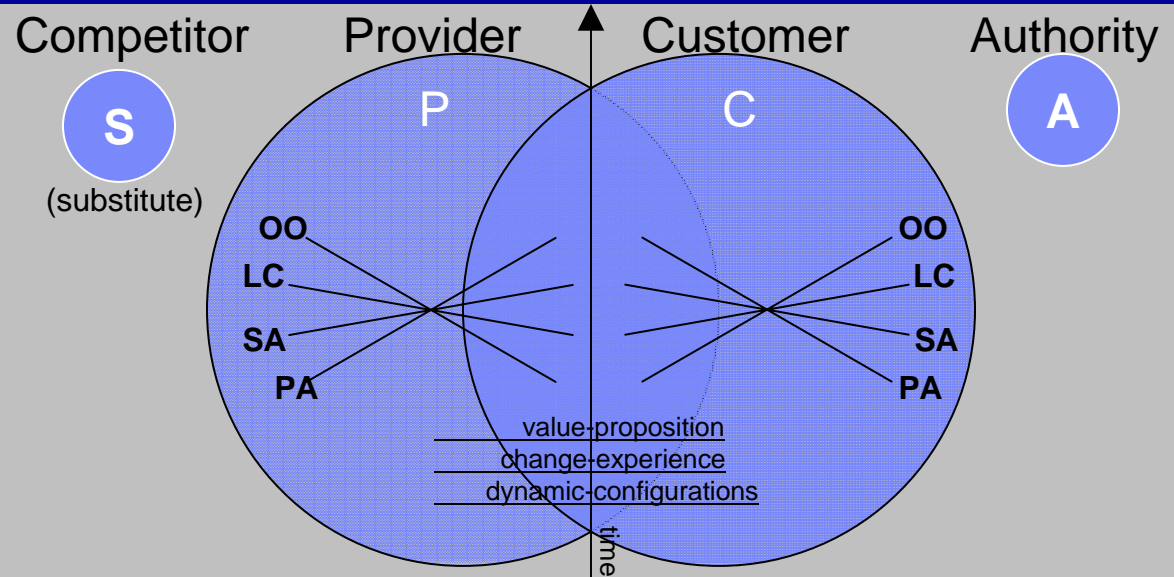
Competitor   Provider   Customer   Authority

S   P   C   **A**

(substitute)

OO   LC   SA   PA   OO   LC   SA   PA

value-proposition
change-experience
dynamic-configurations

time

service = value-cocreation

B2B
B2C
B2G
G2C
G2B
G2G
C2C
C2B
C2G
***

provider resources
Owned Outright
Leased/Contract
Shared Access
Privileged Access

customer resources
Owned Outright
Leased/Contract
Shared Access
Privileged Access

Physical Symbol Systems

Service Science – a science based on <u>reliable mechanisms</u>

The value cocreation mechanism:

Service Science - a science based on <u>reliable service</u> (**value cocreation**) <u>mechanisms</u>

Entities interact to agreed mechanisms
Value cocreation outcome results:
<u>win-win</u> or <u>benefit-benefit interactions</u>

Service system entity:
People, businesses, companies, nations

A dynamic resource configuration agreeing to grant access rights to its resources as a mechanism <u>to realize value cocreation ends</u> from its interactions with other entities

Value cocreation mechanisms:

- **Value proposition-based**: agreements between service system entities to share and/or exchange access to resources

- **Governance mechanisms-based**: authorities can resolve disputes (using coercion, if necessary) to change the economy/world in prescribed or novel ways

- <u>**Service Science**</u>: the **study of service system entity structures and value cocreation mechanisms**

  ➢ Understanding of these structures and mechanisms: is applied to advance the ability to <u>design</u>, <u>improve</u> and <u>scale</u> service systems for practical business and societal purpose:

     [quality
        productivity
           compliance
              sustainable innovation]

Many disciplines, many views of Service

Disciplinary views of "service"

Economics

- Service: a distinct type of exchange, a category for counting and analysing jobs, businesses, exports, as well as inputs and outputs (productivity)
- Money-for-labour/promises/…/-type of exchange

Marketing

- Provides customer insight, both for existing- and potential future customers

Operations

- Complex business to business (B2B) or business to government (B2G) service offerings may require hundreds or even thousands of people to interact

Industrial and Systems Engineering

- Modelling service system entities as stochastic service systems
- Engineers build CAD tools to manage service component libraries
.

Operations Research

- Modelling & Optimization: statistical control theory, game theory, mechanism design theory – address dynamic environments, human psychology, …

Computer Science

- CS: can be used to create software components to *automate/improve* service
- When SW components are *network accessible and composable*, web services allow re-use of simple building blocks
- SOA refer to networks of loosely coupled, communicating service components

Social Sciences

- Service systems are closely related to socio-technical systems and systems engn. models
- Coordination theory: the process of managing dependencies among activities (draws from CS, organization theory, operations research, economics, linguistics and psychology)
- Evolutionary stages: (1) informal SS entities (language); (2) formal SS entities (writing); (3) globally integrated formal SS entities (digitization)

Many disciplines, many views of Service

Service Science skills, abilities, and knowledge

T-shaped professionals are in high demand because they have both depth and breadth

They combine **expert thinking** (depth in one or more areas) and **complex communications** (breadth across many areas)

complex communication

expert thinking

- Cross-disciplinary communication

- Service system design, management, and modelling

- Value co-creation analysis

- Service lifecycle analysis (for quality assurance)

- Service supply and demand management

- New service development

- Business project management

- Business case development and analysis

- Organizational change management

- Marketing and sales

- Creative and critical thinking

- Communication skills

- Leadership and collaboration skills

Many disciplines, many views of Service

Discipline Classification System - Service Science

A. General
1. Service Science Education
2. Research in Service Science
3. Service Science Policy
4. History of Services
5. Case Studies
6. Miscellaneous

B. Service Foundations
1. Service Theory
2. Service Philosophy
3. Economics of Services
4. Theoretical Models of Services
5. Mathematical Models of Services
6. Service Complexity Theory
7. Service Innovation Theory
8. Service Foundations Education

C. Service Engineering
1. Service Engineering Theory
2. Service Operations
3. Service Standards
4. Service Optimization
5. Service Systems Engineering
6. Service Supply Chains
7. Service Engineering Management
8. Service Systems Performance
9. Service Quality Engineering
10. New Services Engineering
11. Computer Services
12. Information Technology Services
13. Service Engineering Education

D. Service Management
1. Service Marketing
2. Service Operations
3. Service Management
4. Service Lifecycle
5. Service Innovation Management
6. Service Quality
7. Human Resources Management
8. Customer Relationship Management
9. Services Sourcing
10. Services Law
11. Globalization of Services
12. Service Business Education

E. Human Aspects of Services
1. Service Systems Evolution
2. Behavioral Models of Services
3. Decision Making in Services
4. People in Service Systems
5. Organizational Change in Services
6. Social Aspects of Services
7. Cognitive Aspects of Services
8. Customer Psychology
9. Education in Human Aspects of Services

F. Service Design
1. Service Design Theory
2. Service Design Methodology
3. Service Representation
4. Aesthetics of Services
5. Service Design Education

G. Service Arts
1. Service Arts Theory
2. Traditional Service Arts
3. Performance Arts
4. History of Service Arts
5. Service Arts Education

H. Service Industries
1. The Service Industry
2. Utilities
3. Wholesale Trade
4. Retail Trade
5. Transportation and Warehousing
6. Information Services
7. Finance and Insurance
8. Real Estate and Rental
9. Professional and Technical Services
10. Management Services
11. Administrative and Support Services
12. Educational Services
13. Health Care and Social Assistance
14. Arts, Entertainment, and Recreation
15. Accommodation and Food Services
16. Public Administration Services
17. Other Service Industries

Many disciplines, many views of Service

Service Science Research Centres

- University of Glasgow, Service Innovation Research Center

- Karlsruhe Service Research Institute

- University College Dublin, Institute of International Services Innovation

- Russia's State University of Management SSME Education and Research Programs

- Tohoku University, University of Tsukuba, Tokyo Institute of Technology, Kyoto University, Seibu Bunri University, Meiji University Fostering Service Innovation joint program

- Karlstad Service Research Center

- Thailand's SIT Center of Excellence for Service Science

- Virginia Tech, Center for Service, Quality and Innovation

- Berkeley Center for Information Technology Research in the Interest of Society (CITRUS)

- Carnegie Mellon – IT Services Qualification Center

Emergence of Service Science

Understanding service systems

➢ **Service**
  ➢ Service is the application of competences for the benefit of another entity

➢ **Service System**
  ➢ Value co-creation configurations of integrated resources: people, organizations, shared information and technology

➢ **Service Science**
  ➢ Service science is the systematic study of service and service systems

➢ **SSME**
  ➢ SSME is a discipline that brings together scientific understanding, engineering principles, and management practices to design, create, and deliver service systems
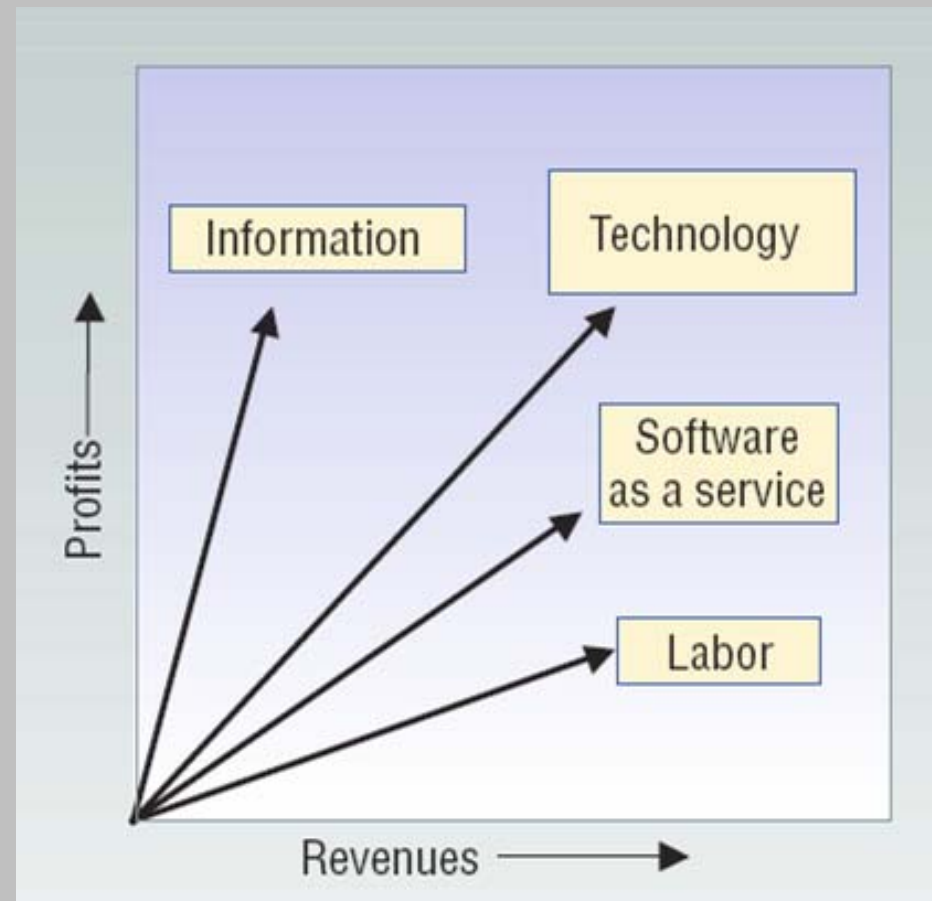
Emergence of Service Science

Progress Toward Service Science…

- **Education**
  - 250 courses, programs, or degrees established in 62 countries
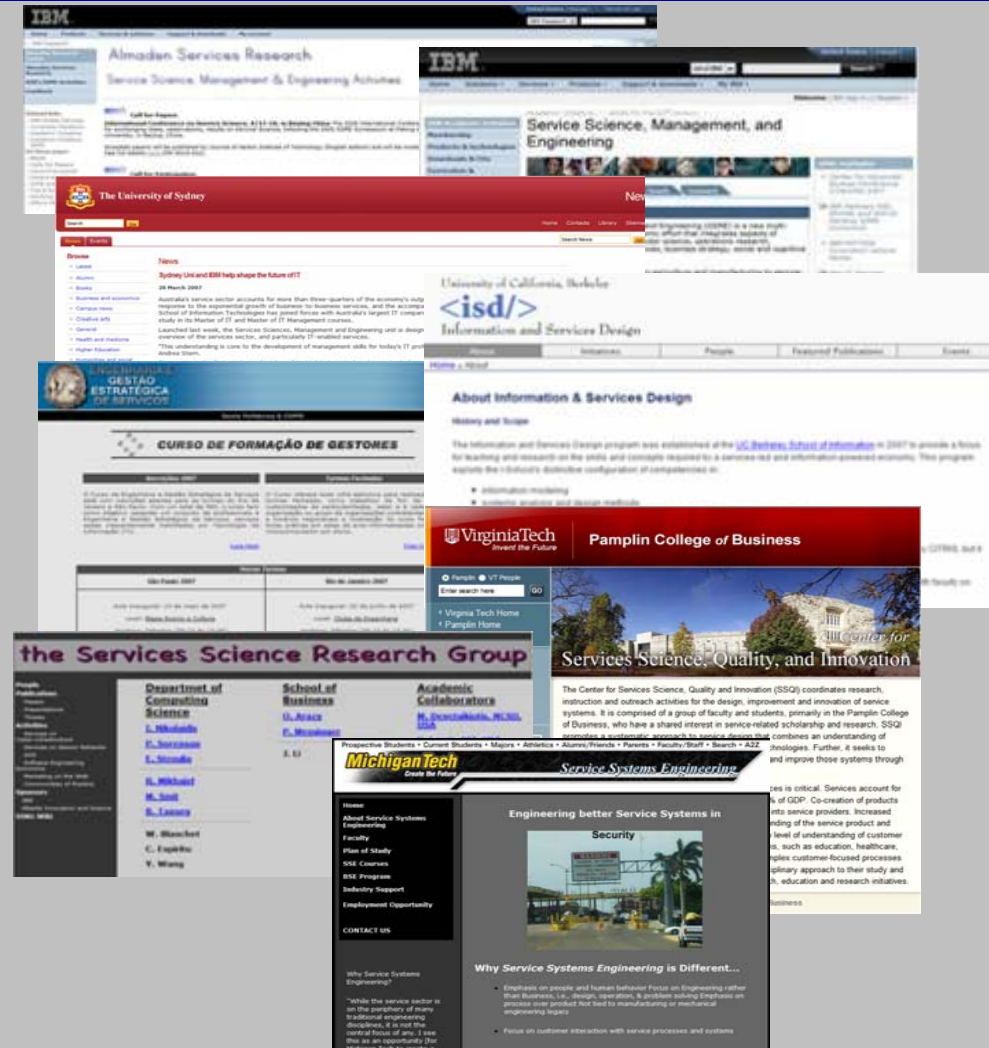 - 16 centres, seminars, or groups established

- **Government**
  - 14 programs for service research and education in 14 countries
  - $1.5 B+ committed worldwide
  - Accelerate investment in service research and education

- **Industry**
  - Companies to promote service research and innovation agenda
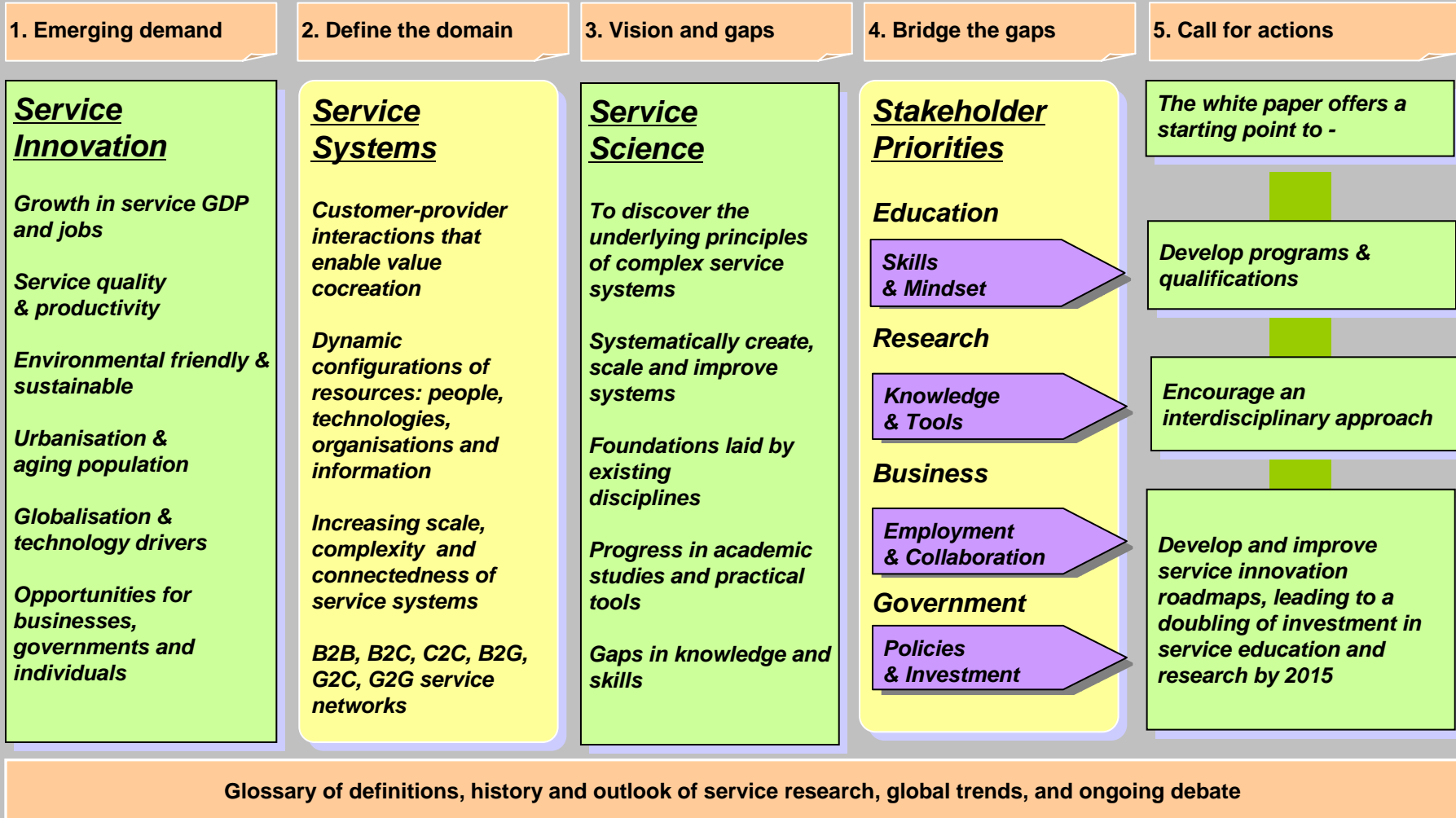 - Promoters: IBM, Oracle, Xerox, Nokia and others

- **ww R&D programs**
  - GrowsIn – FP7 (2009-2012)
  - INSEED – MECI (2010-2013)
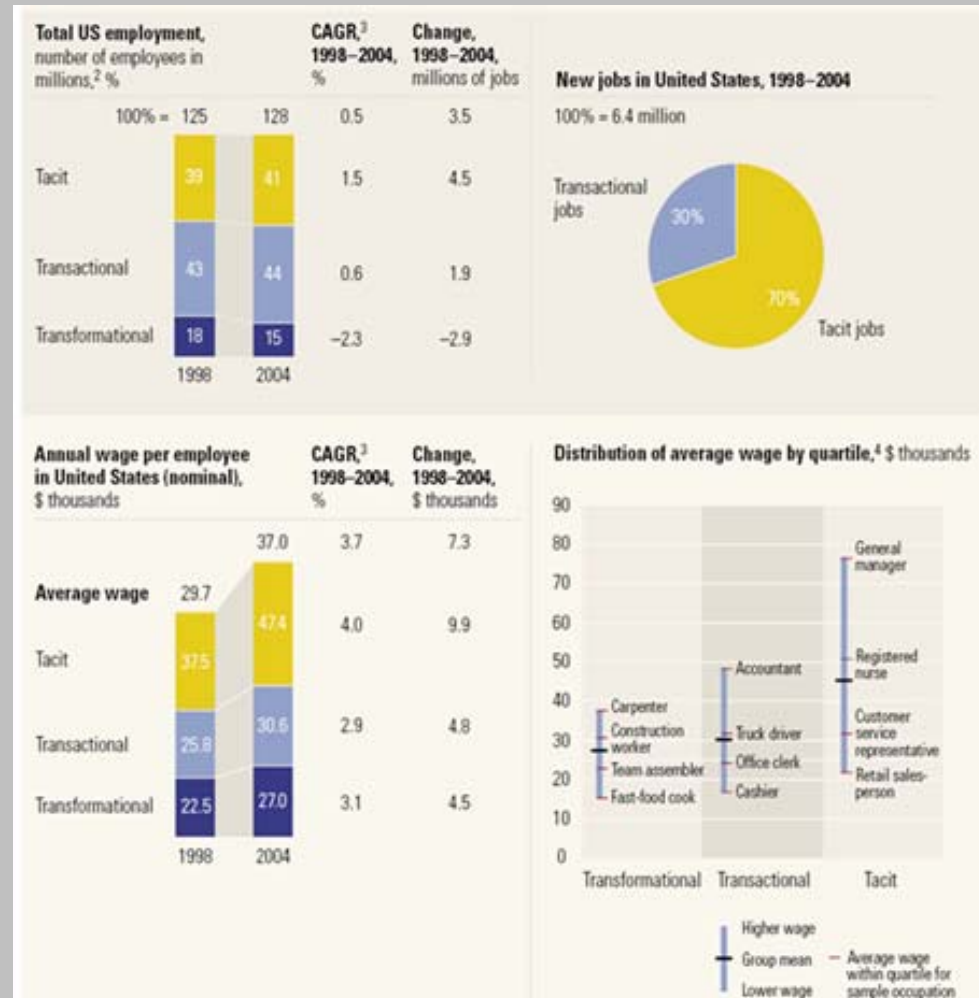
Emergence of Service Science

Call to Create National Service Innovation Roadmaps

1. Emerging demand	2. Define the domain	3. Vision and gaps	4. Bridge the gaps	5. Call for actions

Service Innovation

Growth in service GDP and jobs

Service quality & productivity

Environmental friendly & sustainable

Urbanisation & aging population

Globalisation & technology drivers

Opportunities for businesses, governments and individuals

Service Systems

Customer-provider interactions that enable value cocreation

Dynamic configurations of resources: people, technologies, organisations and information

Increasing scale, complexity and connectedness of service systems

B2B, B2C, C2C, B2G, G2C, G2G service networks

Service Science

To discover the underlying principles of complex service systems

Systematically create, scale and improve systems

Foundations laid by existing disciplines

Progress in academic studies and practical tools

Gaps in knowledge and skills

Stakeholder Priorities

Education

Skills & Mindset

Research

Knowledge & Tools

Business

Employment & Collaboration

Government

Policies & Investment

The white paper offers a starting point to -

Develop programs & qualifications

Encourage an interdisciplinary approach

Develop and improve service innovation roadmaps, leading to a doubling of investment in service education and research by 2015

Glossary of definitions, history and outlook of service research, global trends, and ongoing debate

Emergence of Service Science

Interactions are key: the Interact-Service-Propose-Agree-Realize model (ISPAR)

➢ As more 21st century companies come to specialize in core activities and *outsource the rest*, they have greater need for workers who can interact with other companies, their customers, and their suppliers.

➢ The traditional centralized organization, where a few top managers coordinate the pyramid below them, is being upended.

➢ Raising the productivity of employees whose jobs can't be automated is the next great performance challenge – and the stakes are high.

➢ Companies that get that right will build complex talent-based competitive advantages that competitors won't be able to duplicate easily – if at all.

Perspective of Service Science

Could there be a science of service ?

Creating a science of service would require:

- *shifting, aligning and integrating knowledge from existing areas,* as well as

- *creating new tools and knowledge that organizations might consider proprietary*

Why now ?

- The 2000's societal work (digital networks) would likely mature into a science

- Digital networks create the opportunity for value cocreation mechanisms to become more widespread and more instrumented for scientific study

Service ecology

- Service System Entity (SSE): an entity capable of intentional value-cocreation interactions
- Service ecology (SE): a population of SSE

The nature of work evolution in service

The *Z-model of work evolution* for maturing service offerings

(1) An offering is delivered by people, often highly skilled and specialized

(2) People using technology tools deliver the offering

(3) Standardization and migration to the lowest cost labour geography occurs

(4) An automated component becomes a building block for higher value offerings

S-DL perspective on value & value cocreation

- *Value is fundamentally derived and determined in use* [the integration and application of resources in a specific context] – rather than in exchange [embedded in firm output and captured by price]
- *Valuing processes*: a way in which entities can estimate potential for **value-in-use**

Future of Service Science. Where are we going ?

Perspective of Service Science. IBM support for SSME

Architectural framework for discipline alignment and integration

The architecture links discipline to:
- A time dimension:
  - ✓ [past, present and future]
- Stakeholder and measures dimension:
  - ✓ [customer, quality]
  - ✓ [provider, productivity]
  - ✓ [authority, compliance]
  - ✓ [competitor, sustainable innovation]
- Resource and access rights dimension:
  - ✓ [people, privileged access]
  - ✓ [technology, own-outright]
  - ✓ [organisations, leased-contracted]
  - ✓ [shared information, shared access]

Service science response to globalization & disasters

- Intercultural service science
- Humanitarian service science

http://www.ibm.com/university/ssme

The End

Thank you !