The complex dimension of Service Science. Partnership and challenges.

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Towards 21st century service society

Emerging digital experience economy

- Web2.0 – ICT & supporting software social media as service platforms
- Value co-creation, role of user communities & commons in innovation & service creation
- Web2.0 companies – omnipresence

Renewal of health, administrative & educational services

- eHealth, eLearning & eGovernance
- Role of Public & Private Partnerships

Towards 21st century service society

Transformation of industries to services

- Service innovation – role of customers & modes of open innovation
- Role of services in product offerings, Service bundling
- Networked business service-systems & business models
Ecology and sustainability as the big global picture
- Role of services in ecological infrastructure
- Role of services at the bottom of the pyramid
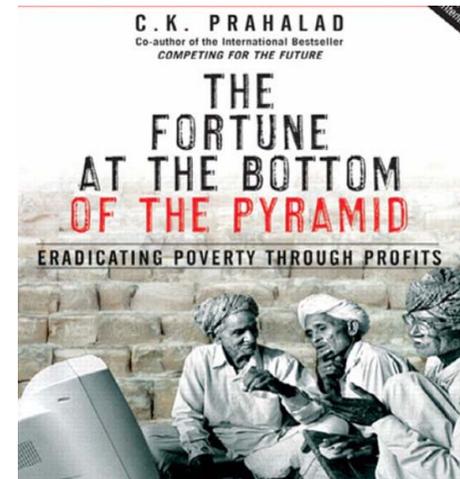
Characterising Services

- **Services are integral part of the economy**
- **Globalisation of service markets**
- **Service industries and business services**
- **Service occupations**
- **Service activities**

The complex dimension of Service Science
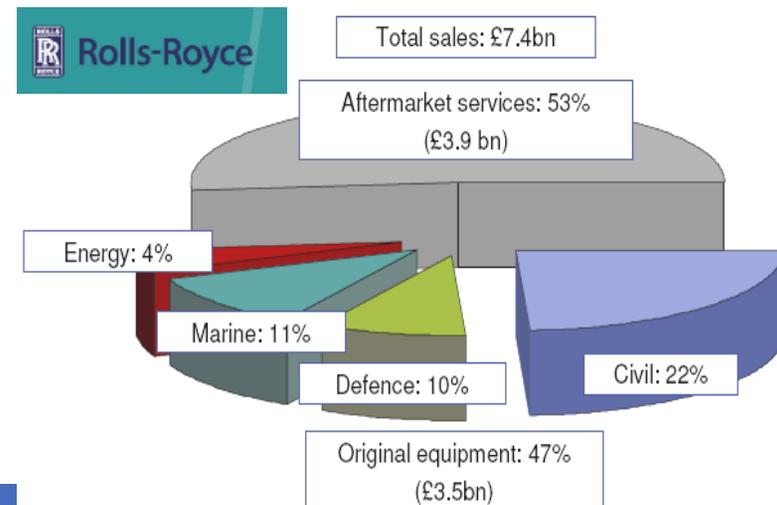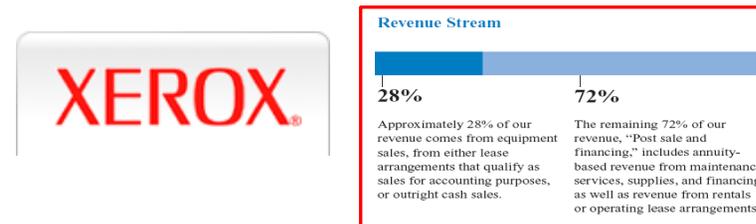
So what services are?

- A service system entity is a value-cocreation configuration of people, technology, other internal and external service system entities, and shared information
- As a concept service can refer to a number of different things such as industry, sector, occupation, activity, or an organisation.
- The diverse nature of service science is not restricted to its sources of knowledge. It also reflects the needs of a diverse range of stakeholders (**academia**, **government** and the **business community**.
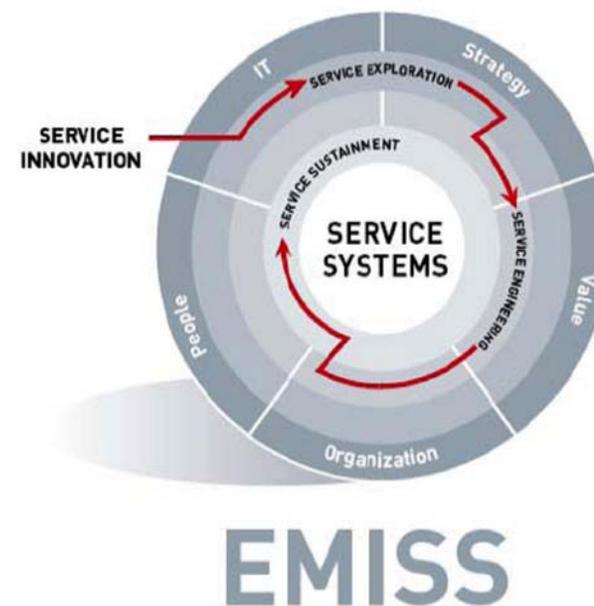
Stakeholder groups - Industry

- Since 2005 **IBM** has made more than half its revenue from services. In the last 18 months, other product-led IT companies – Dell, Xerox – have invested more than $24 billion of shareholder funds in acquiring pure service businesses.

- Outside the IT industry, there are a wide range of companies engaging with the service science community. This includes companies such as law firm Clifford Chance; financial services firms HSBC, Royal Bank of Scotland and JP Morgan; CPG firms Tesco, Unilever and Marks & Spencer; engineering firms Arup and Laing O'Rourke among others - most of these are primarily service-centric businesses.

Revenue Mix

Hardware & Financing — 27%

Services — 53%

Software — 20%

Revenue Stream

28% — Approximately 28% of our revenue comes from equipment sales, from either lease arrangements that qualify as sales for accounting purposes, or outright cash sales.

72% — The remaining 72% of our revenue, "Post sale and financing," includes annuity-based revenue from maintenance, services, supplies, and financing, as well as revenue from rentals or operating lease arrangements.

Rolls-Royce

Total sales: £7.4bn

Aftermarket services: 53% (£3.9 bn)

Energy: 4%

Marine: 11%

Defence: 10%

Civil: 22%

Original equipment: 47% (£3.5bn)

Stakeholder groups - Government

- The role of government agencies can be both as a user and a facilitator of service science knowledge.
- In a user role, some governments - as large-scale procurers or providers of services in their own right (e.g. procurement of IT services from the market, delivery of health services) - seek to harness service science knowledge to improve the delivery or consumption of such services.
- In a facilitator role, some governments have a direct influence on how service science should be pursued by universities in their jurisdiction; others see service science as a means to develop particular aspects of their economies (e.g. market valued skills, innovation).
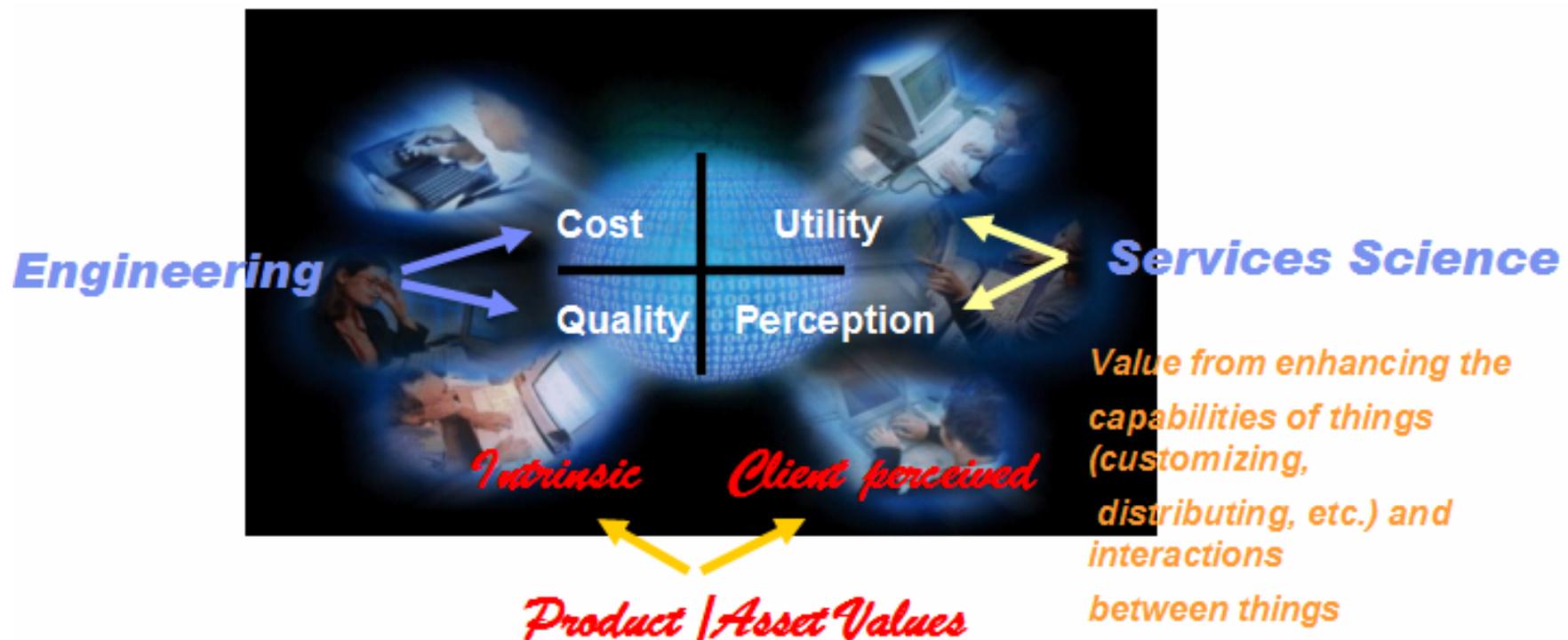
Stakeholder groups - Academia

- The interest among academia in service science is perhaps the most broad-based of the three groups. Interested parties tend to represent IT, engineering and management disciplines.
- From a **teaching point of view**, universities are interested to ensure that they offer academic programmes that will appeal to prospective students. The prospect of service science becoming mainstream is therefore a development that academic leaders need to prepare for in order to attract new students.
- From a **research point of view** there is both a desire to be at the forefront of creating new knowledge as well as ensuring they are capable of responding to requirements for practical application of pure research. This contributes both to institutional reputation for research excellence as well as addressing the need to attract funding in the form of commissioned research.

# Services Science and Engineering: Value CoCreation

HOW VALUES ARE CREATED

Services focus on creating Utility Value or Perceived Value for a product/asset. They are in contrast with Engineering which focuses on Cost and Quality

The complex dimension of Service Science

Service System entities and their dimension

Entities	Dimensions	Perspectives
Universities	People, organizations, information	Service systems entities, that are aiming to transform student knowledge. Rather than managing a single valu-cocreation relationship, universities manage relationships among multiple partners and clients
IT service providers	People, technology, organizations, business	Offers to take over the operation and maintenance of client's IT investment. These service systems entities, depend on people, technology and organizations both internally and externally, and engage in formal business relationships clients and partners
Contact centres	People, technology, information	Contact centers staff the phones for an enterprise, handling contacts from customers such as order-taking, complaint-handling, or problem-resolving. Better tools for employees and self-service for end users can also be introduced. In the end, coordinating people, technology, and information across the system is the only sensible approach for improving performance of complex contact centers.
Banking services	People, process, information, organizations, business	One can consider bank loan approval as a kind of service system entity that requires customers to interact with bank documents and personnel. Stakeholders include the applicant, the loan officer, credit analysts, loan committee, risk managers, and more. Processes include filling out forms, sharing documents, approval processes, and explanation of results, among many others.
Internal process transformation	Organizations, processes, technology, business	Process transformation in any large enterprise can be difficult, as it requires transformation in social, technical, and organizational systems at once. Different stakeholders have different incentives. A change that looks appropriate to one stakeholder (e.g., for cost reasons) side might seem inappropriate to another (e.g., harder to use or integrate into existing systems).
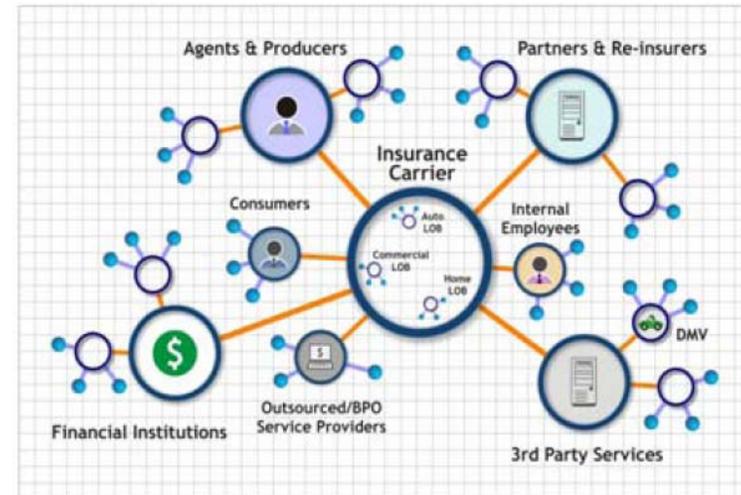
Service System/Network
1. People
2. Technology
3. Shared Information
4. Organizations
   connected by value propositions

More win-win interactions, more value
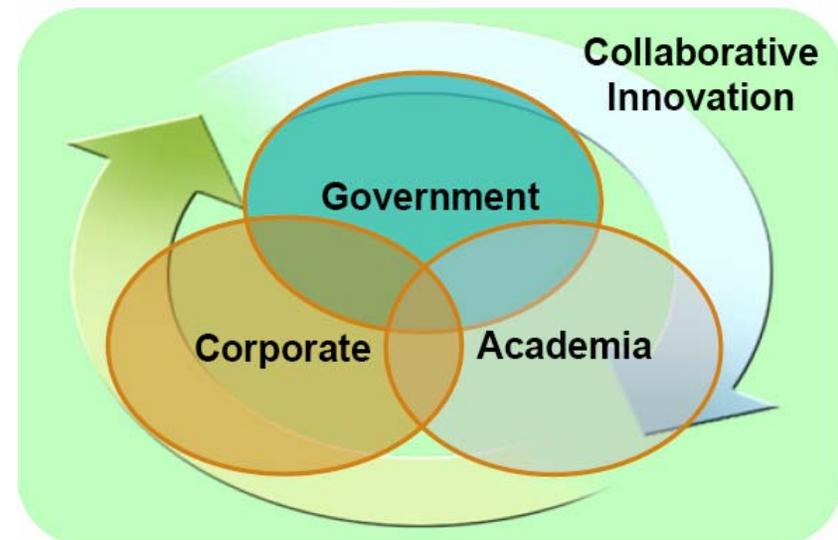*Requires investment roadmap*

Current situation

- Awareness and absorptive capacities in service companies often missing
- Service innovation is not only technology based, but no funding unless it is centered around IT
- Need to "sell" the promise of service research and its innovative solutions
- Transdisciplinarity, user integration and co-creation are issues to be understood in the future

The complex dimension of Service Science

Recommendations

- Develop a common understanding of service science skills
- Make service science a recognised, viable career path
- Establish structures to facilitate collaboration
- Highlight practical applications of service science
- Respect the distinction between pure and applied research

Thank you for your attention!

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