EUROPEAN TOUCH OY LTD

Sustainable Industries: creating opportunities through **service innovation**

Dr Jari Kuusisto

Smart Innovation Festival 2008

Brisbane • May 2008

Dr Jari Kuusisto

EUROPEAN TOUCH OY LTD

Outline of the presentation

- Introduction
- Economic performance of services
- Key dimensions of innovation performance in services
- Key dimensions of service innovations
- Service innovations and sustainability
- Concluding comments

Introduction

- Service sector contribution to aggregate production and employment keeps growing in developed economies
  - They represent nearly 78 % of US economic output and a similar proportion of employment
- In contrast to relatively slow growth in demand for manufacturing products, demand for services is growing
- Many knowledge based industries that are believed to be crucial to future prosperity, fall into the services sector
  - There is a growing cohort of relatively poorly paid manual service workers providing essential support for the more high value added services and the economy as whole.

Need for policy attention

- Services key economic role has been acknowledged
  - *'If policy makers wish to strengthen economic growth and improve the foundations for the future performance of OECD economies, the services sector will need to do better'* (OECD, 2005).

EUROPEAN TOUCH OY LTD

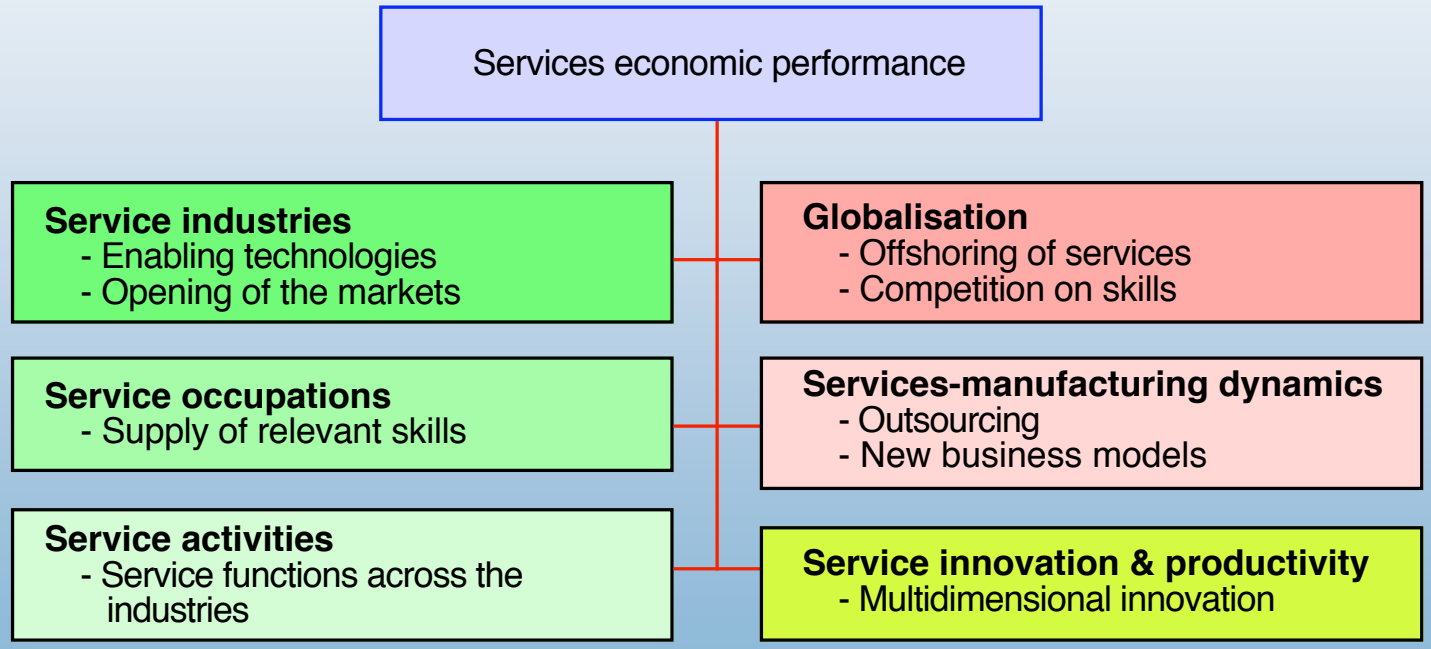
Economic performance of services

Various perspectives to the topic

Dr Jari Kuusisto

Economic performance of services

- Key elements of services economic performance



Service concept in statistics

- NAICS classification
  - Statistical base is becoming more refined as new classes are added in the framework

Code	NAICS Sectors (2002)		
11	Agriculture, Forestry, Fishing and Hunting	53	Real Estate and Rental and Leasing
21	Mining	54	Professional, Scientific, and Technical Services
22	Utilities	55	Management of Companies and Enterprises
23	Construction	56	Administrative and Support and Waste Management and Remediation Services
31-33	Manufacturing	61	Education Services
42	Wholesale Trade	62	Health Care and Social Assistance
44-45	Retail Trade	71	Arts, Entertainment, and Recreation
48-49	Transportation and Warehousing	72	Accommodation and Food Services
51	Information	81	Other Services (except Public Administration)
52	Finance and Insurance	92	Public Administration

Source: NAIC Association (2008)

Service occupations perspective

- Service occupations are not directly related to core manufacturing activity
  - 80 % of science and technology jobs are in services
  - Examples of knowledge intensive jobs
    - Financial services, high technology services, market services
  - Services include also many low paid jobs that are essential for the economic performance
- Service activities cut across the industries
  - Services performance is closely related to manufacturing
  - Many service activities represent expertise that is essential for acquiring and absorbing external knowledge

Export trends - goods and services

- Services are increasingly tradable
  - Services growth equals trade growth in goods in 1995-2005

Index 1995 = 100

	Services	Goods	Income
1995	100	100	100
	105	99	107
1997	109	100	111
	107	109	113
1999	111	114	117
	125	129	124
2001	120	120	124
	125	113	133
2003	147	132	153
	178	163	184
2005	203	203	203

Source: International Monetary Fund

EUROPEAN TOUCH OY LTD

Globalisation drives performance development

- Changing business models
  - **Outsourcing** as an alternative to in-house production (e.g., call centres)
    - Enabled by cost effective broad band connections
    - Low cost countries such as India
    - Could effect 20 % of employment in developed economies
  - **Networks**; international R&D, franchising, foreign affiliates (e.g, Vodafone)
  - **International brands** and trade marks (e.g., Starbucks)
  - **Investment flows and international standards** (e.g., GSM, MPEG...)
  - **Global labour markets** for highly skilled workers
- Also highly skilled jobs may be outsourced
  - Need for flexible
    - labour markets and
    - education system

Knowledge intensive business services

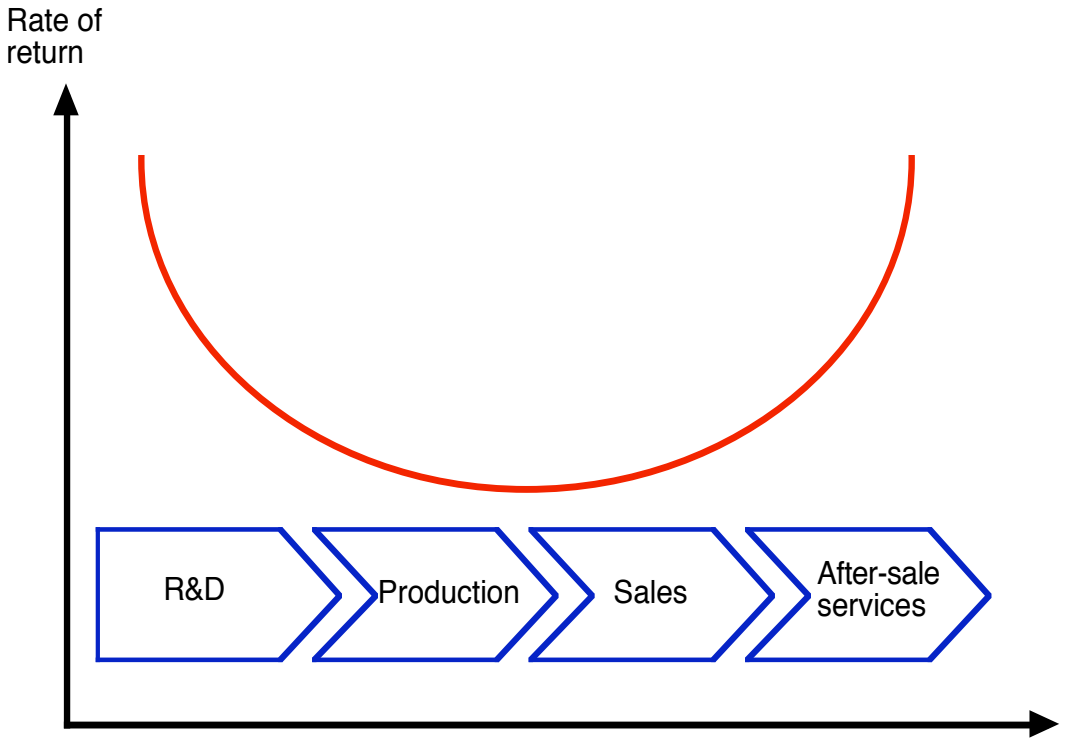
- KIBS have attracted attention
  - Among researchers and policy makers
  - Considered dynamic and innovative growth industry with spillovers across the economy
  - Examples: consulting, R&D services, market intelligence services, environmental experts, and many others
  - Climate change creates global demand for expert services
- Besides KIBS there are other rapidly growing knowledge intensive services
  - Socio-economic trends can increase demand for health care services
  - Growing disposable income increases demand for entertainment, tourism and leisure services

Interaction between manufacturing and services

- Interaction is becoming increasingly complex as
  - Services are becoming more like manufacturing
  - Manufacturing is increasing its service elements
    - In Netherlands 50% of manufacturing jobs are services
- Profitability in the different parts of the value chain
  - Manufacturing margins are diminishing
  - Margins at the R&D are increasing and
  - the same applies to after-sales services

Services and manufacturing

- Increasing role of services and intangibles in manufacturing



The value of manufactured products is increasingly based on intangibles

E.g., brand value of a Volvo car

Branded TOURISM and EDUCATION services - linked with sustainability theme?

EUROPEAN TOUCH OY LTD

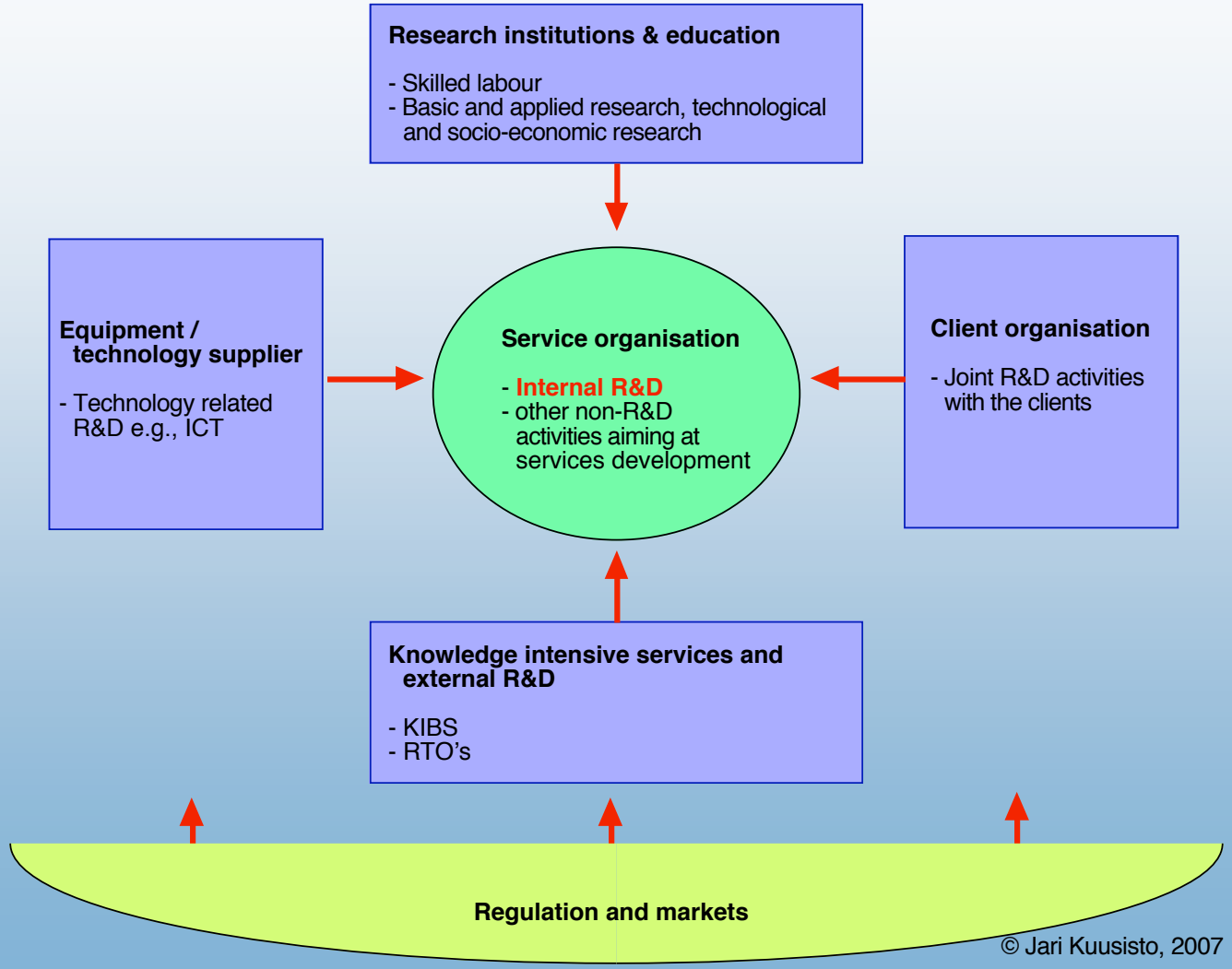
Innovation performance in services

Dr Jari Kuusisto

Innovation performance in services

- Limited understanding on the area
  - Performance measurement is under developed
- Classical R&D concept
  - Covers only limited share of innovative activity in services
- Heterogeneous nature of services
  - R&D and innovative activities represents a broad spectrum of activities
  - Can be very different between service industries, even within one business, e.g. R&D activities in airline businesses
- Uniform innovation performance indicators may be an unattainable target
  - Sector specific metrics
  - Composite indicators

R&D and innovative activities in services



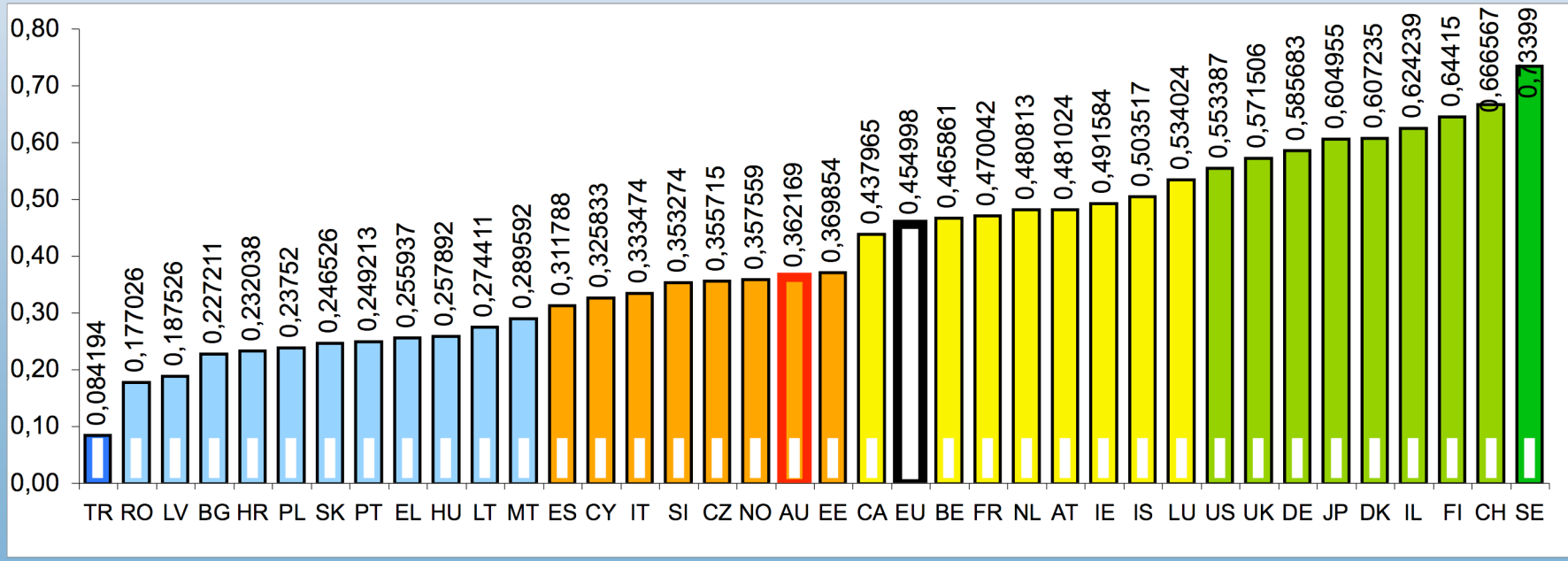
© Jari Kuusisto, 2007

European Innovation Survey (EIS) and service innovation

- EIS has limitations in terms of service innovation measuring capability
  - Still, it provides valuable benchmarking opportunities
    - Limited coverage of R&D in services
    - Limited in terms of services IP coverage

EIS countries grouped by their innovativeness

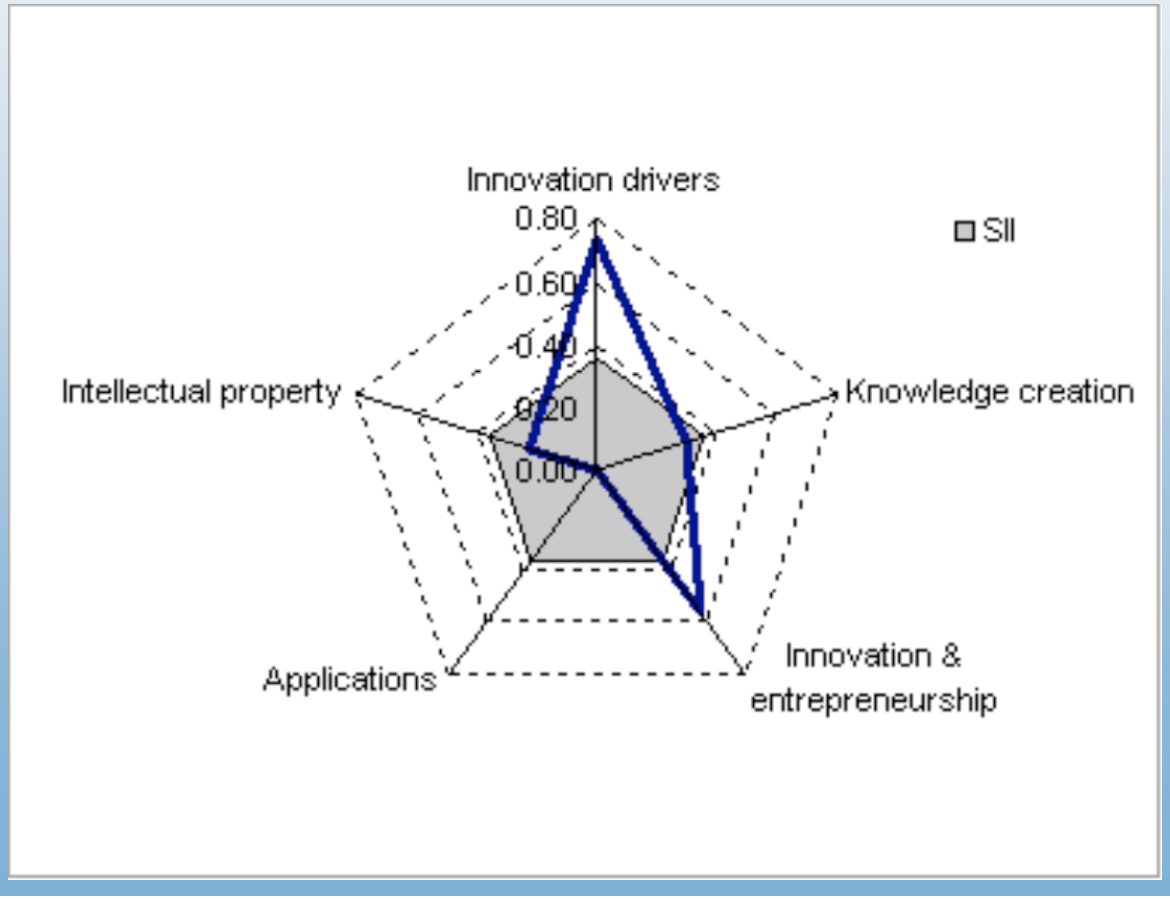
- Innovation leaders
- Innovation followers
- Moderate innovators
  - Australia
- Catching-up countries



European Commission, 2008

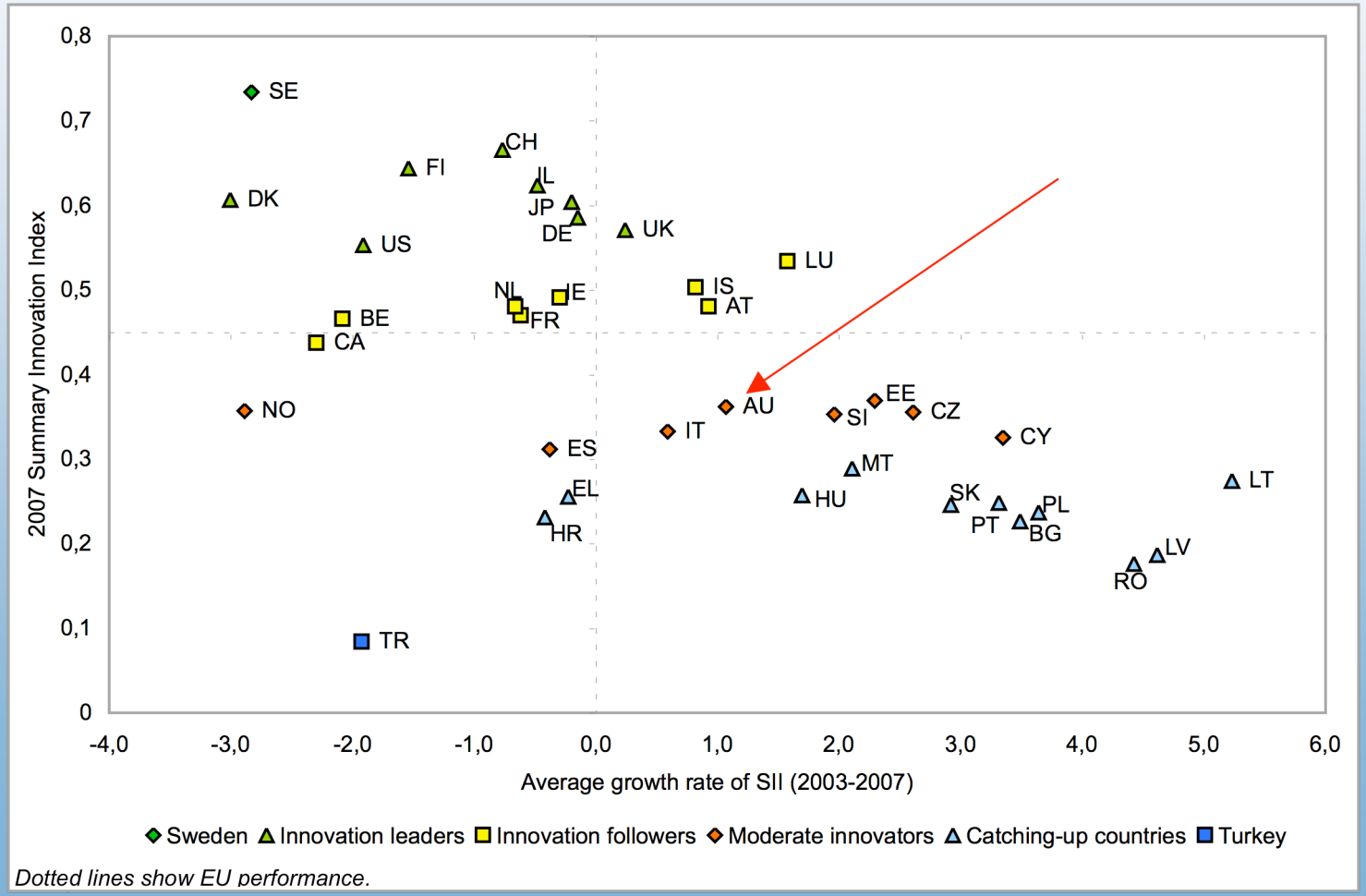
The innovation profile of Australia

- Strong in innovation drivers and entrepreneurship
  - Drivers: science and engineering graduates, tertiary education, broad band penetration rate
  - Innovation and entrepreneurship: availability of early stage venture capital and ICT expenditure



Convergence in Innovation Performance

- Australia is showing healthy economic growth despite its relatively modest ranking measured by the innovation indicators



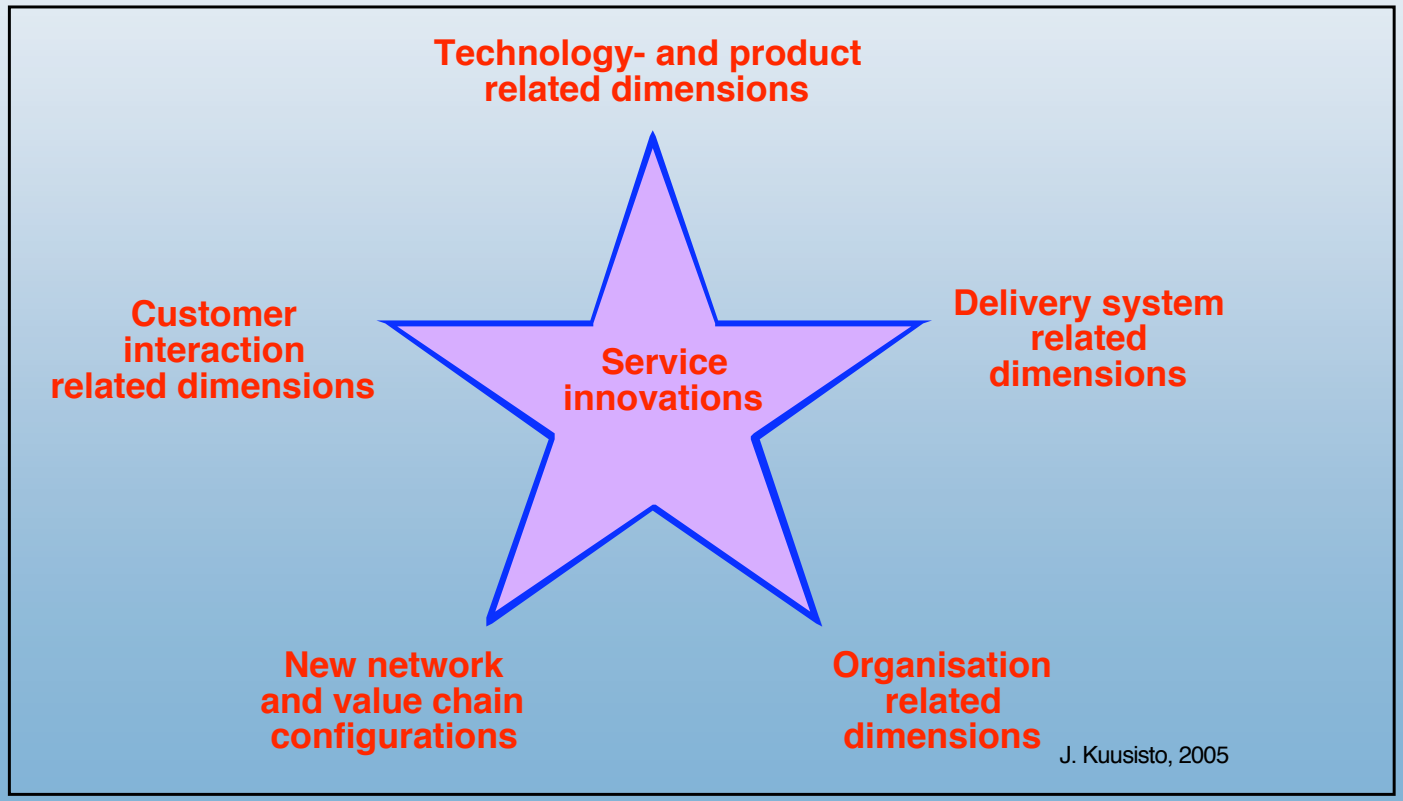
EUROPEAN TOUCH OY LTD

Key dimensions of service innovation

Dr Jari Kuusisto

Starting point - SERVICES

- Service innovation is multidimensional, and
- Service sector industries are very heterogeneous
  - Any dimension can be driver, or hindrance to service innovation



Different types of service innovation

- **Paradigmatic innovations** representing complex and pervasive innovations that affect all actors in a value chain, for example, new technologies or regulatory changes.
- **Innovation within services** initiated by and taking place within a service organisation.
- **Supplier dominated innovation** largely based on technological innovations supplied by hardware manufacturers.
- **Customer led innovations** where the organisation innovates on the basis of specific needs articulated by its clients.
- **Innovation through services** where the service supplier influences the innovation that takes place within the client organisation. (Ark et al., 2003:15-18):

Characteristics of Service Innovation

- Radical service innovations
  a creation of a totally new service that represents a new set of characteristics and competences (iPod - electronic music delivery)
- Incremental innovations
  - small changes to the service, including new features that can gradually change the entire service concept (e.g., retailing)
- Ad hoc, tailor made innovations
  - a new solution originally developed to solve a problem of a particular client (e.g. management consulting)
- Re-combinative innovation
  - new ways of combining & splitting the known elements of service, in other words a systematic re-use of existing components of service (e.g., low cost airlines)
- Formalization innovation
  - A situation where a new set of service characteristics is organised by specifying them (employment services)

(Gallouj, 2002):

EUROPEAN TOUCH OY LTD

Service innovation and sustainability

- Several different perspectives
  - Expert services that help individuals to live in more sustainable way
  - Making service industries more sustainable
    - Public as well as market services
  - Services are often intangible and may have comparative advantage to manufactured goods, e.g.;
    - \- Air travel services have high environmental impact
    - \+ Internet based services may have very small impact
    - ++ R&D services are likely to have significant positive impacts globally - they can be instrumental in creating new low emission world

Service innovation and sustainability

- Technology dimension
  - New cleaner technologies will create more sustainable services - e.g., air travelling
  - Many opportunities to utilise existing technologies so that they enable cleaner services
- New customer interfaces
  - E.g., the use of electronic media instead of paper and physical sales channels
  - Internet banking as an example of a sustainable service
  - Distant diagnostics
- Organisational innovations
  - Distant work from home cuts down commuting

Service innovation and sustainability II

- New business models and value chains
  - May cut down the impacts of physical distribution
    - Amazon.com
  - In networked R&D, research services performer can be located anywhere - new opportunities for Australia
- Overall, service innovation
  - Creates opportunities to develop sustainable services that represent high value added
- High touch services represent potential growth area
  - Medical specialist services
  - Care services
  - Entertainment services, tourism

Environmental foot print

- There are many alternatives for improvements
  - To become more efficient
  - New or modified infrastructure
  - Diversified activities to offset the emissions
    - 'Plant a tree for every tourist'
  - Recycling and re-using
  - Greener products and fuels
- It is important to look at the entire system / value chain
  - Improvements in one element may cause negative / unintended effects in other parts of the chain
  - E.g., focus on bio fuels has raised food prices

Adopted from: CSIRO, 2008

EUROPEAN TOUCH OY LTD

Policy interventions promoting service innovation

Dr Jari Kuusisto

Service innovation a challenging policy target

- Novel area that is still very much under development
  - Service innovation promotion requires a change in the mind set
- Policy challenges to be tackled
  - Government level policy co-ordination and a horizontal policies
  - Policy approaches; supply- and demand side policies, framework conditions
  - Development of existing policies and launching new initiatives
  - Targeting of policies to specific service industries
  - Service markets and competition policy
  - Capabilities of the policy actors that deal with the service innovation promotion

Supply-side policies

- Promoting the supply of innovations
- Most common type policy measures include
  - Finance related measures such as equity support
  - Fiscal measures, tax incentives
  - Support for public sector research
  - Support for training and mobility
  - Grants and loans for the R&D

Demand-side policies

- Policies which can increase either the motivation or the likely success of innovation by acting upon the demand side
  - Systemic policies, e.g. clustering- and supply chain policies;
  - Regulation
  - Procurement
  - Tax incentives targeting consumers
  - Export promotion
  - Increasing customer awareness

Demand-led innovations

- Demand-led innovation activities can be influenced through various policies
  - targeting of public sector resources
  - influencing competitive prerequisites
  - consumer policy, market regulation, standardisation and public procurements.
- This very broad-based perspective influences
  - how businesses direct their innovation activities more effectively at customer (including consumer) needs and preferences
  - can increase consumer awareness, e.g, on sustainability
  - can stimulate the emergence of new markets

Starting point - POLICY

- Any policy can can drive, or be hindrance to service innovation
  - But very few policies recognise the influence they have on service innovation
  - R&D policies tend to have technology bias

Policy development options

- Deepening of existing policies
  - Existing policies are extended to the services sector and focus more on non-technological aspects of innovation
    - E.g., SERVE technology programme in Finland
- Broadening of policies
  - Broadening the scope of policies to cover also non technological innovation
- Targeted policies
  - Priority to certain service industries
- Horizontal policies
  - Unlocking the innovation promotion potential of other policy areas

EUROPEAN TOUCH OY LTD

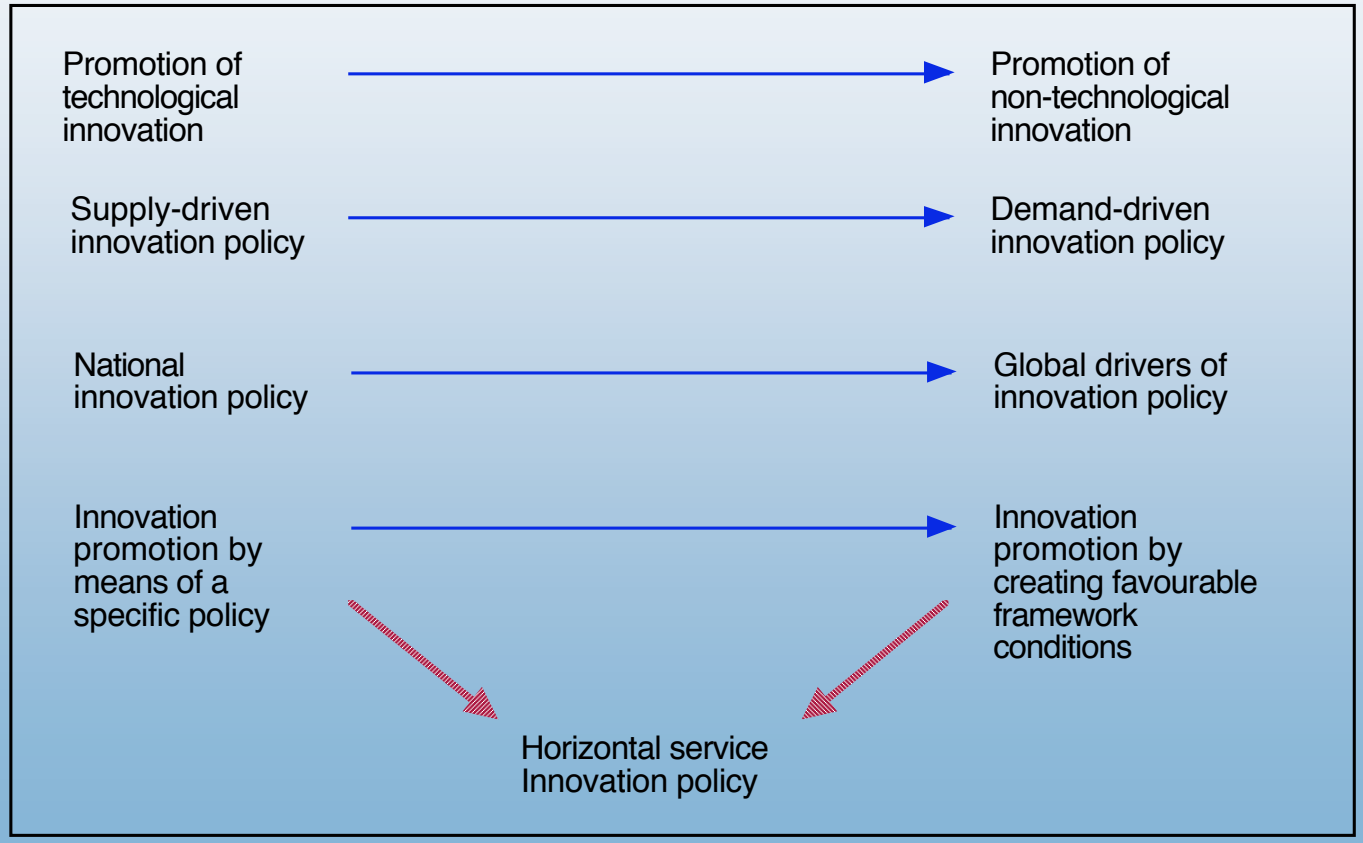
Concluding comments

Implementing service innovation policy

Dr Jari Kuusisto

Evolving policy approach

- Innovation policy is evolving towards broader perspective and horizontal approach



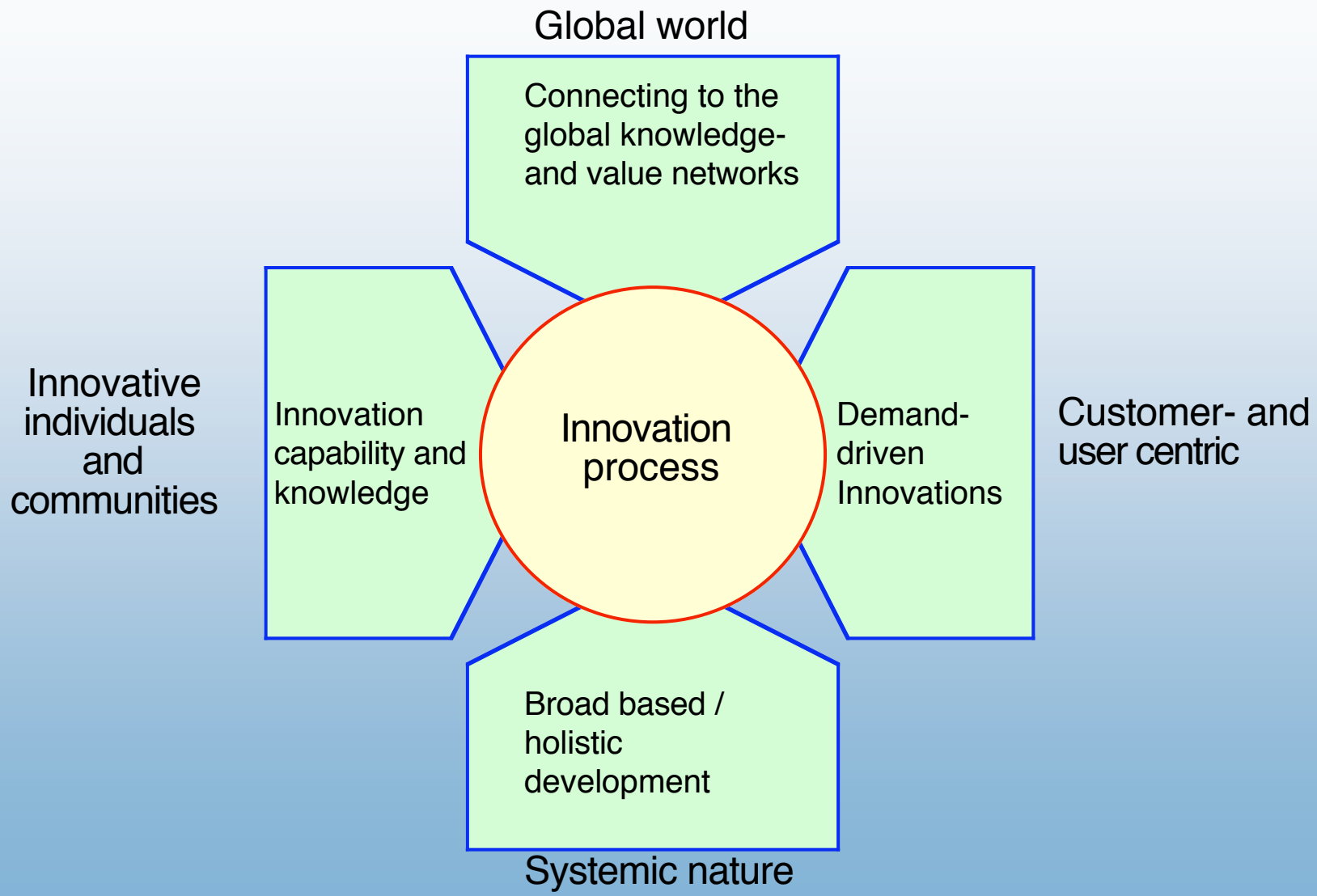
Next Steps - policy change

- Phases of policy change
  - Establish a sense of urgency
  - Create coalition
  - Develop a clear vision
  - Share the vision
  - Empower people to clear obstacles
  - Secure short-term wins
  - Consolidate and keep moving
  - Anchor the change

- Dimensions of policy change
- Process - How?
  - Implementation
- Content - What?
  - Objectives, purpose, goals
- Actors - Who?
  - Stakeholders
- Context - Where?
  - Internal / Regional
  - National / Community

The key elements of STRATEGY

EUROPEAN TOUCH OY LTD



Innovation strategy in Finland

- Promotion of demand-driven innovations has important role in the new innovation strategy that is being prepared in Finland
  - This feature is a key element in service innovation and the idea is converging so that it is an element of the overall innovation strategy
- Innovation policy is seen as a tool to renew existing industries and public services
  - Also key element of policy tackling climate change issues