



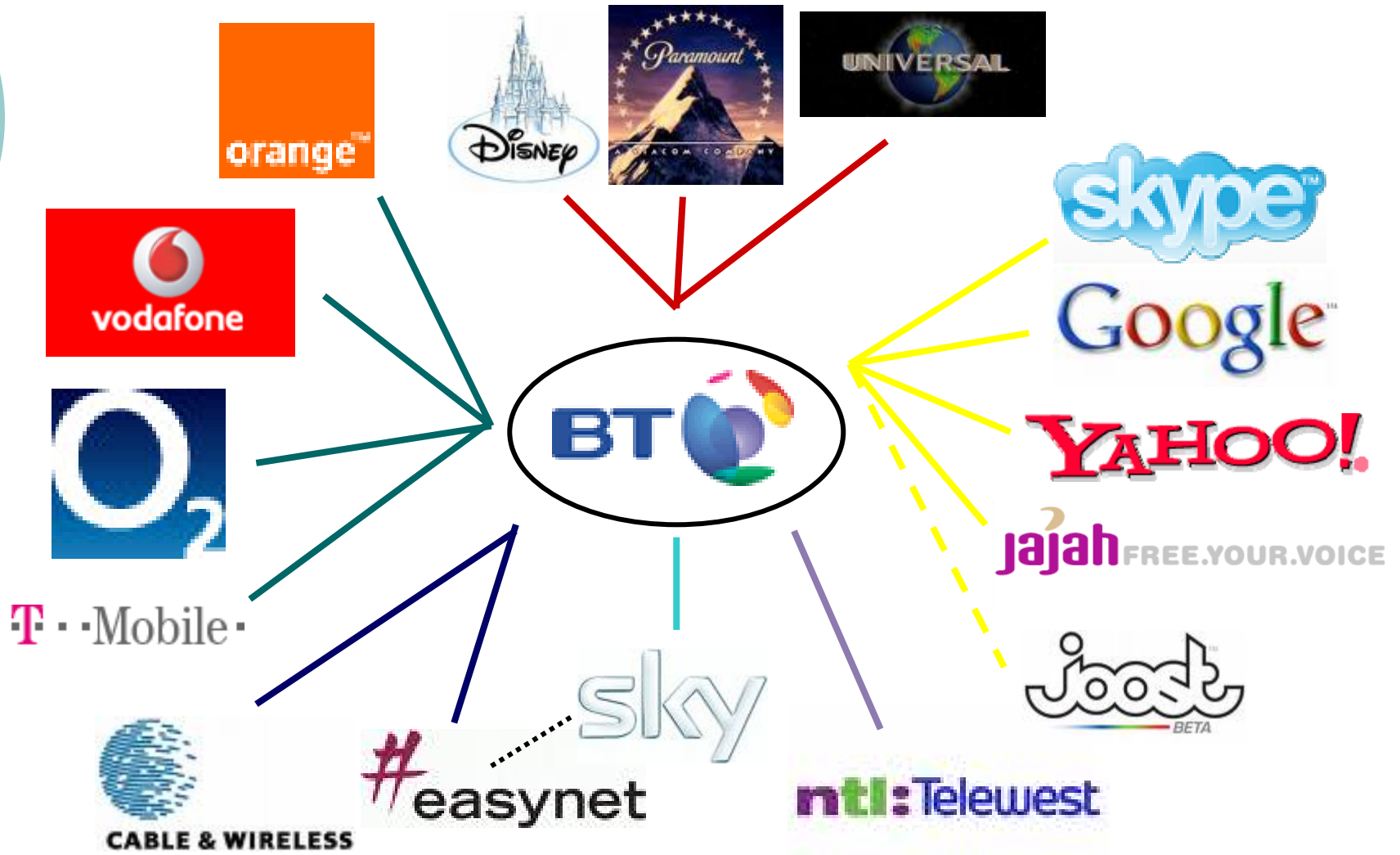
# **ITU-T Kaleidoscope Conference Innovations in NGN**

## **Organising Innovation in Services: The Case of Telecommunications Next Generation Networks (NGN)**

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University of Sussex - UK**



# Research Context: BT – Incumbent telecom operator



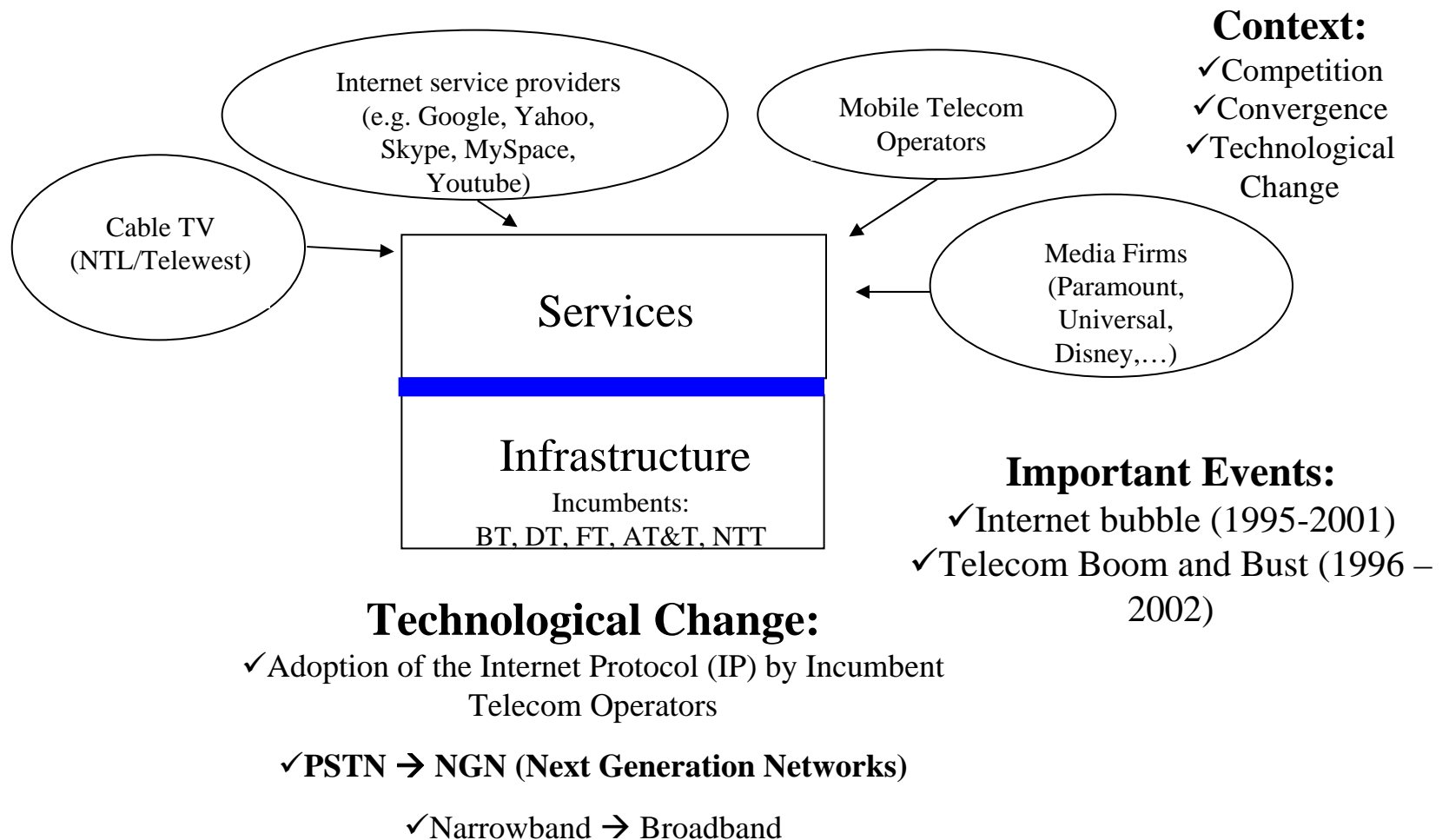


## Issues for 'Innovation in NGN'

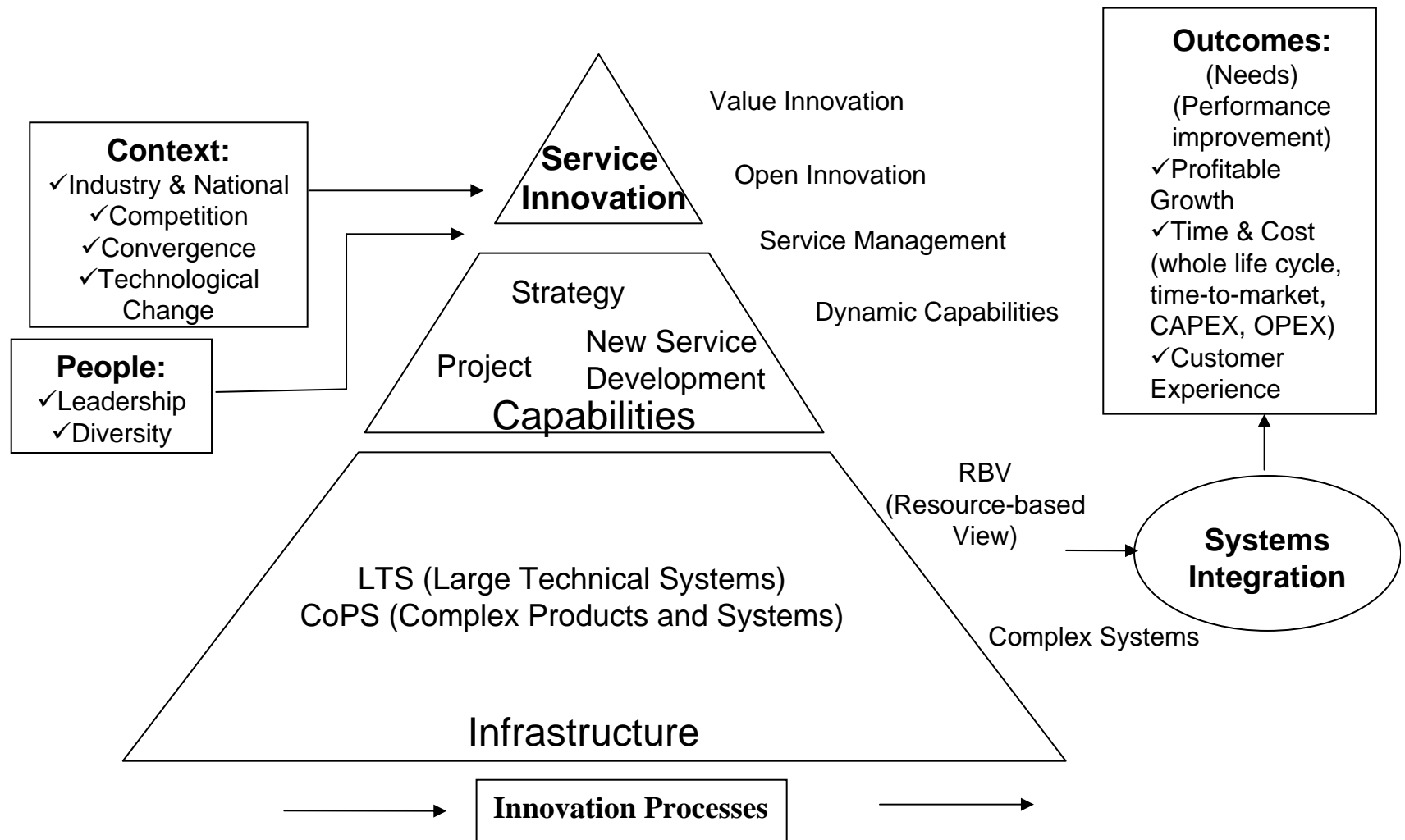
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- Innovating the process of innovation
  - New services... what new services? Killer application? Business Model?
  - Infrastructure... IP is the 'de facto' 'standard': how to (not whether it is necessary to) change the infrastructure?
- What is the impact of this 'turbulent' scenario (transition to NGN) on standards?

# Solution: Infrastructure and Services Transformation

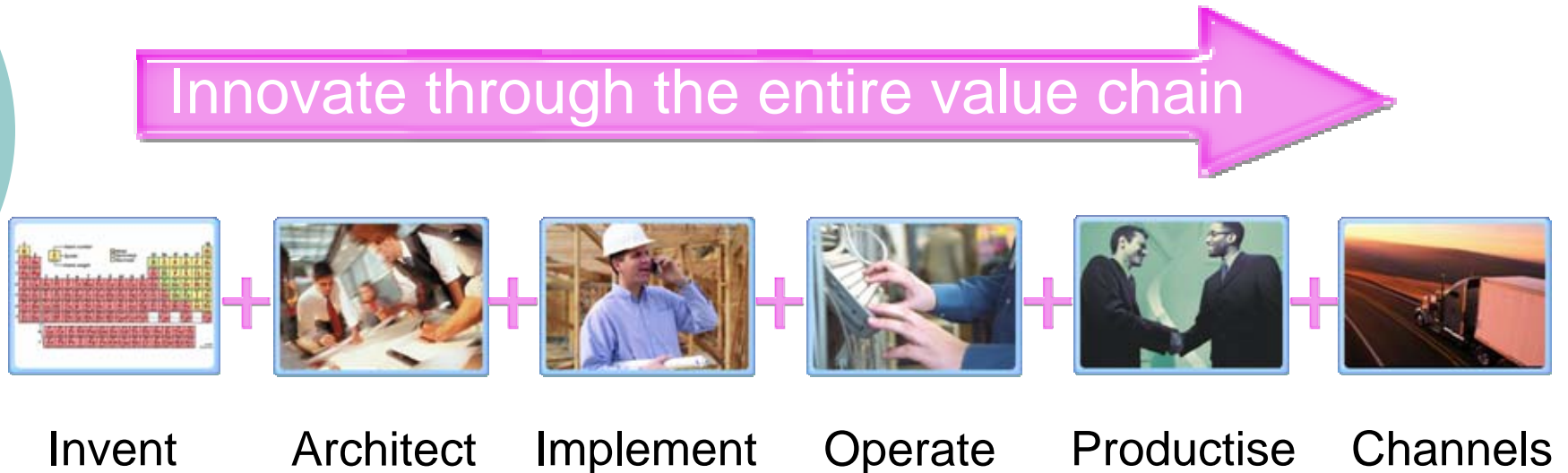


# Theoretical Framework



Source: Adapted from Hull and Tidd (2003, p. 139)

# 'Innovation Continuum' @ BT

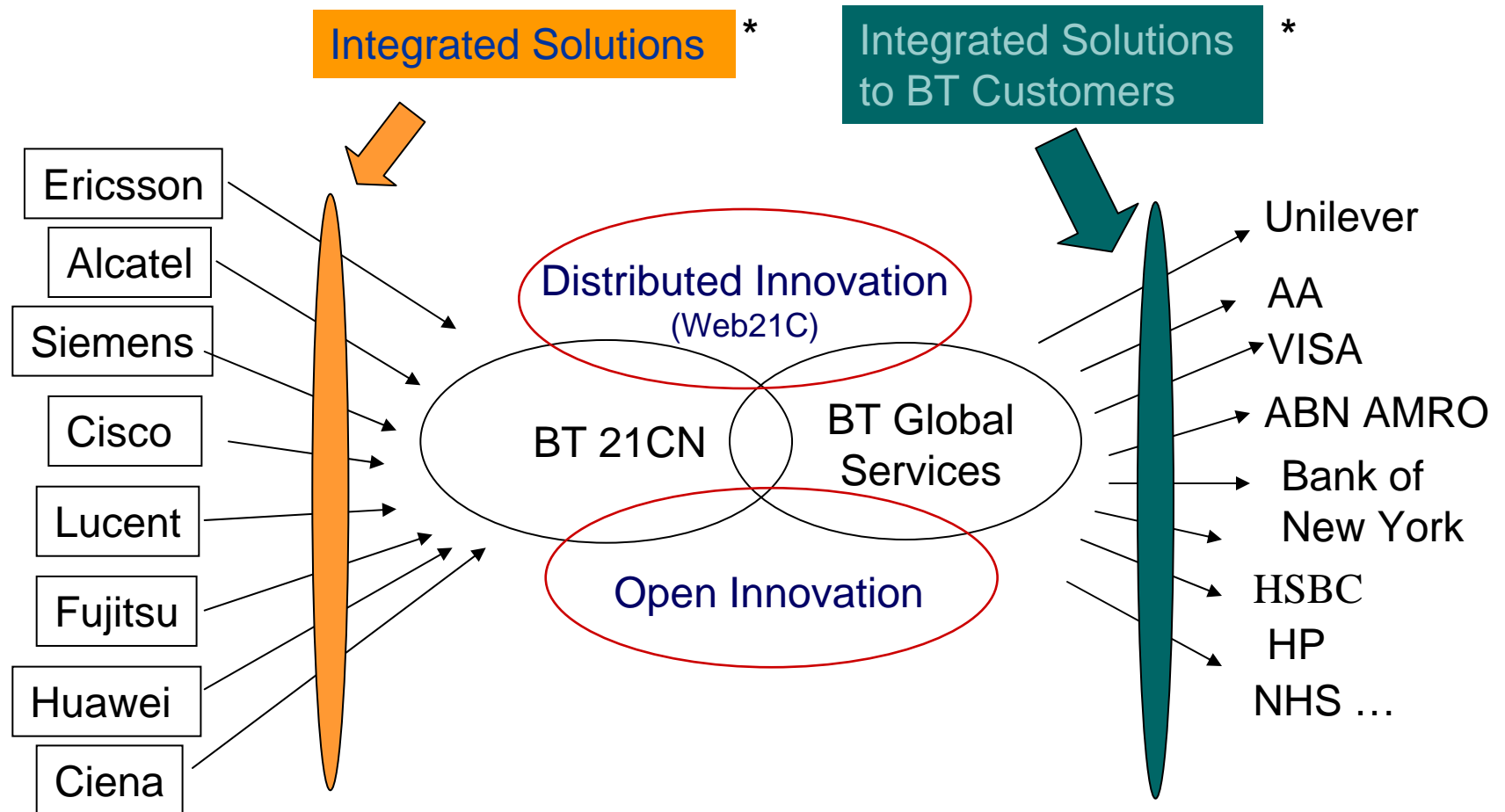


Deliver Customer Satisfaction and Shareholder Value

Source: Dunbar (2004) - BT

**Innovation = Invention + Commercialisation**

# Innovation, Innovation, Innovation: Organising Innovation @ BT



\*Paper to be presented at Druid Summer 2008 ([www.druid.dk](http://www.druid.dk))

# Innovation across boundaries...

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'From'

Innovation = Invention + Commercialization

(e.g. Chris Freeman, 1982 – The Economics of Industrial Innovation)

'To' With 'outsiders'

Innovation =

Open Innovation (R&D level)  **Invention**

+

Strategic Renewal & Learning (BT 21CN)

+

 **Enabling Platform**

Distributed Innovation (BT Global Services + Web21C)

 **Commercialization**



## So...what is the impact on standards?

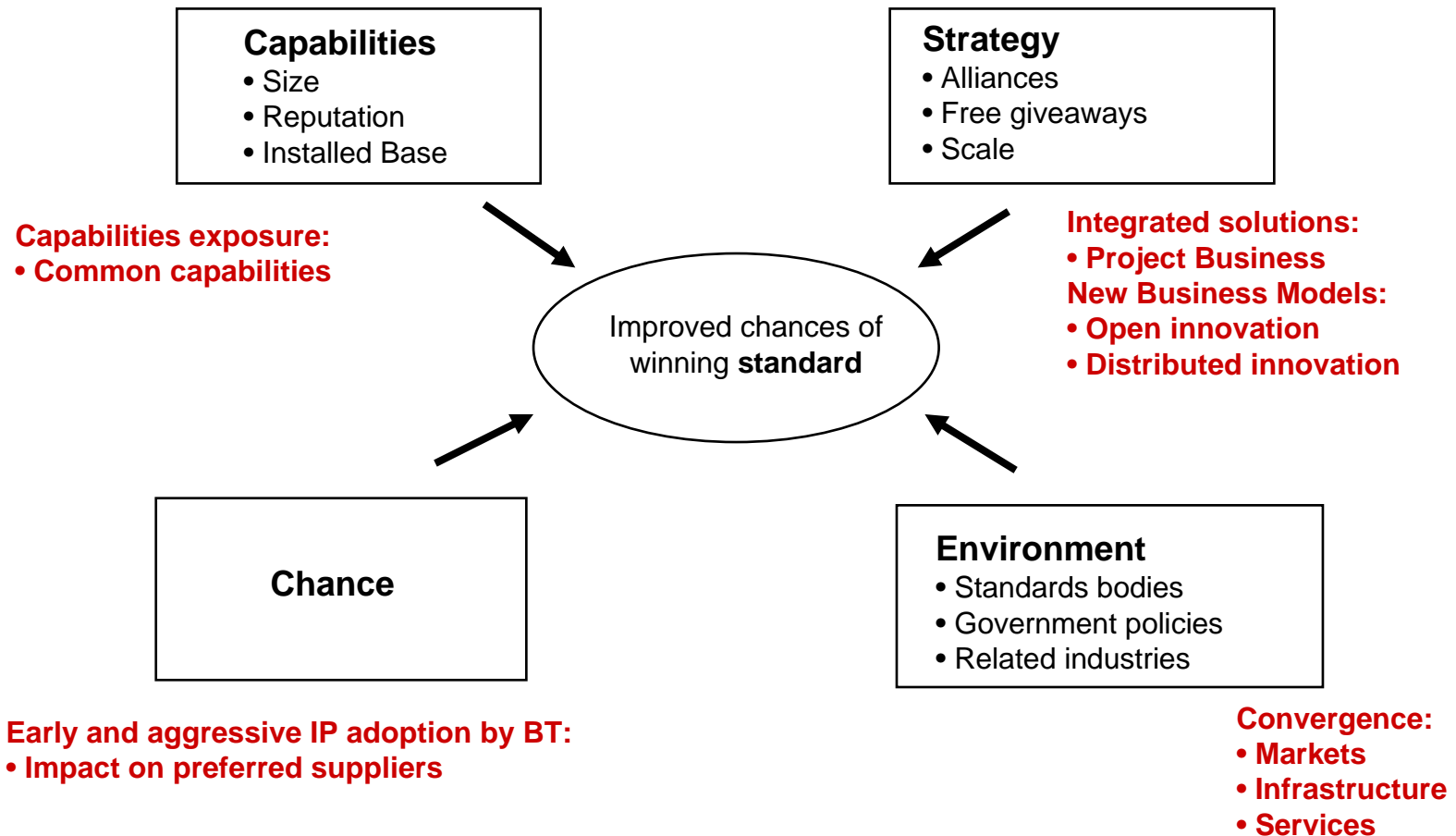
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- Tushman-Rosenkopf Technology Life Cycle Model:
  - Technological Discontinuity (Carrier class IP)
  - Era of ferment (Are we in this era now? Interoperability leading to 'new' standards?)
  - Era of incremental change (Standards as emerging properties)



**Is the need for standards increasing or decreasing?**

# Impact on standards (2)



## Determinants of emergent standards

Source: Adapted from Afuah (1998, p.345)

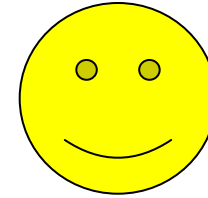


## Recollecting the Issues for 'Innovation in NGN'

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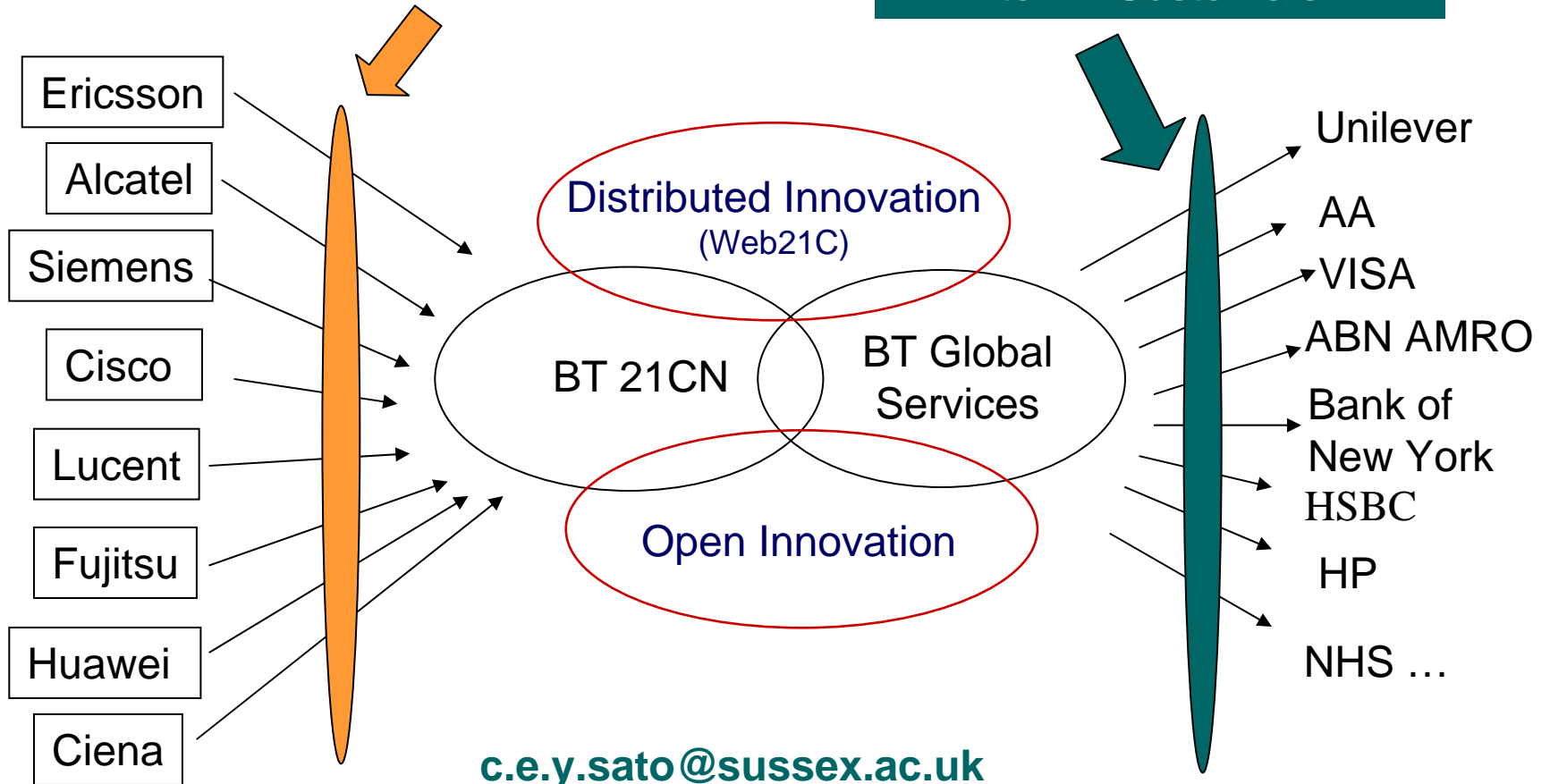
- Innovating the process of innovation
  - Innovation = Open Innovation + Strategic Renewal & Learning + Distributed Innovation
  - With 'outsiders'
- What is the impact of this 'turbulent' scenario (transition to NGN) on standards?
  - Need for 'new' standards increasing;
  - Era of ferment: 'new' determinants of emerging standards

# Thank you !!!



Integrated Solutions

Integrated Solutions to BT Customers



## Questions???



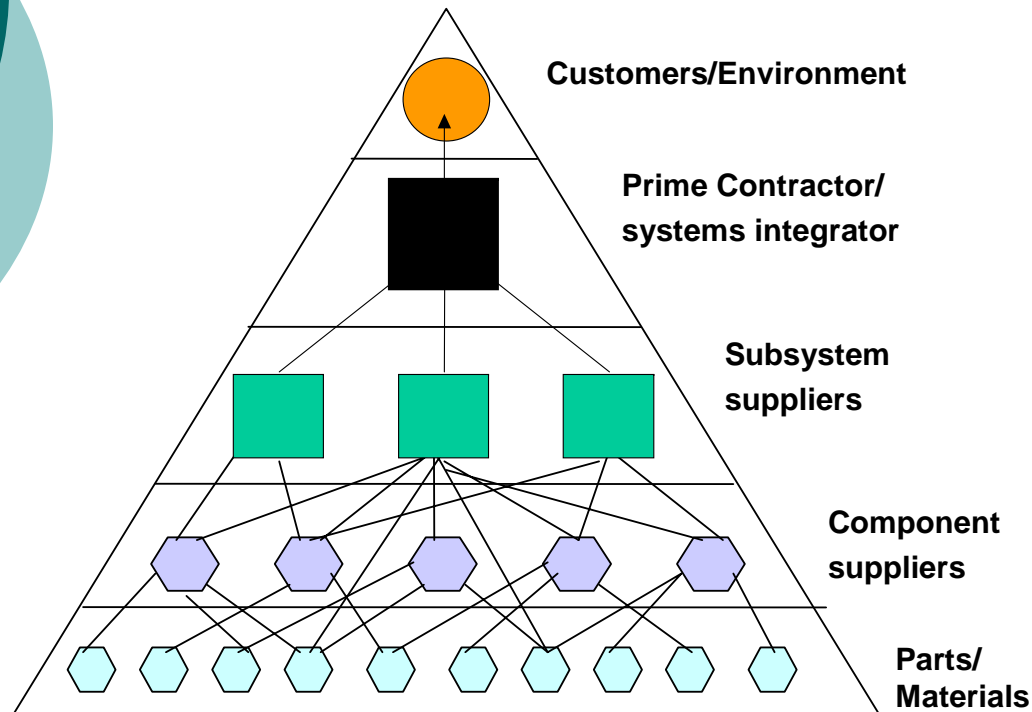
# Supporting slides

# Research Methodology

	<b>Stage 1: March 2005 – July 2005 (Exploration)</b>	<b>Stage 2: August 2005 – March 2006 (Exploitation)</b>	<b>Stage 3: April 2006 – March 2007 (Exploitation&amp;Confirmation)</b>
<b>Interviews *</b>	76 interviews.	84 interviews	41 interviews
<b>Secondary Sources</b>	Annual reports; SEC filings; Press releases; Newspapers an magazine articles; Product catalogues; Official websites; Pulver Research website; Market research reports; BT Technology Journal; Trade Conference presentations; Webinars.		
<b>Events involved in</b>	<ul style="list-style-type: none"> <li>• CEBIT 2005</li> <li>• VON Europe 2005</li> <li>• LightReading Carrier Ethernet</li> <li>• IEE Course on Telecoms NGN</li> </ul>	<ul style="list-style-type: none"> <li>• LightReading Live: The Future of Telecom</li> <li>• Carriers World 2005</li> <li>• Broadband World Forum Europe 2005</li> <li>• ITU-T Focus Group on NGN</li> <li>• ITU-T NGN Industry Event</li> <li>• CEBIT 2006</li> <li>• 21<sup>st</sup> Century Communications World Forum</li> <li>• VoIP for Business 2006</li> </ul>	<ul style="list-style-type: none"> <li>• Broadband World Forum Europe 2006</li> <li>• IP 06</li> <li>• The New Telco: Europe 2006</li> <li>• IP Leaders 2007</li> <li>• VoIP for Business 2007</li> <li>• C5 World Forum 2007</li> <li>• Carrier Ethernet Expo 2007</li> </ul>

\* Interviews with service providers/operators, suppliers, industry analysts, consultants and regulators

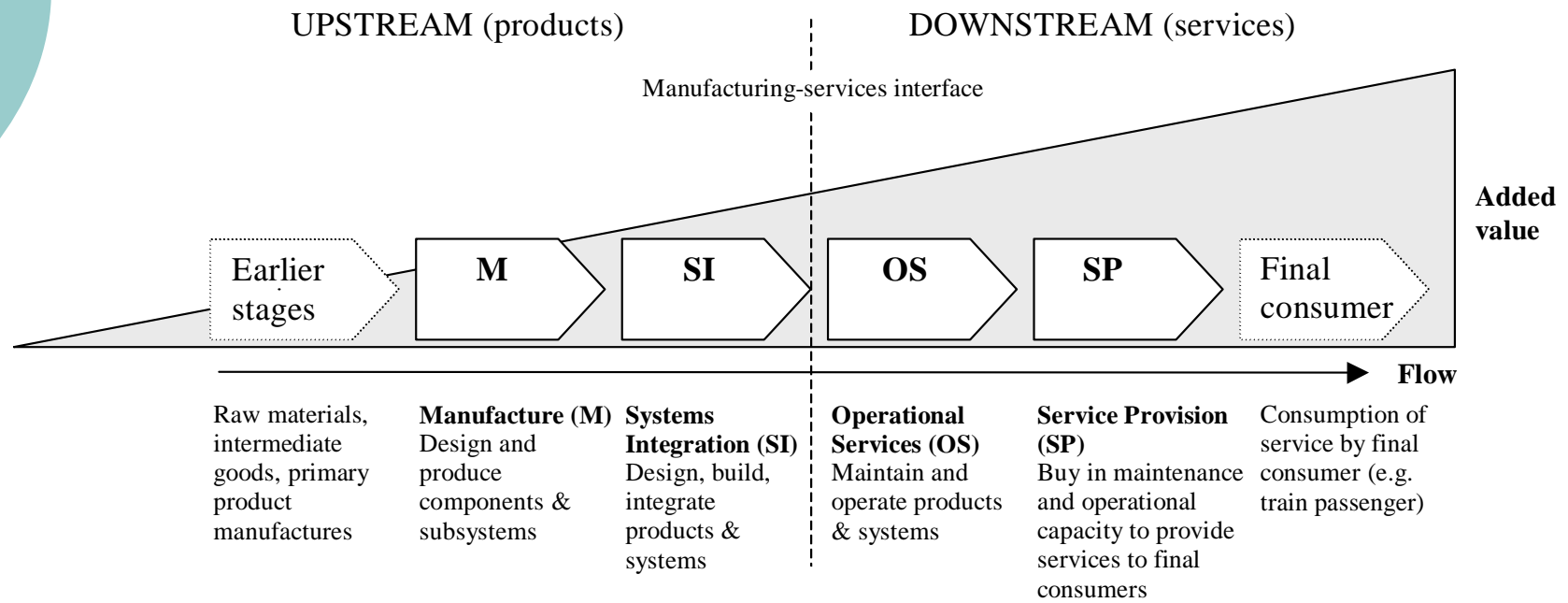
# Systems Integration - Prime Contractor



**Figure 2: The Integration of Systems**  
Source: Davies and Hobday (2005, p. 43)

- Absence of prime contractor in mega-projects of large users of telecommunications systems in the transition to NGN (e.g. BT 21CN, £10 billion in 5 years): capitalizing on organisational learning (selling it to other telecom operators and to large corporate customers)

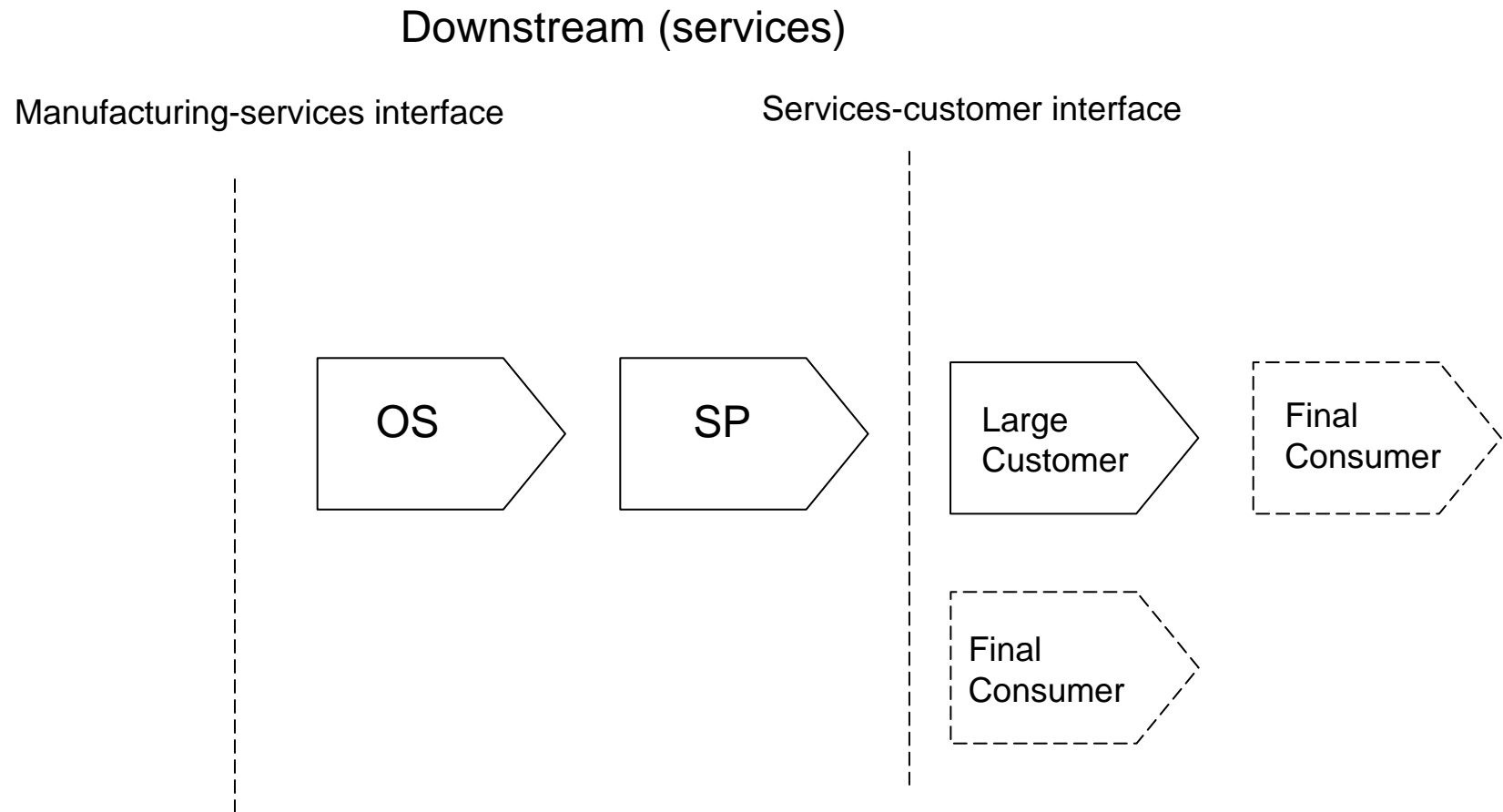
# Integrated Solutions (1)



The value stream of CoPS  
Source: Davies (2003)



# Integrated Solutions (2)



Integrated solutions in the interface services-large customer

# CoPS Research

