POCOPSC: Procuring and Operating Complex Product Systems in Construction

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- 1 Jan 2010 – 1 Dec 2012
Objectives

• Examination of:
  – The increasing move away from product delivery towards the delivery of client’s needs through service provision and the development of integrated solutions in construction

• In order to:
  – Identify control/co-ordination mechanisms between integrated solution providers and users;
  – Examine whether the development of integrated solutions in construction improves the quality of the process and stimulates innovation and life cycle costing;
  – Inform policymakers and industry about, which new policies and public (de-) regulations may be needed to enhance procurement methods and strategies for sustainable construction.
Analytical frame

• Construction, a low-tech and backward-looking sector?
  – Traditional innovation models tend to reinforce this view
  – Need for new analytical approaches

• Complex Product Systems (CoPS):
  – high cost, engineering-intensive products, systems, networks and constructs,
  – ...delivered in a temporary coalition of organisations,
  – ...comprising a series of phases from pre-production bidding, conceptual and
detailed design to maintenance, servicing and sometimes de-commissioning.

• Focus on:
  – The construction project (suppliers, contractors, government regulatory
    bodies, etc.)
  – The operational system (owners, users, regulators, actors responsible for
    operation and service delivery through a system to end-users).
## Cases

<table>
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<th>Country</th>
<th>Description</th>
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| France     | 3 PPP projects:  
  • A large scale renovation project;  
  • 2 police stations (One under a traditional procurement process scheme);  
  • A low energy consumption high school. |
| Denmark    | ESCO (Energy Service Company)  
  • Industry structure, adoption and use  
Intelligent buildings  
Low-energy houses |
| Sweden     | Public multi-activity arena:  
  • The impact of industrial structure on ICT uptake and use  
  • Partnering and BIM |
Issues

• Distinguishing construction from other business activities;
• Similarities and differences of construction business systems in Denmark, France and Sweden;
• Contractual versus relational governance mechanisms;
• Performance measurement, monitoring and incentives;
• Integration of environmental constraints;
• Service delivery.
Close-up on a case

• Three levels of analysis in relation to ESCOs:
  – Macro: Transition dynamics
  – Meso: Governing complex performance
  – Micro: Changing roles, changing practices

FORA, 2010: 21:
ESCO: Transition dynamics

- A macro-level perspective:
  - The interplay between national and supra-national regulation
  - Focus on dynamics of adaption and circulation of ESCOs in Europe
  - Emphasis on understanding how a market for energy services is being established and institutionalised.
ESCO: Governing complex performance

• A meso-level perspective:
  – Focus on the procurement and operation of a specific ESCO project (a public renovation project)
  – Governance mechanisms and performance measurement
  – The dynamic interplay between mechanisms of contractual respectively relational governance
  – Performance (measurement) is crucial in this respect as this constitutes a strong source of legitimacy
ESCO: Changing roles and practices

• A micro-perspective:
  – How, and if, existing roles, responsibilities and capabilities are destabilised and transformed as a result of the change from product delivery towards service delivery
  – How is the traditional relationship between buyer and supplier reconfigured by ESCO?
  – How is collaboration influenced, structured, concretised or mediated by means of ES-technology?
Target groups and results

• Clients, owners and managers of public facilities:
  – A more reflexive and informed ground for procuring CoPS

• Suppliers of CoPS:
  – Achieve first-mover effects as to how to comply with new procurement regulations

• National policymakers and industry representatives:
  – Knowledge on the impact of new policies and regulations

• European Commission:
  – Attain a research-based input to support the development of strategies to facilitate the implementation of new supra-national procurement strategies.
Thank you for your attention

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