

Process industry capabilities and performance-based integrated maintenance service contracts

Jan Bröchner
Johan Hedlund
Petra Jacoby



Chalmers University of Technology, Göteborg, Sweden

XVIII International RESER Conference, Stuttgart, 25-26 September 2008

Outline

- Capabilities: theory
- The integrated contract
- The process industry survey
- Findings
- Conclusions
 - 5 customer capabilities
 - 3 supplier problems

Capabilities: theory

- *Has been much more interest in **supplier** capabilities than **industrial consumer** capabilities ...*
- **Classifying** capabilities, according to
 - Service types (integration / operational / ...)
 - Orientation (external client specific / internal project management)
- **Here:** Maintenance / Contractual capabilities

The integrated maintenance service contract

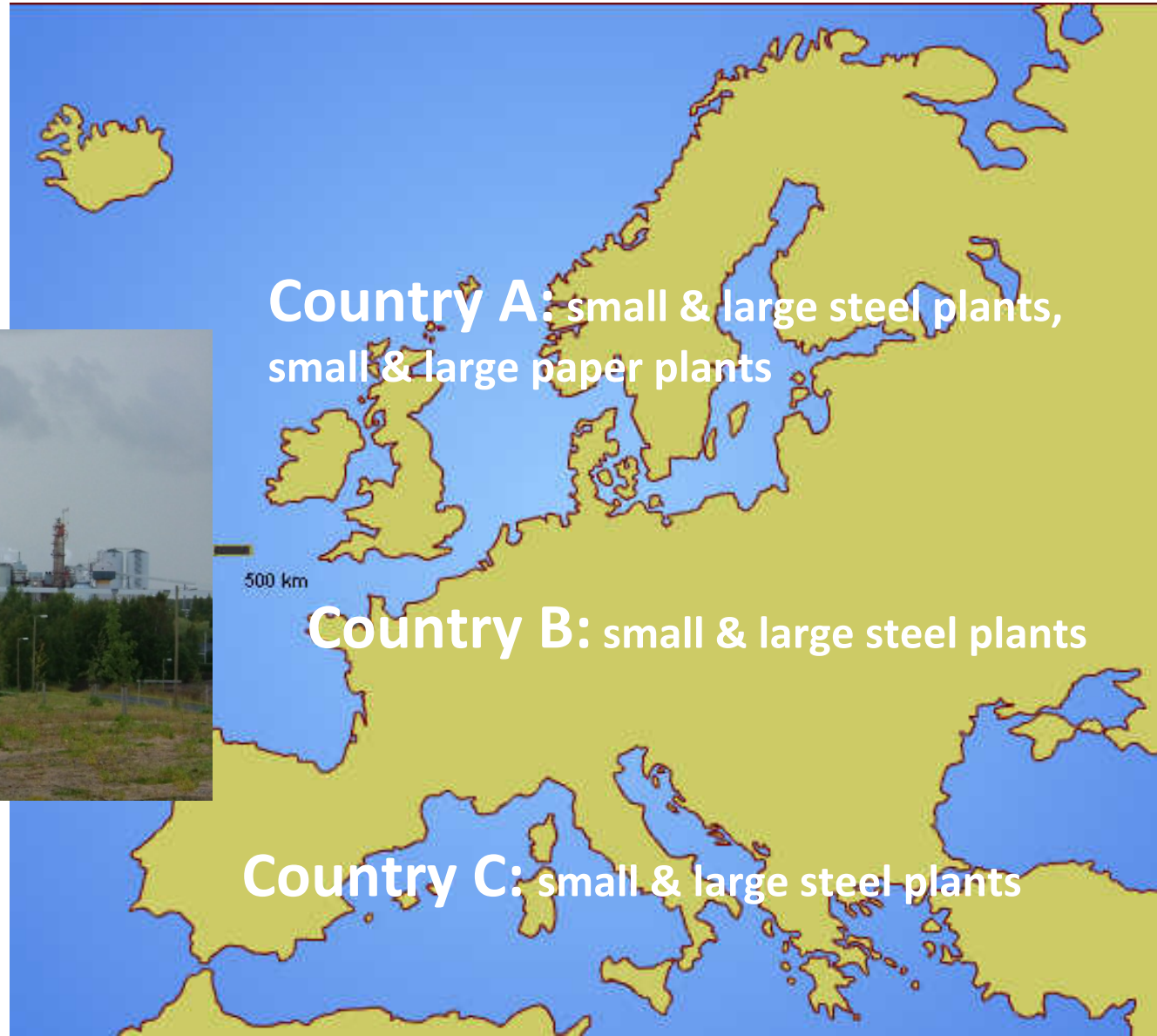
Supplier combining knowledge of asset management and of rotating equipment

- Consultancy+Education+Maintenance+Tangible Technology
 - Initial audit
 - Maintenance process established
- 3-5 years, guarantee, fee with incentive



The process industry survey

8 plants:
16 interviews
with managers



Findings 1: customer contexts

Local maintenance strategies

- Condition monitoring, at least for some parts (Countries A, C)
- Run-to-failure (Country B)
- Less use of advanced techniques for analysis (eg, root cause failure analysis) in B
- In C: less of operator-driven maintenance
- Strategies mostly locally decided, at the individual plant

Internal communication

- Maintenance and production staff (and purchasing!) held different views of plant maintenance situation (Country A)
- Cooperation and trust: no clear pattern for countries or plant sizes
- More centralized purchasing in B and C

Findings 2: performance contracts

Customer perceptions

- 6 of 8 maintenance managers: “price very important”
- 6 of 8 maintenance managers “focus on value of outcome” ... but tend to think in terms of price per manhour
- The small paper plant in A had experience of performance contracting
- Main argument for performance contracts: “delivery of high service quality”

Supplier challenges

- Allocating risks
- Handling performance ambiguity
- Defining KPIs
- Adapting flexibly to varying demand for customer products



Conclusions:

5 customer capabilities

- 1 to identify the reasonable level of dependence on a supplier
- 2 to assess risk of contractor non-performance (esp. when crucial for core production process)
- 3 to know the production process (documentation, potential for raising efficiency, needs for maintenance flexibility)
- 4 to manage information in performance contract relationships
- 5 to collaborate between functions within the customer organization

Conclusions: 3 supplier problems

- ❶ Customers might appropriate knowledge
- ❷ Potential for improving customer operations might diminish over time
- ❸ Trust and opportunism
(Metrics? Avoid high-powered incentives?)

