PARTNERING AS A STEPPING STONE IN THE TRANSITION TO PSS FOR THE CONSTRUCTION INDUSTRY

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Partnering can be described as

“a long-term commitment between two or more organizations for the purpose of achieving specific business objectives by maximizing the effectiveness of each participant’s resources.”

Construction Industry Institute, 1991
Aim of paper

The paper aims to explain and analyze

- how the construction industry can benefit from PSS, and
- how collaborative approaches such as partnering can be a stepping stone in this transition.
Approach

• Unique project for Sweden
  • Outspoken aim in contract agreement to collaborate

• Project documentation and interviews with actors
  • Buyer, contractor and design consultant
Introduction to the case study

- Design-Build project for road infrastructure
- One of the first major road projects in Sweden using partnering
- Scale and scope
  - Budget 43 million €
  - 20 km of highway and 11 bridges
- Result
  - 2.1 million € below the estimation
  - Finished 2.5 months ahead of schedule
<table>
<thead>
<tr>
<th>Respondent</th>
<th>Role in the project</th>
<th>Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Project leader, owner of project</td>
<td>Buyer</td>
</tr>
<tr>
<td>B</td>
<td>Deputy project leader</td>
<td>Buyer</td>
</tr>
<tr>
<td>C</td>
<td>Project leader</td>
<td>Contractor</td>
</tr>
<tr>
<td>D</td>
<td>Quality, Environment and Work environment (QEW)</td>
<td>Buyer</td>
</tr>
<tr>
<td>E</td>
<td>Construction manager, road</td>
<td>Contractor</td>
</tr>
<tr>
<td>F</td>
<td>Paving expert</td>
<td>Buyer, Consultant</td>
</tr>
<tr>
<td>G</td>
<td>Paving expert</td>
<td>Contractor</td>
</tr>
<tr>
<td>H</td>
<td>Head of design</td>
<td>Design Consultant</td>
</tr>
</tbody>
</table>
Responsability and risk allocation

• The buyer carried the risks for the technical solutions and the contractors the risks for the execution.

• Difficult to define exactly who was responsible for what parts since they worked together

• Since the buyer carried 60% of the profit/loss, this actor also had responsibility for the technical solutions selected for the project.
Project organization

• Shared goals
• Co-located
  • Informal communication
  • Team building
  • Reduced lead time for decisions
• Active participation of the buyer
• Collaboration i design phase
Design in collaboration

• Buyer, contractor and design consultant co-located during design phase.
• Informal forum for discussing technical solutions – brainstorming
  • solutions were questioned and motivated
• Shortened the lead times
• Active design: design not fully completed when construction began
  • Room for site adjustments
• Not enough time for innovations – instead incremental development
Life-cycle perspective for technical solutions

- The maintenance perspective was not within the scope of the project
- Maintenance representatives invited but no active participation
- A clearer environmental focus needed → more environmental friendly solutions but more expensive (contractor)
  - Initially more expensive
- Economic incentives related to environmental thinking → drive innovation in the industry (contractor)
Why collaboration?

• Potential productivity improvements – collaboration is one way
• Case study: close collaboration → reduced cost, environmental impact and time
• Increased level of trust improved information sharing
  • Find the best solutions together
  • Knowledge base of the project larger than individual knowledge
  • Iterative feedback loop from building site to design
  • Foresee consequences in design and modify accordingly
  • Changes made during the project indicates that not all design decisions should be taken before the construction phase.
    • Only possible if a more result-based contract with degrees of freedom is procured
The way forward?

• Including maintenance questions in a more direct way → choice of material and quality (respondents)
• Co-creation of value seems to be a starting point for resource efficiency.
• The buyer has to have a life-cycle perspective which is reflected in the requirements set for the contracts
  • Requirements incorporated into the projects without the project itself having a long-term perspective.
• Public authorities leverage on the market
THANK YOU FOR YOUR ATTENTION!

QUESTIONS?