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FROM PROJECT TO POLICY: IMPLEMENTING A COLLABORATIVE PROCUREMENT STRATEGY IN A PUBLIC CLIENT ORGANIZATION

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Following urbanization and higher sustainability goals, large and complex infrastructure construction projects are becoming more common. New collaborative contracting models are increasingly used to tackle this complexity and uncertainty. In a public context, collaborative contracting may be seen as an international trend in public policy, which is implemented in projects by public clients world-wide. Since a few years, the Swedish Transport Administration recommends that a two-stage Early Contractor Involvement should be used for very large and complex projects. This paper analyses the implementation of this model in two sub-projects in a large Swedish infrastructure project based on policy implementation literature. Altogether 24 interviews were performed in two rounds, capturing both early expectations and experiences gained after the contracts had been signed. Participants expressed positive attitudes to the new collaborative project practices. However, the implementation process was characterized by ambiguity and many issues about staffing, collaboration processes, target cost estimations, responsibilities and design output were left to the projects to resolve. The study shows how conflicting policies and high project-level autonomy combine to counteract organizational learning and homogenization of practices in this field.

Keywords: collaboration, procurement, policy, public clients, project partnering

INTRODUCTION

Today, many very large infrastructure projects are carried out by public clients in urban environments. Such projects are generally subject to high uncertainty and both technically and organizationally complex. To tackle these challenges, clients in many countries world-wide apply new, collaborative contracting models that involve contractors earlier in the process. However, relational contracting also presents substantial challenges to existing practices, competence structures and culture within all organizations involved (Chen et.al 2018, Bygballe and Swärd 2019). In particular, collaborative practices as well as project outcomes have been found to vary widely (Hartmann and Bresnen 2011). Even so, Kuitert et al., (2018) found that public sector clients perceived reliability, and to be predictable in relation to suppliers, as vital for their practice. This indicates that there is a need for more structured learning regarding collaborative contracting in the infrastructure construction sector. Less variation and increased predictability would be favourable especially in large infrastructure projects with high risks.

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General research on projects has often emphasized the unique character of projects and the need to adapt project practices to a specific context as it unfolds over time (Lundin and Söderholm 1995). In construction in particular, decentralization is high and top management often face resistance when implementing their policies in projects (Bresnen et al., 2004). Accordingly, project managers have considerable freedom to initiate and test new practices, while structures to evaluate and spread them between projects are traditionally weak (Dubois and Gadde 2002). Nevertheless, research has established that new project practices may be developed through exploration and situated learning in so called “vanguard projects”, but that learning between projects requires that organizational-level structures are put in place for this purpose (Brady and Davies 2004).

Most large infrastructure clients are public authorities and consequently affected by general policy trends. General theories on policymaking may thus provide a complementary perspective on the interaction between high-level policies and project-level practices in this field. In many OECD countries the so called “New Public Management” reform have resulted in new forms of governing, based on increased use of contracts and policies to assure governmental tasks (Lane 2000). Accordingly, the general trend for public clients is to place more responsibility on contractors (Kuitert et al., 2018). In this paper, we build on such observations and analyse collaborative contracting as a case of policy implementation. The empirical basis is a study of a new collaborative Early Contractor Involvement approach (ECI) in two sub-projects in a large Swedish infrastructure project. We identify key implementation issues using a framework based on policy implementation literature and discuss the implications for organizational and industry level learning.

The concept of ECI has several definitions in the construction procurement literature. First, ECI may refer to established models for relational contracting, often in two stages (Farshid et al., 2018, Mosey 2009). The ECI model used in the case study projects is based on this type of two-stage model. However, other authors and approaches define ECI as simply engaging the contractor earlier to profit from their competence with no ambitions of a more profound collaboration (Wondimu et al., 2018).

THEORETICAL FRAMEWORK

Since policy implementation emerged as an explicit research area in the 1970s it has developed into several streams. In traditional, top-down approaches the focus is on the effects of centrally established goals, while the more interpretive bottom-up perspectives deal with the process of drafting and agenda setting (Lane 1983, Van Hulst and Yanow 2014). The concept of “street-level bureaucracy” (Lipsky 1980) has been prominent to explain policy-making in and implementation in areas where administrative behaviour relies heavily on the professional judgement of the public officers executing policy. The field has later moved towards a more pluralistic view, acknowledging that policy implementation processes are context dependent and often affected by a mix of top-down and bottom-up dimensions (O'Toole 2000). Further, the factors considered to influence the implementation process, primarily relating to organizational resources, individual values and coherence in policy translation, are similar in both streams of literature (Hill and Hupe 2014, Fernandez and Rainey 2006). Policy studies tend to move beyond the more or less simplistic models or frameworks for “success” and look at implementation as a complex and dynamic process, dependent on the capacity of...
the organization to identify more in detail which organizational routines and structures will be involved in translating policy to action (Hill 2005). However, factors such as organizational resources, individual values and coherence in policy translation remain important features which are often underestimated or overlooked by organizations (Fernandez and Rainey 2006).

For the purpose of this study, we therefore suggest a framework based on four dimensions inspired by Van Meter and Van Horn (1975) and subsequent studies in the field (cf Fernandez and Rainey 2006 for an overview): Explicitness of policy, Individual and group motivation, Organizational resources and Characteristics of the implementing organizations.

Explicitness of the policy
Unambiguous directives and a cohesive plan for the change is in general perceived to facilitate policy implementation (Fernandez and Rainey 2006). A clear policy is a help for implementing officials as it describes more in detail how the new policy should be incorporated into the agency’s operating procedures. However, policymakers may still prefer less explicit policies, for example when they perceive professional implementors to be more competent to choose the means to accomplish policy objectives (Lane 1983), or when the policy is a result of compromise at a political level (Matland 1995). In effect, one of the characteristics of public organizations is that they serve several public values that might compete (Brunsson and Adler, 2002). This may result in policy clashes that create ambiguities and reduce explicitness.

Individual and group motivation
This dimension comprises the motivation and incentives of implementors to enact the policy. When aggregated to the organizational level, these aspects constitute what is often described as “implementation climate”. Thus, Schneider (1990) emphasizes the employees’ perceptions of “the events, practices, and procedures and the kinds of behaviours that are rewarded, supported, and expected in a setting”. Especially when individuals and groups are trusted with high authority to make decisions or carry out activities that contribute to policy goals, implementation is facilitated if the actor's own values align with policy objectives (Lane 1983, Fernandez and Rainey 2006).

Organizational resources
One general agreement in the implementation literature has to do with the importance of organizational resources in order to ensure technical and administrative capacity to achieve objectives (O'Toole 2000, Fernandez and Rainey 2006). Resources may be of a “liquid” type, like staff, but also capacity building resources, like training, guidelines, etc. (Schneider and Ingram 1990). It is important to acknowledge that these resources also have a symbolic value, since implementors may use resource allocation as an indication of the true priorities of top management (Matland 1995).

Characteristics of the implementing organizations
Traditionally this dimension addressed the hierarchical relationships between the policy-formulating and the policy-implementing bodies and units, including the ability to enforce policy and sanction non-compliance (Van Meter and Van Horn, 1975). By international comparison, the Swedish policy context and public administration is generally characterized by high autonomy and the relationship between political decisions and the execution of administrative tasks by officers is often described as “government by trust” (Jacobsson et al., 2015, Hill 2005).
METHOD

The two projects studied are two schemes within a large complex urban railway infrastructure project. The project is divided into six major contracts, and for two of the large civil engineering contracts the ECI model was selected. The railway project had a total estimated project budget of 24 billion SEK (2.4 billion Euros), and the estimated costs of the two projects studied were 300 MEUR and 425 MEUR. The study is based on a total of 24 semi-structured interviews that were conducted in two sets, the first during Stage 1 of the project (January-March 2017) and the second after the contracts for Stage 2 were signed (November 2018-January 2019). Interview respondents were project managers from the STA and contractors, responsible design project managers and collaboration facilitators for each project. The flexibility in semi-structured interviews, as described by Kvale (2008) allowed for the interviewees’ individual concerns to be addressed. Interviews lasted between one and two hours and were recorded and transcribed. To triangulate the interview findings, project documentation such as procurement strategy documents, collaboration agreements, contracts and tendering documents were investigated.

In the next section, findings are structured according to the chronological process of establishing and implementing the procurement model. Results are then summarized and further discussed based on the analytical model presented in the previous section.

THE CASE

Procurement Model

The two projects studied here were the first within the STA to be procured with an ECI model. The initiative was taken by the STA Project Director, who wished to avoid that the two most complex contracts of this project became as conflict-ridden as his previous project. Together with the Procurement Manager, he consulted widely with European contractors and found them positive to a collaborative approach. Higher STA management approved the idea and the project developed tendering documents for Early Contractor Involvement contracts in the two most complex and uncertain subprojects. Key contractual and organizational features of the ECI model as it was set out in the tendering documents are summarized in Table 1.

Table 1: Features in the ECI-model as described in tendering documents

<table>
<thead>
<tr>
<th>Procurement procedure and criteria</th>
<th>Restricted procurement procedure with prequalification. Award mechanism “most economically advantageous tender”, where quality criteria and price were weighted 70/30 percent.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early involvement of contractor</td>
<td>Stage 1: the contractor is engaged on a cost-reimbursable consultancy contract. Target cost is developed jointly by the parties. Stage 2: the contractor is reengaged with a Design-Build contract by option.</td>
</tr>
<tr>
<td>Reward system</td>
<td>Stage 1: Cost reimbursable consultancy contract. Stage 2: tendered contractor’s fee (between 7-12%) plus gainshare/painshare incentive in relation to target cost developed in Stage 1. 50/50 sharing ratio.</td>
</tr>
<tr>
<td>Partnering approach</td>
<td>Collaborative organization and collaboration group with defined members Requirements to develop joint project goals, risk management methods, communication plan and conflict resolution methods Continuous project follow-ups Openness in questions of mutual importance Collaborative activities (team building, workshops, etc.) Co-location</td>
</tr>
</tbody>
</table>
The model implies that two separate contracts are set up for Stage 1 and Stage 2. In Stage 1, the contractor is engaged by a consultancy contract and reimbursed based on incurred costs. Provided that the client finds the design and target price acceptable, the contractor is re-engaged by a Design-Build contract to accomplish detailed design and construction. The reward system for Stage 2 is a target cost contract with a gainshare/painshare arrangement.

A few processes and organizational aspects were specified more in detail in the tendering documents. However, since the Project Director and his group believed that the contractors would be more experienced in collaborative contracting than the client, and also wished to use a proposed collaboration plan as a selection criterion, STA chose not to develop the collaboration model more in detail before procuring contractors.

The procurement model for the two pilot cases inspired and influenced a new STA procurement strategy for collaborative projects that was developed by central purchasing department during the same period in time. This work was carried out by two procurement officers working part time. Since the STA was established in 2010 by a merger of the Road and Rail Administrations the focus had been on an increased use of Design-Build contracts and less involvement of the client in line with a so-called “pure client” policy. In this perspective the interest in collaborative contracting was new, although the former Road Administration had a history of working with collaborative approaches, primarily within traditional contracts.

Further implementation and experiences

When the top responsible managers of the two engaged contractors were interviewed in Stage 1 they were enthusiastic that the STA had decided to use the ECI model. They stated that it was essential that these pilot projects would succeed, since the STA otherwise might abandon this procurement model. However, ECI was a new type of collaborative arrangement which presented all participants with many challenges. Some challenges were common to both pilot projects, but since the collaboration models and participants differed between the contracts there were also differences.

Collaboration

The winning contractor for the ECI 1 contract did not have their own collaboration model and had not defined the model in much detail in the tender. However, the contractor’s key project managers were experienced and highly regarded for their collaborative competencies by their own organization. The client project manager was young and less experienced but had a positive attitude to collaboration. Thus, new routines and practices were developed in collaboration between the STA, the contractor and the design consultant after the contract was signed. The parties jointly appointed an external partnering facilitator, held a start-up meeting and formulated mutual objectives. Design collaboration was successful: A design consultant came up with an idea for a major design change that solved several problems in the original design and there were numerous smaller design-based improvements.

The contractor of ECI 2, as a company, had a high profile in collaborative contracting. They had a standard collaboration model and an experienced internal facilitator had been involved in developing the tender. However, the project did not follow through the ambitious collaboration plan outlined in the tender. One reason was that time was shorter than planned due to an appeal to court. Moreover, it turned out that several project managers on both sides did not consider relationship-building activities important. After some months, the contractor’s project manager was replaced due to
poor soft skills and eventually also two assistant project managers on the client side. Thus, motivation to work in collaboration varied between the two contracts, especially among project managers. However, operational level employees in general appreciated working in a more collaborative way, and perceived that their competence increased through the closer contact with other disciplines.

The size of the client organization in the contracts did not differ from that in a normal project of a similar size. Especially in ECI 1, where collaboration was established as intended, insufficient client resources were perceived to be a major obstacle to efficient decision-making. Both contractors had expected more of a joint project management and emphasized that the client has an important role in “greasing the wheels” of the decision processes and facilitate for other parties to perform their work. Some STA representatives agreed that they should have an active role and regretted the lack of resources. Others however expressed that they expected the contractor to take on a leading role and use their freedom and competencies to provide the project with better solutions. As one STA interviewee said “we gave them a white paper and said - go ahead”. Thus, the client representatives had expected skilled contractors with organizational resources that would make them suited to lead design processes in Stage 1. The contractors, on the other hand, expected the STA to step up in situations where they were more experienced, such as design management.

Target cost, incentives and negotiations
Another area of uncertainty and conflict regarded the economic incentives, defined by the contractors’ fee, target price and sharing ratio. Both contractors had tendered the minimum fee of 7% despite that they claimed it was too low to cover their costs. The contractors therefore needed to bring profit from the gainshare/painshare scheme, which meant that they had an incentive to inflate the target cost. Managers from both contractors perceived these economic incentives as problematic: “Focus is transferred from collaboration and the project towards guarding the target price” as one contractor project manager put it. The financial incentives also contributed to client distrust. Both subprojects experienced difficulties in defining integrated processes to develop a target cost, and the level of transparency provided by the contractors was questioned. The process resembled a traditional price negotiation and contracts for Stage 2 were signed with a delay of more than nine months. To reduce the contractors’ risks, the sharing ratios were eventually adjusted to 90/10 for ECI 1 and 80/20 for ECI 2.

Stage 1 output and responsibilities
Unclear contractual responsibilities were highlighted by interviewees from both sides. It was not explicitly defined what responsibility the contractors had for the technical design developed during the consultancy contract of Stage 1, but the STA insisted that the contractors should have the full responsibility for decisions since they were to be engaged by a Design-Build contract in Stage 2. The first round of interviews (in Stage 1) also revealed that managers on the contractor’s side, including design managers, were uncertain about the level of detail in the design documents to be delivered at the end of Stage 1. In the second round of interviews project managers on both sides perceived the lack of explicit definition of the delivery content as a major cause of the prolonged negotiations of the target cost.

DISCUSSION
In this section, we discuss key features of the case in relation to the theoretical framework of policy implementation (summarized in Table 2).
Explicitness of policy
Overall, there were substantial ambiguities and uncertainties regarding processes, systems, roles and outputs relating to the collaborative model. Policy design and implementation at a detailed level was strongly influenced by individual interpretations and preferences (Lane 1983, Van Hulst and Yanow 2014), resulting in substantial differences between the two projects. To some extent this lack of explicitness could be explained by the pilot character of the cases, since the participants gradually became aware of the implications of the new policy on a more detailed level (cf Hill 2005). However, no substantial attempts were made to clarify these issues to inform further development of the model. Inexplicitness was also intentional: since the client wished to use the contractor’s collaboration plan as a selection criterion models would vary between projects based on contractor input. Furthermore, by not defining key issues jointly, client involvement was reduced and responsibility moved to the market, in line with the pure client policy and current policy trends (Lane 2000, Jacobsson et al. 2015). Thus, this inexplicitness could be seen as a result of competing values and policies within the STA (Brunsson and Alder 2002). Tendering documents, initial communications and some of the managers on both sides emphasised collaboration and shared risks, while others, including the Project Director and one of the client sub-project managers, stressed that early involvement primarily implies a transfer of influence and responsibilities to the contractor. This ambiguity also mirrored the different interpretations of the ECI concept described in the literature (Wondimu et al., 2018).

Motivation
Motivation to implement the new model varied between individuals and organizational levels. In general, the actors initially expressed high motivation and expectations on the new procurement approach, but the many challenges and different understandings of roles and responsibilities successively hampered motivation. The client did not select their personnel based on their collaboration skills and there was a lack of strong collaboration champions engaging in the relational dimensions of the model. In ECI 2, personnel on both sides were replaced due to relational issues. The contractual incentives constituted a motivational problem as well, since the contractors had to balance between their organizational motives and a will to create a good project (Matinheikki et al., 2019). Due to the ambiguities and inexplicitness of the policy it was not easy for the actors to interpret which behaviours were expected from them (Van Hulst and Yanow 2014).

Resources
Resources was a key question in both sub-projects. Literature on relational contracting suggests that the client should take a more active role (Chen et al. 2018), and the contractors’ expectations on the client to more actively support the design management and be involved in setting the target cost aligned with this view. However, the Project Director believed that appointing additional resources to engage in joint decision-making would be against the pure client policy. Further, despite that the two pilot sub-projects were initially considered to be industry-level game changers, central functions at the STA to support collaborative contracting were small and none of the organizations educated their staff in collaborative practices in advance. Lack of resources to support implementation, such as detailed guidelines and training related to collaborative contracting, did not only impact on the capacity of project participants to achieve collaborative performance (Fernandez and Rainey...
2006) but could also be perceived by the implementors as an indication that this policy was not important (Schneider and Ingram 1990, Matland 1995).

Characteristics of the STA - a public project-based organization
Since the initiative to explore a new procurement strategy came from the project level, it can be seen as a bottom up policy implementation. However, the initiative had high level support within STA and a central strategy for collaborative contracting was being developed in parallel. The two pilot projects were initially pictured as “vanguard” projects, where new practices could be developed and tested as a basis for further implementation as described by Brady and Davis (2004), but in practice the learning process was unclear. The responsible procurement officer followed the pilot projects but had no authority to intervene and, for example, provide training or help the project clarify the ambiguities. The absence of a clear learning strategy reflects not only competing policies as described above, but also the traditionally high project autonomy and corresponding limitations to inter-project learning (Bresnen et al., 2004, Hartmann and Bresnen 2011) as well as the Swedish preference for “government by trust” and high autonomy of public officers (Jacobsson et al., 2015, Lipsky 1980).

Table 2: Summary of the case features categorized according to the theoretical framework

<table>
<thead>
<tr>
<th>Implementation dimension</th>
<th>Key observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explicitness of policy</td>
<td>Unclear roles of the parties in creating collaborative structures and involvement in collaboration.</td>
</tr>
<tr>
<td></td>
<td>Processes for setting target cost and financial transparency not defined.</td>
</tr>
<tr>
<td></td>
<td>Detail of design output and design responsibility in Stage 1 were not defined.</td>
</tr>
<tr>
<td>Motivation</td>
<td>Mainly high motivation at higher management levels, but no experienced collaboration champions in key positions.</td>
</tr>
<tr>
<td></td>
<td>Varying motivation among project managers at all levels but positive attitude to collaboration at operational (designing engineer) level.</td>
</tr>
<tr>
<td></td>
<td>Financial incentives established to motivate yet perceived more as obstacles.</td>
</tr>
<tr>
<td>Resources</td>
<td>Partnering facilitators and joint premises for co-location.</td>
</tr>
<tr>
<td></td>
<td>No additional STA resources to engage in collaboration.</td>
</tr>
<tr>
<td></td>
<td>Small resources for central support from the STA.</td>
</tr>
<tr>
<td></td>
<td>Few key actors had training in collaboration.</td>
</tr>
<tr>
<td></td>
<td>Contractors had insufficient resources to manage design.</td>
</tr>
<tr>
<td>Characteristics of organization</td>
<td>A lot of details were left to the project and sub-projects to handle.</td>
</tr>
<tr>
<td></td>
<td>Collaboration atmosphere, processes and results differed significantly between the sub-projects.</td>
</tr>
<tr>
<td></td>
<td>National management levels did not interfere and follow up.</td>
</tr>
</tbody>
</table>

CONCLUSIONS
Collaborative contracting models are increasingly used by client organizations to tackle complexity and uncertainty in large infrastructure construction projects. In order to deliver high quality infrastructure, it is important to understand not only success factors and risks in implementing a new model, but also how experiences can be captured and used to inform industry level learning in this field. In this study, we apply a framework based in research on public administration to analyse the implementation of a new collaborative procurement policy in the Swedish Transport
Administration. The experiences were mixed: the model enabled major improvements and adaptations but was also associated with ambiguities and conflicts.

We suggest that key issues in the implementation process may be explained in terms of low explicitness, limited resources and varying motivation to implement the policy. Consequently, a straightforward conclusion would be that a more efficient implementation would require more resources, both on the project level and at central STA functions. Central units at the STA, then, should provide training, monitor projects, develop guidelines and be involved in selecting key project staff. More resources would improve explicitness, signal importance and increase motivation. However, it is obvious that this type of strategy would not be easy to implement due to underlying characteristics of the implementing organization. In particular, inexplicitness in the cases was partly due to policy clashes, were high client involvement in collaboration contradicted the trend towards more responsibility of market actors, as reflected in the "pure client" policy.

Further barriers to explicitness stemmed from the high project-level autonomy in the construction sector. This decentralized governance structure resembles that of "street-level bureaucrats" in other areas of public administration (Lipsky, 1980). There is a high degree of institutionalization of roles and practices in the construction sector as well (Kadefors 1995), but these common frames of reference do not extend to detailed levels of collaborative contracting. This study supports the view that increased homogeneity and predictability would be valuable (Kuitert et al., 2018), and also that large public infrastructure client have a key role in establishing - or impeding - such institutionalization of collaborative practices.

REFERENCES


