



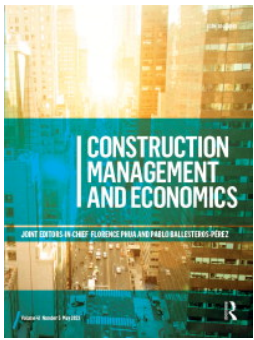
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Implementing relational contracting in a public client organization: the influence of policy clashes, resources and project autonomy

Lilly Rosander^a and Anna Kadefors^{a,b}

^aDepartment of Real Estate and Construction Management, KTH Royal Institute of Technology, Stockholm, Sweden; ^bDepartment of Technology Management and Economics, Chalmers University of Technology, Gothenburg, Sweden

ABSTRACT

Relational contracting models are increasingly being used for large and complex public infrastructure construction projects, but both practices and outcomes still widely vary. When analyzing the causes of failures and successes, most studies have focused on practices at the project level. In this paper, we add to the current understanding of relational contracting in public construction by examining the influence of factors at the organizational and institutional levels. We develop a framework based on theories of policy implementation and analyze two projects piloting a new Early Contractor Involvement model in a large public infrastructure client organization. In this case, a previous marketization policy, prescribing low client involvement in project processes, interfered with the relational contracting policy. This policy clash was not openly acknowledged from the start, despite causing significant confusion and frustration at the project level, but became recognizable largely through its consequences for resource allocation and managerial attention. We conclude that policy ambiguities, combined with a project-based implementation context, produce local interpretations and variations in relational contracting models. When project autonomy is high, industry-level agreements, standards and resources are important to align practices also between projects within the same client organization.

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Public clients; infrastructure; relational contracting; early contractor involvement; policy implementation; project-based organizations

Introduction

Increasing urbanization, ageing facilities, and requirements to reduce carbon emissions all call for investments in new or upgraded transport infrastructure. Such projects are often subject to high uncertainty in terms of both physical conditions and the social and political environment. Further, a lack of public funding means that many infrastructure authorities are required to deliver higher performance for less money (Hartmann *et al.* 2014). It is widely acknowledged that mistakes when selecting or implementing the procurement strategy can substantially increase the cost of an infrastructure project, delay its delivery, and reduce the quality and value to the public (OECD 2022). Since traditional contracting models based on detailed specifications and fixed prices are best suited to low-risk projects (Eriksson 2010), the increased complexity of many public infrastructure projects has prompted interest in more flexible and collaborative contracting policies from clients worldwide (Lahdenperä 2012,

Davies *et al.* 2019, Hall and Scott 2019, Sanderson *et al.* 2018, Marinelli and Antoniou 2020).

Relational contracting models, often referred to by labels such as Partnering, Early Contractor Involvement, Alliancing and Integrated Project Delivery, have now been applied for several decades. The field of research on relational contracting is vast and includes numerous case studies of more or less successful projects (Bygballe and Swärd 2019, Hietajärvi and Aaltonen 2018, Lahdenperä 2019, Matinheikki *et al.* 2019, Eriksson *et al.* 2019, Ruijter *et al.* 2020, Walker and Lloyd-Walker 2015), and studies mapping drivers and barriers (Ling *et al.* 2014). Nevertheless, despite a general agreement on the importance of features such as individual commitment and attitudes, joint goals, interpersonal trust and integrated processes, there is still no reliable template for how to establish successful collaboration (cf. Bresnen and Marshall 2002). Project outcomes vary widely, and it has proved difficult to achieve industry-level institutionalization regarding relational contracting practices

CONTACT Lilly Rosander  lilly.rosander@abe.kth.se  Dept. of Real Estate and Construction Management, KTH Royal Institute of Technology Teknikringen 10b, 100 44 Stockholm, Sweden

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(Hartmann and Bresnen 2011, Hall and Scott 2019, Gerber and Misko 2019). Such variations and uncertainties cause legitimacy issues especially for public clients, as predictability is important in order to attract contractors and assure compliance with procurement regulations prescribing transparency and equal treatment (Kuitert *et al.* 2019).

In general, the implementation of new project procurement models in the public sector seems to present substantial challenges and risks for participating organizations (London and Chen 2008, Migliaccio *et al.* 2008). Studies have further shown that public infrastructure clients often lack an understanding of the factors that affect how new procurement methods are implemented in complex public project-based organizations and markets (Hartmann *et al.* 2014, Migliaccio *et al.* 2008). In this paper, we suggest that an important cause of such sense-making failures is that problems that play out on the project level are highly influenced by structures and decisions outside the project. However, as Engebø *et al.* (2020) conclude, few studies have specifically and explicitly focused on organization-wide and multilevel implementation processes related to collaborative project delivery models. Accordingly, several recent literature reviews in the field of relational contracting (Bygballe *et al.* 2010, Cerić *et al.* 2021, Engebø *et al.* 2020, Qiu and Chen, 2022) have identified a need for studies with a multilevel perspective in order to understand and explain how collaboration in projects unfolds.

In this paper, we respond to this call by investigating how collaborative practices that emerge at the project level can be traced back to factors at the organizational and policy levels, including developments on the contractor side. A longitudinal case study was performed, comprising two large, parallel infrastructure projects that were pioneering and implementing a new relational contracting model in a large public infrastructure client organization. The research question guiding the study is as follows:

How are collaborative practices in projects procured by a public client organization influenced by factors external to the projects?

To support our analysis, we apply a framework based on policy implementation literature. Public infrastructure clients are affected by a multitude of both explicit and implicit policies, which are frequently in conflict. Such incompatible political and organizational goals make it difficult for public officers to adapt to and implement new procurement policies. In particular, as noted by Leendertse and Arts (2020), relational contracting policies may be introduced in

parallel with other procurement policies that emphasize market-driven innovation and prescribe a distanced relationship between client and contractor. The policy implementation literature is highly suitable to address such complex situations since it emphasizes certain factors, such as how clear or ambiguous the policy is, clashes between competing policies, the level of resources allocated to implementing the policy, and the organizational policy context.

By applying a theoretical framework originating in the public administration literature, we zoom out from the project and consider the wider organizational context, including dedicated resources and competing policies on multiple organizational levels. In the two projects studied, a clash between the new relational contracting policy and an existing marketization policy caused considerable frustration and conflicts. This policy clash was not explicitly acknowledged at the start but became increasingly obvious over time through the influence it had on client involvement and resources. In combination with decentralized decision-making and limited organizational-level resources, typical for project-based organizations, this ambiguity allowed for bespoke interpretations of the contracting model at the project level.

Thereby, our study shows how variations in relational contracting practices, and the corresponding difficulties that clients experience to achieve learning in this field, are shaped by less visible organizational structures and policies, as well as by the implementation context. The findings also highlight the key role of resources as indications of policy clashes. Further, we suggest that industry-level guidance and agreements could play an important role in reducing ambiguity and variations at the project level. As such, this research contributes to the literature concerned with implementing new relational contracting models in the infrastructure sector (cf. Hartmann *et al.* 2010 and Davies *et al.* 2019, Plantinga *et al.* 2020, Leendertse and Arts 2020). The study also adds to the understanding of multi-level change processes involving public client organizations serving multiple goals (Bresnen and Marshall 2010, Kuitert *et al.* 2019).

The paper is organized as follows. The next section gives an overview of the empirical field of relational contracting in a wider policy perspective. It starts by briefly introducing the terminology used in the paper to describe and discuss relational contracting. Then, the role of government policies for construction procurement is outlined, as well as key observations in previous studies that have contextualized public construction procurement. This is followed by a section

developing the analytical framework, based on policy literature. Thereafter, the case study background and methodology of the study are presented, followed by a section describing the findings. Finally, the results are discussed in relation to the analytical framework. The paper ends with conclusions and suggestions for further research.

Relational contracting in a policy context

Relational contracting terminology and practices

In this paper, we use the term 'relational contracting' as an umbrella concept to encompass a range of concepts that all refer to collaborative project delivery and contracting models (CPDM) with explicit aims to create value by fostering collaboration between, primarily, the client and the contractor, but often also subcontractors and consultants. Important examples of such concepts are Partnering (Bresnen and Marshall 2000, Eriksson 2010, Gottlieb and Jensen 2012, Wondimu *et al.* 2018), Alliancing (Walker and Lloyd-Walker 2015, Matinheikki *et al.* 2019, Aaltonen and Turkulainen 2022, Integrated Project Delivery (IPD) (Hall and Scott 2019), Early Contractor Involvement (ECI) (Farshid *et al.* 2018, Eadie and Graham 2014) and, for long-term relationships, Strategic Partnering/Partnerships (Gottlieb *et al.* 2020). Typically, relational contracting approaches comprise a set of contractual and noncontractual elements, including procurement criteria that reward collaborative competence, the development of joint goals, team building and workshops to foster interpersonal trust, joint risk management, methods for conflict resolution and a contractual reward system that favors common goals (Walker and Lloyd-Walker 2015, Eriksson *et al.* 2019, Nikulina *et al.* 2022). Thus, relational contracting aims at establishing collaborative inter-organizational relationships where contractual and relational governance act as complements (cf. Cao and Lumineau, 2015; Roehrich *et al.* 2020).

This said, the practices associated with various relational contracting models, as well as the terminology, have differed between countries and over time (Ling *et al.* 2014, Bygballe and Swärd 2019, Lahdenperä 2012, Engebø *et al.* 2020, Børve *et al.* 2017). The term Partnering, for example, is a broad concept that dominated when policies for relational contracting were first introduced in the 1990s and 2000s but has over time increasingly been replaced by other concepts. ECI, which is the model used in the case study of this paper, commonly implies a two-stage relational contracting model where the contractor takes part in the design phase (Eadie and Graham 2014, Mosey 2009,

Farshid *et al.* 2018). Nonetheless, the concept may also refer to procuring contractors early on in projects more generally, for example, by using design-build contracts without any relational goals and processes (Wondimu *et al.* 2018). Alliancing and IPD tend to involve contractors early and may, therefore, be seen as subvariants of ECI. Further, in their original versions, both Alliancing and IPD apply multiparty contracts (Lahdenperä 2012), and IPD emphasizes lean and digital dimensions. However, the term IPD is increasingly used to signify a variety of collaborative approaches, and Hall and Scott (2019) conclude that the concept remains institutionally immature. Variations often occur as contracting concepts that have been coined and proved successful in specific geographical locations spread to other parts of the world or other construction segments (Lahdenperä 2012). In this process, the underlying set of practices, to which the concept originally referred, is adjusted to fit the needs, understanding and political considerations of the receiving context (Ling *et al.* 2014, Farshid *et al.* 2018). Thus, there is an inherent ambiguity associated with many concepts in the field of relational contracting.

Government policies for infrastructure procurement

Government policies and directives are important influences on the general procurement strategies of public clients (Leendertse and Arts 2020, Plantinga *et al.* 2020). However, national governments vary markedly in how active they are in formulating policies for construction procurement in general, and this includes their focus on relational contracting. Often, issues of poor productivity have prompted development. Thus, in the UK, the Netherlands and Denmark, for example, governments have explicitly promoted relational contracting arrangements, highlighting the possible increase in productivity, innovation, and value for taxpayers (Egan 1998, Kristiansen *et al.* 2005, Mosey 2014, Lahdenperä 2019, Leendertse and Arts 2020). In Sweden, there have been no clear governmental policies specifically directed towards contracting in the construction sector, despite governmental reports (e.g. Bygghälsan SOU 2002:115, Produktivitetskommissionen SOU 2012: 39) criticizing low productivity in much the same way as in many other countries. However, this may be explained by the Swedish administrative system, where power is comparatively decentralized to public agencies (Hall 2015). Thus, agencies such as the Swedish Transport

Administration receive rather general government instructions, which they interpret and translate into organizational policies based on their internal competence.

Public clients' contracting practices are also affected by broad public administration reforms. In recent decades, the public administrations of European and other OECD countries have undergone numerous reforms to address the perceived lack of efficacy in bureaucratic organizational structures (Hall 2015). This has resulted in new forms of public governance, such as marketization, i.e. the increased use of contracts and procurement of products and services to deliver governmental tasks (Brunsson and Jutterström 2018, Öjehag-Pettersson and Granberg 2019).

In public construction, this move towards marketization can also be seen in the international trend to shift responsibility to contractors and other private actors, sometimes by private financing of public assets but more commonly by innovative procurement models (Davies *et al.* 2019). In line with this development, government clients have outsourced their in-house design functions, and many have also reduced their project-level resources (Bresnen and Marshall 2010). The use of design-build contracts based on performance requirements has increased, but also applications of relational contracting models (Teisman and Klijn 2002, Hartmann and Bresnen, 2011, Kuitert *et al.* 2019). As suggested by Bresnen and Marshall (2010), relational contracting in this context can be tool for public clients to remain in control of their projects under governmental pressure to reduce their own resources and outsource larger responsibilities to private actors. Therefore, the use of relational contracts in public client organizations can, paradoxically, be understood as both a control mechanism and a means to integrate external competence. Similarly, Leendertse and Arts (2020) conclude that the policy field in infrastructure procurement is complex and often dual: with goals both to intensify collaboration with the private sector and simultaneously create innovation through the marketization of infrastructure services, which implies a transfer of responsibilities and increased distance to the private actors. Kuitert *et al.* (2019) further illustrate how public organizations typically serve multiple goals, which means that there are often conflicting values within the same organization. This also affects procurement policies and requirements.

In developing an implementation framework for new project delivery models, Migliaccio *et al.* (2008) show that factors such as managerial support, and alignment between the delivery model and other organizational strategies and structures, are essential.

Lines *et al.* (2015) specifically highlight the importance of internal change agents. In a study of alliancing practices in Finland, Matinheikki *et al.* (2019) and Aaltonen and Turkulainen (2022) recognized the effort put in by the client organization to prepare itself (and the sector at large) for the new contracting form as a key success factor. However, London and Chen (2008) observed that many OECD governments developed purchasing and project procurement strategies on the organizational level; however, implementing these policies remained difficult (Lines *et al.* 2015). Hartmann *et al.* (2014) found that public clients - under pressure from political agendas to rapidly implement new procurement schemes - tend to neglect the time and effort necessary to transition from traditional models and overlook that this requires a long-term co-development process that involves contractors. In a similar vein, a recent study of a large public infrastructure client organization by Plantinga *et al.* (2020) showed that innovative procurement models were frequently applied in single projects, but that a broader implementation of successful models was missing, much due to a lack of structural elements in the organization to support wider dissemination. They also identified 'failure traps', where partly unsuccessful yet promising pilot projects hampered further refinement and the dissemination of new procurement schemes.

In summary, the limited research that exists on how factors outside the projects influence the implementation of new procurement models in public infrastructure construction clearly points to the conflicting demands put on public clients and the difficulties they have in driving systematic improvement in this field. This implies that theories from disciplines that specifically focus on public sector contexts should be mobilized to further inform our understanding of how new procurement models are translated from policy to practice, as well as between organizational levels, in public client organizations (cf. Volker, 2019). Therefore, we base our analytical framework on policy implementation literature.

Analytical framework

Three dimensions of policy implementation

The policy concept has various meanings but can be broadly defined as a purposive course of action in dealing with a matter of concern, related to decisions (Hill and Hupe 2014). Thus, policy implementation research is concerned with the relationship between decisions and practice at multiple political and administrative levels (see Andreas *et al.*, 2022). Mapping

the current state of the art in policy implementation literature, Hill and Hupe (2014) conclude that both the basic nature of the policy at hand and its institutional contexts are pertinent to how the implementation process unfolds. Important contextual factors to consider when analyzing policy implementation are the connection to other policies, the resources and managerial attention dedicated to the policy, the decision delegation in the organizational structures, and the autonomy of individuals in policy translation (Fernandez and Rainey 2006, Hill and Hupe 2014). Adapting these theories to the context of project-based client organizations, we identify three analytical dimensions to guide our analysis: 1) policy ambiguity and policy clashes, 2) managerial attention and resources, and 3) organizational structures and project autonomy. These three dimensions are further outlined and developed below.

Policy ambiguity and policy clashes

Unambiguous directives and a cohesive plan that fully describe how the policy should be incorporated into the agency's operating procedures are generally thought to facilitate implementation (Fernandez and Rainey 2006). Thus, a clear policy is easily implemented through administrative implementation, i.e. top-down decisions can be straightforwardly operationalized and understood by an organization (Matland 1995). However, there are cases when policy-makers may prefer less explicit policies, for example, when the competence and professional judgment of implementors are needed to make the right choices in order to accomplish policy objectives under varying circumstances (Lipsky 2010).

An ambiguous policy can, however, also be the result of a compromise between multiple and often contradictory organizational goals (Matland 1995, Hupe and Hill 2016), which may in turn be anchored and valued differently in different parts of the organization (March and Olsen 1989, Hupe and Hill 2016). When public organizations adopt contradictory policies, this results in the 'conservation of conflicts' (Baier *et al.* 1986) and presents difficult dilemmas for the officers responsible for translating the policies into practice (Hupe and Hill 2007). A policy that conflicts with other policies may thus be only symbolically implemented and, as the interpretation differs between individual employees, policy outcomes will vary across sites (Matland 1995). Yet, if policy conflicts are clearly acknowledged in the policy process, they can be more easily resolved (Baier *et al.* 1986). If

clashes are not explicit, on the other hand, a higher variation in policy translation is likely, and the dilemmas may hamper motivation and create disappointment among the implementing officers (*ibid.*).

Managerial attention and resources

A key aspect of implementing any organizational change is managerial attention (March and Olsen 1989). If higher management levels show interest in the behaviors of the implementing officers, this will increase the likelihood that they will act in accordance with top-level priorities (May and Winter 2009). In the implementation literature, there is also general agreement that organizational resources ensuring technical and administrative capacity to achieve objectives are key to how a policy is translated into action (Fernandez and Rainey 2006). Resources may be of the liquid type, like staff, but can also be capacity-building resources, such as training and guidelines (Schneider and Barbera 2014). Peck and Six (2006) argue that a change in practices is not possible without organizational power and that the ability to control resources translates to power in the organization. Therefore, dedicated managerial attention, time and resources are required to show that change is needed and desired, i.e. the allocation of resources becomes a demonstration of focus and power. Therefore, when policies clash, resources have a symbolic value because the implementing officers may regard resource allocation and the level of managerial attention as indications of the true priorities of top management (Matland 1995, May and Winter 2009).

Organizational structures and project autonomy

The third dimension influencing policy implementation relates to organizational structure and the allocation of decision-making rights (Döhler 2020). In many types of public organizations, significant decision-making power is delegated to individual officials. In general, it is easier to implement policies that are in accordance with the values of the individuals affected by them (Schneider and Barbera 2014, Cohen and Frisch Aviram 2021). Further, policy outcomes may vary more when decision rights are decentralized and implementors more autonomous, such as in multiple divisions organizations (Döhler, 2020) or projects (Jensen *et al.* 2017). When the opinions of the implementing officers are not consistent with top-level policies, it may cause coping strategies that can contribute to further ambiguities and variations. This said bottom-up policies

that are initiated at the operational level are more easily introduced and spread if they are aligned with the executive level's goals (May and Winter 2009, Cohen and Frisch Aviram 2021).

The terms 'frontline bureaucrats' and 'street-level bureaucrats' (Lipsky 2010) are used to signify members acting at the borders of public organizations and explain policy implementation in areas where policy is actively shaped by the behavior of certain professionals, who interpret rules and allocate resources to complete the task at hand (cf. Hupe and Hill 2007). Traditionally, those frontline bureaucrats studied in policy implementation literature have been professionals such as social workers, police officers and teachers. However, there are other public sector activities where decentralization is high, and more recent work has expanded the term to include, for example, public officials in client infrastructure organizations (Johansson 2012). In the construction sector in general, project managers have considerable influence over methods and organizing principles, provided that they deliver on goals relating to cost, quality and time (cf. Bresnen *et al.* 2004). Such project organizing permits organizations to deal with uncertainty and complexity by decentralizing decision-making and authority to the project level (cf. Hobday 2000). Similar to traditional frontline bureaucrats, the autonomy of project managers in construction is based on their competence as professionals, which is inevitably interlinked with institutionalized structures on the industry level (cf. Kadefors 1995). These structures imply that project managers are potential gatekeepers who may resist or pay lip service when top management attempts to implement policies they do not approve of (Bresnen *et al.* 2004, Lines *et al.* 2015, van Marrewijk 2018).

To summarize, the findings will be analyzed based on these three dimensions. First, we identify policy ambiguities and policy clashes and trace their causes and effects in the implementation process. Second, we consider the impact of managerial attention and resources. Third, the project literature is combined with the policy implementation literature to form the basis of a discussion on how organizational structures in the form of project autonomy influence the implementation process.

Method

In this section, the background to the empirical case is presented, followed by a description of the research

approach, data collection, and process to analyze the empirical material.

Case study background

The last 30 years of developments in the Swedish infrastructure construction sector have been strongly influenced by the general marketization trend in public administration. Between 1992 and 2010, the design, construction and maintenance departments of the former Swedish road and rail administrations were privatized (Groenewegen and De Jong 2008, Malm 2015). In 2010, the new government administration Swedish Transport Administration (STA) was established by a merger of these former two administrations.

The development of relational contracting in Swedish road and rail construction began in the early 2000s when the Swedish civil works sector experienced a number of large lawsuits connected to the construction of several underground road tunnels in Stockholm. Due to the high commercial risks, the large contractors were less inclined to submit bids for public infrastructure projects. In 2003, a joint government-industry initiative was established to address the poor performance and business relationships (SOU: 2012:39). An important part of this initiative was a model for 'extended collaboration', which included some relational features such as the development of joint goals, joint risk management and a system for conflict management. Throughout the 2000s, extended collaboration was used on many road projects, but also on several large and complex rail projects.

When the new STA was formed, the governmental instructions (SFS: 2010:185) emphasized that efficiency, productivity and innovation should be improved by the use of market-driven mechanisms. A key principle of the STA strategy to implement the instructions was to place more design responsibility on suppliers (i.e. contractors and consultants). This strategy was associated with a new 'pure client' policy (2010:199), which implied that the STA should be less involved in design processes and adopt a detached role in relation to its suppliers. Two goals were formulated: to increase the share of design-build contracts (where the contractor is responsible for the design) from a few percent to 50%, and to use fixed-price contracts for engineering consultancy services. A central Productivity Office was set up to lead the development and a central department for Purchasing and Logistics was also established; responsible for formulating overarching procurement guidelines, frameworks, and strategies. Procurement officers are seconded by the Purchasing

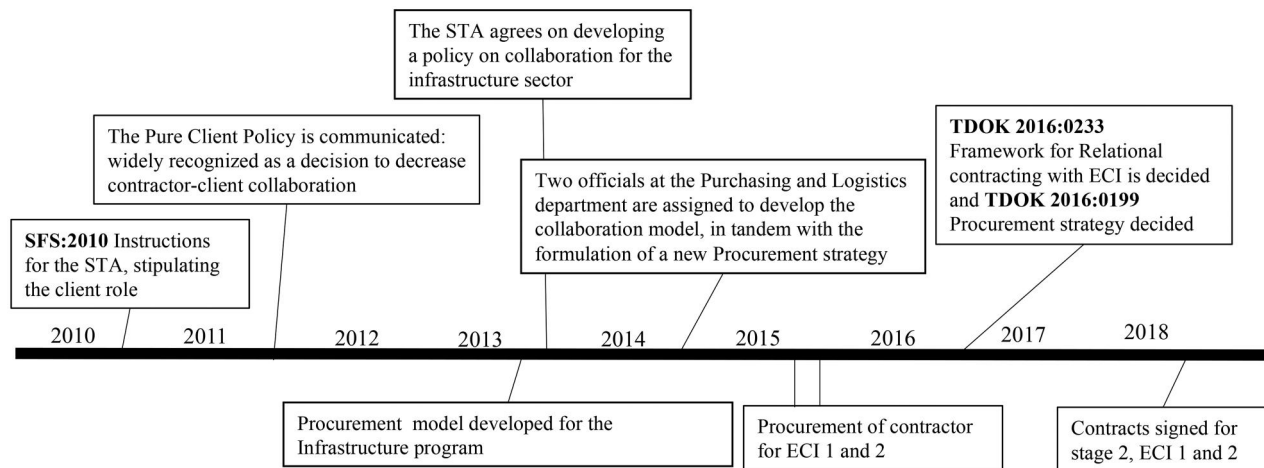


Figure 1. Timeline of the developments and decision for important documents and procurement of the two projects in the study.

and Logistics department to assist programs and projects in managing their procurement processes.

The previous 'extended collaboration' policy was not explicitly ruled out when the 'pure client' policy was introduced, but it was no longer emphasized. However, although contractors were generally positive about design-build contracts, there was a growing criticism in the sector of the 'one-size-fits-all' policy focusing on increasing the use of design-build contracts. For complex and risky projects, contractors still preferred collaborative models. In 2013, initiatives from large contractors derived from industry-level discussions resulted in assigning the STA Purchasing and Logistics department to develop a new model and policy for relational contracts. In 2016, the STA further started to develop a procurement strategy based on a 'fit-for-project' principle (Trafikverket, 2016:0199) (see Figure 1 for timeline).

A new model and guidelines for relational contracts were issued in 2016 and included a 'basic' model that largely corresponded to extended collaboration, as well as a 'high' option with early engagement by the contractor and the sharing of risks and benefits, also referred to as ECI (Early Contractor Involvement) (Trafikverket 2016:0233). In the procurement strategy, the ECI collaboration model was intended to be used in a limited number of large, complex and risky projects.

The two projects investigated in this study, ECI 1 and 2, were both parts of a large infrastructure program designated to build a new commuter train tunnel in a large city in the south west of Sweden. The program was part of the Major Projects division of the Swedish Transport Administration (STA). The STA's organizational structure, including the program and the two projects, is shown in Figure 2.

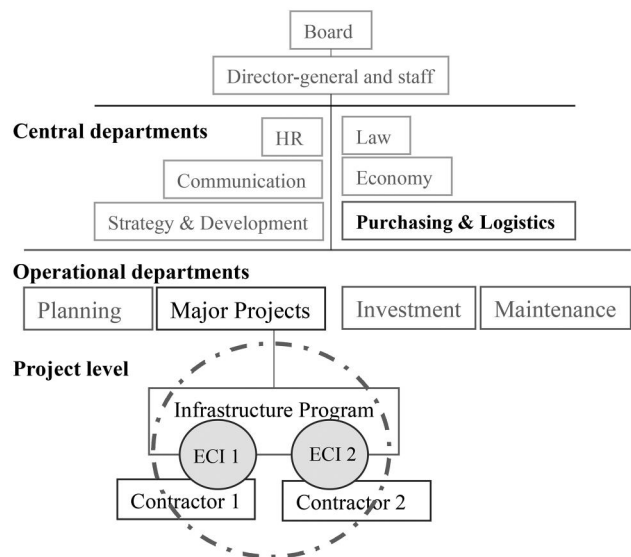


Figure 2. Simplified organizational scheme of the STA. The infrastructure program and projects included in the case are highlighted.

The infrastructure program as a whole was divided into six major contracts, two of which adopted the two-stage Early Contractor Involvement (ECI) model, while the other four contracts used design-build and construct-only contracts. The first project (ECI 1) aimed to increase the capacity of existing tracks in connection to the central station and comprised a number of new bridges. The other (ECI 2) comprised two kilometers of new railway and the construction of a new underground station. The total estimated program budget was 24 billion SEK (2.4 billion Euros), and the estimated cost of the two projects studied was, respectively, 300 MEUR and 425 MEUR. The details of the ECI procurement and contract model are summarized in Table 1.

Table 1. Characteristics of the applied ECI model in ECI 1 and 2.

Characteristics of the ECI model	
Award criteria	<p>Financial and quality criteria (most economically advantageous tender)</p> <ul style="list-style-type: none"> • Fee – between 7–12%, to cover risk, profit and costs for central administration (both contracts were awarded contractors bidding 7%) (30%) • Collaboration competence (collaboration plan and references for individuals) (20%) • Project execution plan Stage 1 (30%) • Project execution plan Stage 2 (20%)
Contract scheme for earlier involvement of contractor	<p>The contract comprises two stages:</p> <ul style="list-style-type: none"> • Stage 1: the contractor is engaged on a consultancy contract and reimbursed on a cost-plus open book basis. A target cost is established and agreed upon by both parties. • Stage 2: the contractor is reengaged with a Design-Build contract by an option in the Stage 1 contract. The agreed target cost is multiplied with the tendered fee (7%, see above) to form a fixed fee. All direct project costs are reimbursed based on the prime cost principle with open books. There is an incentive against target price in Stage 2, where gains and pains are shared 80/20 between the client/contractor.
Collaboration approach (stipulated in collaborative agreement)	<ul style="list-style-type: none"> • A joint collaboration organization with a collaboration management group and a project management team. • Co-location • Common project goals, risk management and communication plan • Conflict resolution methods • Apply integrated processes for design, time management, stakeholder contact and purchasing

Research approach

The study described in this paper was part of a broader longitudinal research project following the introduction of relational ECI contracts in the Swedish Transport Administration (STA). This is a highly complex and embedded phenomenon, for which a qualitative case study is most suitable (Stake 1995, Flyvbjerg, 2006). The research project was conducted as an exploratory case study (Martinsuo and Huemann 2021), where the phenomenon investigated was the process of implementing a new procurement policy for relational contracting in a large public client organization. The study in focus for this paper follows the implementation of this procurement model in two projects over time and at several organizational levels. The two projects, ECI 1 and ECI 2, were selected as they represent the first two projects implementing the new ECI model within the STA and therefore served as reference projects in relation to subsequent projects. In the paper, the two projects are compared to some extent, but in essence, they jointly serve to illuminate how developments at the project level were influenced by factors at the program, organizational and industry levels. As the study is based on a single case, it contributes to existing understandings of implementation processes of new procurement models in public client organizations, mainly by analytical generalization (cf. Flyvbjerg, 2006).

The approach being explorative, our understanding of the phenomenon in focus unfolded over time. In

line with the principles of abductive reasoning (Dubois and Gadde 2002), the initial data collection and analysis were informed by our prior research-based understanding of relational contracting in projects (cf. Alvesson and Sandberg 2022), while the choice of an analytical framework based in policy implementation, as well as the structured coding scheme, evolved based on observations in the case at hand. During the study, it became apparent that both projects experienced similar ambiguities and conflicts relating to their implementation of relational contracting, but also that they differed in terms of collaboration ambitions, processes and structures. This spurred us to orient attention towards the factors determining how the contracting model was defined and how practices further unfolded during implementation. Theories on policy implementation, then, helped explain these project-level experiences in relation to the wider organizational and policy contexts, both within the public client organization and its interaction with contractors.

Data collection and analysis

The primary empirical foundation of the study consists of 28 semi-structured interviews with 19 respondents representing different organizational units and project participants within the STA, as well as the supplier firms, primarily contractors but also consultants (see Table 2 for a complete list). Interviewee selection was based on purposive sampling, meaning that interviewees were chosen depending on their role in the

Table 2. List of conducted interviews and respondents.

Organization	Abbreviation	Role	Date of interview(s)
Client	P&LA	Strategist	17/01/2017 ^a 17/04/2020
Client	P&LB	Procurer	17/01/2017 ^a
Client	ECI12A	Program Director	27/02/2017, 30/11/2018
Client	ECI12B	Procurement Manager	02/03/2017
Client	ECI12C	Program level Financial Officer	16/03/2017
Client	ECI1A	Project Manager	18/02/2017
Client	ECI1B	Assistant Project Manager	23/02/2017, 30/11/2018
Client	ECI1C	Assistant Project Manager	27/02/2017
Contractor	ECI1D	Project Manager	28/02/2017, 29/11/2018
Contractor	ECI1E	Project Director	18/02/2017, 29/11/2018
Technical consultant	ECI1F	Senior Design Manager	18/02/2017, 28/11/2018
Management consultant	ECI1G	Collaboration facilitator	24/02/2017
Management consultant	ECI1H	Collaboration facilitator	18/12/2018
Client	ECI2A	Project Manager	24/02/2017, 29/11/2018
Contractor	ECI2B	Project Manager	02/03/2017, 30/11/2018
Contractor	ECI2C	Collaboration facilitator	01/03/2017, 30/11/2018
Contractor	ECI2D	Project Director	01/03/2017, 20/11/2018
Technical consultant	ECI2E	Design Manager	01/03/2017
Management consultant	ECI2F	Collaboration facilitator	23/01/2019
^a Group interview			= 28 interviews with 19 individual respondents

Table 3. Summary of the empirical material building the qualitative case study.

Type of data	Description
Interviews	Transcripts and notes from 28 semi-structured interviews with program and project members (contractor, technical consultants and client) as well as officials at the client's Purchasing and Logistics Department.
Documents	Documents from the projects and general STA documents: organizational procurement strategy, formal procurement routines, and relational contracting framework with ECI. The program's procurement strategy, tendering documents, contracts (consultancy contracts, collaboration contracts and design build-contracts), relevant presentations to external audiences, and certain meeting minutes for collaboration meetings.
Observations	20–30 hours of observation. Field notes from visits to the projects. Observations include a collaboration meeting, a visit to visual design studio, and informal conversations in connection with interviews.

projects and in the organization (Miles and Huberman 1994). The interviews were performed in two sets: the first during Stage 1 of the projects and the second after the contracts for Stage 2 were signed (see Figure 1 for timeline). The first set of interviews were explorative, covering largely three themes: 1) the development of project-specific contracting models and how previous projects and established policies shaped project-specific procurement models; 2) expectations on, and experiences of, project practices; and finally, 3) overarching organizational support and governance structures. Interviews in the second round focused more narrowly on how collaborative processes and routines unfolded over time in specific projects. The flexibility of semi-structured interviews (Kvale and Brinkmann 2009) allowed the interviewees' individual concerns to be expressed and further investigated in subsequent interviews. Interviews lasted between one and two hours and were recorded and transcribed.

An extensive number of project-specific documents, as well as the STA's general procurement policy documents and governmental instructions, were included

in the case study (Trafikverket 2010:199, 2014, 2016:0199, 2016:0233). Informal observations were carried out when visiting the project office during interviews, providing the first author with a general understanding of the case context. In addition, the first author participated in a joint collaboration meeting involving project managers and higher-level managers from both sides and both projects. See Table 3 for summary of all the empirical material.

Combining the different types of empirical material (interview transcripts, documents and observations) had a triangulating effect, as statements could be verified or contested based on the content of certain documents, to be further readdressed in subsequent interviews (Stake 1995).

The analytical process can be divided into four analytical phases:

1. The empirical material from the interviews and documents was read and analyzed continually throughout the study. In a first step, the interview material was inductively coded in NVivo (total of

39 codes) to identify recurring themes articulated by the project members. Examples of such initial codes were the following: *Experiences of collaboration, expectations on the ECI model, building the team, contractor's fee, STA as a client, standardization, routines and processes, and attitudes.*

2. Interviews early on pointed at several issues and conflicts in the two projects. The initial coding and analysis indicated that these could frequently be traced to factors outside the projects studied, originating at higher organizational levels.
3. The policy and governance dimension emerged as a potentially fruitful analytical perspective to explain the issues observed. The authors then further engaged with the literature on policy implementation, resulting in an analytical framework with a focus on policy ambiguity and clashes, managerial attention and resources, and organizational structures and project autonomy.
4. When the analytical framework was developed, the data coded in NVivo were refined applying the three dimensions. The result of this second round of analysis can be viewed in [Table 4](#).

Findings

In this section, the process of defining and implementing the new contract model in the case study projects is outlined, starting with the policy background at the organizational level and followed by how the contract model was designed, developed and implemented at the project level.

Development of the procurement model and the project organizations

As already mentioned, a process started within the STA in 2013 to develop a model for relational contracting. This task was carried out by two procurement officers from the Purchasing and Logistics department and resulted in a framework and guidelines issued in 2016 (Trafikverket, 2016:0233) (see [Figure 1](#) for timeline). However, the choice of procurement model in the two projects studied was primarily related to perceived needs at the local program level and articulated in a program procurement strategy, developed by the program procurement manager (Trafikverket 2014). In order to market the program and attract more tenders, the STA program director and procurement manager consulted widely with both Swedish and European contractors. Several contractors suggested a collaborative approach, often based on their

experiences in large projects such as Crossrail in the UK and the European Spallation Source ESS in Sweden. The STA program director also wished to avoid the project becoming as conflict-ridden as his previous project: *I strongly felt that I had to try something new. And that aligned with the ambitions of the STA, they also wanted to try something new, so I didn't experience any difficulties in gaining acceptance* (ECI12A).

Thus, the choice of the ECI model for the two projects was not initiated at central organizational levels within STA, but the development was indirectly supported by the fact that the collaborative models were already being discussed at higher management levels. The procurement model used in the two projects was developed at the program level by the program manager and the program procurement manager together with the two project management teams. According to the program procurement manager (ECI12B), the two projects were selected for testing the ECI model primarily because they would benefit more (than other projects in the program) from time savings, which was seen as a main potential benefit of involving contractors early.

In line with most applications of ECI, the projects were divided into two stages: Stage 1 for design development and target cost, and Stage 2 for detailed design and construction. In Stage 1, the contractor was engaged with a consultancy contract and reimbursed based on incurred costs. Provided that the client found the design and target cost acceptable, the contractor would be re-engaged with a design-build contract to accomplish the detailed design and construction Stage 2. The reward system for Stage 2 was a target cost contract with a gainshare/painshare scheme. The bidding contractors were evaluated on qualitative criteria as well as on their fee, which could be within the range of 7-12% of variable costs. The specifics of the procurement model used in the two projects are presented in [Table 2](#).

A few collaborative processes and organizational aspects were also specified in the tendering documents. For example, the client and contractor teams should be co-located in both stages. However, the program management wished to use the collaboration plan proposed by the contractor as a tender selection criterion. According to the project manager for ECI 1, they also wished to involve the contractors in planning the collaboration and did not want to be too prescriptive about aspects they felt uncertain about: *You could see early on that this was something completely new and that we couldn't know what it would*

Table 4.

Implementation dimension	Key observations	Illustrative quotes
Policy ambiguity and policy clashes	<p>Competing policies collaboration 'pure client'</p> <p>Conservation of policy conflicts in formulation of the model</p> <p>Unclear roles of the parties in creating collaborative structures and involvement in collaboration.</p> <p>Processes for setting target cost and financial transparency not defined.</p> <p>Detail of design output and design responsibility in Stage 1 were not defined.</p>	<p><i>Our contracting partners had huge expectations on us as a client to put up an organization that would be in principle the same size as their organization. [...] I'm a little surprised by that, it seems odd that we - when we are creating new procurement strategies and at the same time tries to be a 'pure client' - would get more numerous? (EC12A)</i></p> <p><i>It is very important to build the team, and we never had the opportunity to do that. We were a team within our organization, but we wanted to be a team with the STA (EC12D).</i></p> <p><i>You saw early on that this was something completely new and that we couldn't know what it would mean in the actual contracts [...] So we ended up with a tender document that was relatively open, in order to give us the possibility to get it right in the next stage (EC12A)</i></p> <p><i>If you return to the process of establishing target price, you could say that we were in a situation where we disagreed [...] then we decided to look it over once again and we came up with a solution. But we did not have a joint process to agree on a target price, so in that regard we didn't succeed. (EC11A)</i></p> <p><i>There has been no 'manual', what exactly are we going to deliver in terms of documents [...] that is still not defined fully and that is of course frustrating. (EC11B)</i></p> <p><i>Financially it is exactly the same requirements as any other contract [in the program], in terms of schedule, developer responsibility, risk management as well. We are clients, then you have to make certain demands. (EC12C)</i></p> <p><i>I strongly felt that I had to try something new. And that aligned with the ambitions of the STA, they also wanted to try something new, so I didn't experience any difficulties in gaining acceptance (EC12A)</i></p> <p><i>Is a classic mistake to value technical skill in a project manager over collaborative competence (EC11C)</i></p> <p><i>I think you need to prepare the different levels of the organization, not only the project managers, but the others as well so that everybody knows why you should work in this way (EC12B)</i></p> <p><i>After all, there has not been much help [to the projects] from the other parts of the Transport Administration, but we were also first out. Sometimes it gets a little difficult. (EC11A)</i></p> <p><i>My experience is that relational contracting requires more of the client organization [in terms of resources]. The STA doesn't seem to understand that (EC12D)</i></p> <p><i>We [the client] are a twentieth of their [the contractors' organization] and that is not really good. (EC11B)</i></p>
Managerial attention and resources	<p>Mainly high motivation at the program and project management level, but no experienced collaboration champions in key positions.</p> <p>No additional resources at the program level to prepare organizations by training, etc.</p> <p>Small resources for central support from the STA to engage in collaboration. Dependent on program resources.</p>	<p><i>The thing is that we at the STA are really lacking a routine to follow-up and here at The Purchasing department most often just let go of the project when the procurement is finished (EC1P&LA)</i></p> <p><i>We have strong project managers and I can get tired of them all having different opinions. Then it can be nice to say 'let's do it like this'. So, they want to do it their way, but we try to keep it aligned (EC12B)</i></p> <p><i>There was not much there (...) so we had to start with looking at the processes and roles (EC11H)</i></p> <p><i>When we try to coordinate between EC1 1 and 2 the project managers think we are interfering (EC12A)</i></p>
Organizational structures	<p>Central STA units did not guide or follow up the implementation</p> <p>Many details were left to the project and sub-projects to handle.</p>	

mean in the actual contracts [...] So we ended up with a tender document that was relatively open, in order to give us the possibility to get it right in the next stage (ECI1A). Thus, the program director and his group chose to not develop the collaboration model in detail before procuring contractors. There was no preparatory training for the STA project personnel on relational contracting or any extensive discussion on how the ECI model would affect roles and processes.

The program as a whole was designed as a matrix organization with central resources for economy, staffing, technical specialists and purchasing, which were all seconded part-time to the individual projects. The program director had an explicit goal that the program would operate as 'one project' and initiated several internal workshops to align client practices between all six projects. However, the matrix organization also implied that the size of the client organization in the two ECI contracts did not differ from other projects of a similar size in the program.

Starting up collaboration and issues of motivation

In the studied projects, most individuals were generally positive about the ECI initiative. When interviewed in Stage 1, the higher-level managers of the two engaged contractors were enthusiastic that the STA had decided to use the ECI model. They perceived this as a potential game changer that would shape the future of the industry and give Swedish contractors opportunities to compete on their collaborative skills and become more attractive as employers. Thus, they stressed that it was essential for these pilot projects to succeed since the STA might otherwise abandon this procurement model. For example, the contractor's project director in ECI 1 (ECI1E) stated that: *We've said that we can't afford to fail. This is the first big ECI project for both us and the STA. Neither [the STA's program director] or I can afford to fail.* Despite these high ambitions, the new ECI model presented all participants with unforeseen challenges. Some of these were common to both projects while others differed.

In ECI 1, the winning contractor company did not have extensive experience in ECI-type collaborative contracting and had not prepared detailed structures and processes in the tender. However, the contractor's project director and the project manager were experienced and highly regarded for their collaborative competencies by their own organization. The STA's project manager for ECI 1 (ECI1A) was young and less experienced but had a positive attitude to collaboration: *It is fun to work together like this, and I grow as a*

professional as I gain insight into their processes (ECI1A). In this project, new routines and practices were developed collaboratively by the client, contractor, and design consultant, and they jointly appointed an external partnering facilitator to hold a start-up meeting and formulate mutual objectives. Design collaboration was successful: the contractor suggested a new design that implied that one bridge less was needed, which resulted in significant cost savings, lower environmental impact and a smoother construction process. In ECI 1, co-location was highly appreciated.

The contractor of ECI 2, by contrast, had a high profile in collaborative contracting at the company level, although its experience was primarily related to the building sector and not to infrastructure construction. The company had a standard collaboration model and an experienced internal facilitator was involved in developing the tender, which included an ambitious collaboration plan. This contractor got very high marks on the qualitative criteria in the tender evaluation process. However, their initial key project management staff were selected based on their technical skills, and several of them were not highly committed to collaboration. As the internal collaboration facilitator stated: *I was not sure that it was going to work... (...) it's a classic mistake to value technical skills of a project manager over collaborative competence* (ECI2C). The client project manager for ECI 2 did not drive the collaborative agenda either, and several client sub-project managers were explicitly negative. Further, in ECI 2 the time available for start workshops and relationship-building activities was shorter than planned, due to an appeal by one of the unsuccessful bidders. Altogether, the collaboration in ECI 2 did not unfold as outlined in the tender, and the relationships were mainly arm's-length. Co-location was organized, but the client and contractor teams did not mix during Stage 1. After a few months, the contractor's project manager and two client representatives were transferred to other projects and replaced by more collaboration-oriented staff.

Emerging discussions of resources

The client organization in each project consisted of only a few officials dedicated full-time. Both contractors had expected a joint project management organization, but this did not work when the client representatives at the project level were so few. Especially in ECI 1, where there was a more active collaboration with integrated design teams, the lack of

client resources was perceived to be a major obstacle to efficient decision-making: *The client project manager emails me with questions on topics relating to 16 different roles in my organization. You cannot have a deeper understanding if you are involved in that many areas* (ECI1D). The client's assistant project manager also perceived the scarce resources as problematic: *We've said that we need more resources [...] we are a twentieth of [the contractor's] organization and that is not really good* (ECI1C). The matrix organization was one reason why the project-level client organization was small. However, the program director also referred to the 'pure client' policy in explaining the lack of resources: *Our contracting partners had huge expectations of us as a client to build an organization that would be more or less the same size as their organization. [...] I am a little surprised, it seems odd that we, when we are creating new procurement strategies and at the same time are trying to be a 'pure client', would become more numerous* (ECI12A). Instead, he emphasized that the STA expected the contractors to take on a leading role in Stage 1 and use their freedom to provide the projects with better solutions. This was especially the case in the field of relational contracting, where he perceived the contractors to be significantly more experienced. The STA avoided taking a leading role in defining practices: *We gave them a white paper and said – go ahead!* (ECI2A). Several client representatives, including the project manager for ECI 2, agreed with the view that the client should not be extensively involved in decision-making. Still other STA representatives, however, believed that the client should be active in facilitating for other parties to perform their work, and therefore felt restricted by the 'pure client' policy: *For me, 'pure client' and relational contracting are two opposites, but there are others in the organization who think otherwise. I believe that we, the STA, should grease the wheels in the project and make sure that it runs smoothly* (ECI1C).

Thus, the parties had very different expectations and preferences when it came to what the Early Contractor Involvement model meant in practice, and views also varied between individuals within the organizations. The program director's ambition to align practices between projects did not extend to collaborative practices and attitudes, and the two STA project managers had very different approaches. Also, the collaborative models and ambitions were influenced by each contractor's resources and input. As a consequence, it was not easy for the actors in the client and contractor organizations to interpret what

behavior was expected from themselves, or to predict what behavior they could expect from others.

Furthermore, there were small central resources within the STA to support the development and implementation of the ECI model, and the guidelines were quite open to interpretation and adaption by projects. The interaction between the two ECI projects and the central department for Purchasing and Logistics was limited; the responsible public officer followed the projects informally but had no role in providing training, developing project practices or resolving the conflicts. Thus, there were no substantial resources assigned to support systematic learning or continuous improvement, neither at the project level nor in the Purchasing and Logistics department.

In effect, the limited role of central organizational units in supporting and monitoring collaborative contracting was also apparent in the contractor organizations, despite the fact that the new model was seen as an industry game changer and promoted in high-level industry discussions. The contractor company in ECI 1 had no central unit for this purpose, and higher management levels in the contractor firm in ECI 2 did not interfere to ensure that their own collaboration plan was followed and that their key project personnel supported collaboration.

Emerging discussions of contracts and risks

In parallel with the discussions on resources and collaborative practices, there were discussions and distrust pertaining to contractual issues. A major conflict related to the economic incentives and risks was defined by the contractors' fee, target cost and sharing ratio. Both contractors had tendered the minimum fee of 7%, despite claiming that it was too low to cover their overhead costs. To make a profit from the projects, they, therefore, needed to benefit from the gainshare/painshare scheme in Stage 2. In both projects, the target cost estimations were performed by the contractors and not jointly by the parties. This was partly due to a lack of client resources, especially in ECI 1, but also the STA's reluctance to depart from the hands-off 'pure client' role and blur responsibilities. Moreover, the client was not open about its budget, and when the contractors presented the first target cost estimations, these turned out to exceed the clients' budget significantly. Some client representatives then suspected the contractors of inflating their target cost to benefit from the gain share scheme and questioned if they had been transparent about actual costs. The contractors themselves perceived the

contract model as problematic: *In these projects, the financial incentives can in themselves create the wrong driving forces for collaboration. Focus is transferred from collaboration and the project goals towards guarding the target cost (ECI2B).* In the end, the process of agreeing on target costs resembled a traditional price negotiation, and the client's program director managed the negotiations for both ECI 1 and ECI 2. The contracts for Stage 2 were eventually signed with a delay of almost a year.

Another conflict area related to the contractual responsibilities for the technical design developed during Stage 1. The contractors were engaged based on a consultancy contract in Stage 1 and on a design-build contract in Stage 2, which caused significant uncertainty and confusion: *Everything produced in Stage 1 is the responsibility of the STA, as it is produced under a consultancy contract. Then, when we move to Stage 2, the contractor takes over the responsibility, for the design and work they did themselves... well there are a lot of issues to consider there...* (ECI1B). The STA, however, insisted the contractors had full responsibility for the decisions in Stage 1 as they were to be engaged by a design-build contract in Stage 2: *A contract is a contract and we have a client and a contractor. Financially, it is exactly the same requirements as in any other contract in terms of schedule, developer responsibility and risk management (ECI12C).* There was also uncertainty and conflicts regarding the type of design documents that were to be delivered at the end of Stage 1. For example, since the same contractor would build the final product in a later stage, it would be more efficient to keep the level of detail to a minimum; nevertheless, the documentation needed to fulfill formal demands from the maintenance department. Project managers on both sides perceived this lack of definition as a major cause of the prolonged negotiations about the target cost.

Discussion

In this section, we discuss the findings in relation to our analytical framework based on the policy implementation literature. The questions addressed are the following: Which policy ambiguities and policy clashes may be identified, and what are their causes and further effects in the implementation process at the project level? What is the role of managerial attention and resources? And how do organizational structures and project autonomy influence the implementation process?

Policy ambiguity and clashes

To succeed in policy implementation, policy literature generally emphasizes policy clarity (Matland 1995, Fernandez and Rainey 2006) and top management support (March and Olsen 1989, Peck and Six 2006). In the two projects studied, the ECI model initially seemed sufficiently unambiguous. It had been used in many large projects before by other clients and there was top management support, both within STA and on the contractor side. However, as the projects started up and the project participants began to develop the collaborative processes, a range of obstacles and conflict areas successively unfolded. As a result, it became increasingly unclear what type of relationship the client was aiming for.

In the early planning phases, collaboration appeared to be high on the client's agenda. The STA program management's market communication, the tendering documents and procurement criteria, as well as the fact that the ECI model was called 'high collaboration', were salient factors that all emphasized collaboration. Additionally, ECI is generally seen as a type of relational contracting and similar two-stage models have long since been used in the Swedish building sector under the label of 'partnering'. Thus, it is not surprising that many project members expected an ambitiously collaborative process with active client involvement.

However, as the contracts for the first stage were signed, key decision makers in the client organization, including the program director and the project manager of ECI 2, began to communicate a partly different view. They advocated a perspective where early involvement of the contractor was seen primarily as a way of transferring influence and responsibilities to the private sector (cf. Wondimu *et al.* 2018 and Leendertse and Arts 2020). This interpretation was more in line with the still influential 'pure client' policy, which reflected a general trend in the public sector towards marketization (Sanderson *et al.* 2018, Öjehag-Pettersson and Granberg 2019). Hence, a fundamental uncertainty emerged as to the nature and goals of the ECI model: was the intention to promote collaborative, integrated decision processes, or involve contractors early to give them more influence but also increase their responsibility? The client's lack of preparatory planning and training, for example, could be seen as both reflecting a wish to be open to input from contractors and as a detached strategy avoiding client involvement and shared responsibilities.

As stated by Baier *et al.* (1986), high organizational awareness of policy conflicts may facilitate the

translation of policy to action. In this case, however, the contradictions were not explicitly articulated and acknowledged. Thereby, the STA program management could avoid taking sides between the two policies, a strategy that also allowed for different interpretations at the project level. However, these conflicting messages caused considerable confusion and frustration among operational project staff.

Thus, the analysis illustrates how policy conflicts, pertaining to relational contracting, play out at various organizational levels in a client organization, including inter-organizational projects. Further, the findings emphasize that policy conflicts originating at higher organizational and societal levels may significantly influence relationships and collaborative practices in projects. Yet, as will be discussed in the following section, such policy clashes may still be hard to recognized and detected at the project level.

Managerial attention and resources

Adequate resources (Matland 1995, Fernandez and Rainey 2006) and managerial attention (March and Olsen 1989, May and Winter 2009) are other factors that are considered important to facilitate the implementation of a policy. Top management support has also been acknowledged as an important enabler of project-level collaboration (Deep *et al.* 2021).

Relational contracting, in itself, relies on teamwork and joint decision-making. However, the client resources dedicated to the studied projects were scarce, which directly affected the depth of collaboration (Eriksson 2010) that could be achieved. Thus, while the client's discourse highlighted collaboration, the lack of resources clearly indicated to project participants that the detached 'pure client' policy had priority over interpretations that emphasized interaction and client involvement.

Moreover, the two projects studied were initially pictured as 'vanguard' projects, where new practices could be developed and tested as a basis for further refinement and wider dissemination, much as described by Brady and Davies (2004). Previous research has suggested that implementation of relational contracting requires support from higher levels in the client organizations, where central units issue guidelines, provide training and follow up projects (Migliaccio *et al.* 2008, Lines *et al.*, 2015, Hartmann *et al.* 2010, Zheng *et al.* 2008). However, such resources were limited as well, and there were few attempts to systematically clarify issues that arose during the implementation process and use the outcomes to

inform future projects (cf. Plantinga *et al.* 2020). Hence, aspects such as the role of the client, division of design responsibility and level of detail of design documents were not scrutinized and resolved in a transparent and conclusive way.

The 'pure client' policy, originating in government instructions, had strong support from the STA top management, and had been combined with extensive top-down communication and central support resources. The ECI (or 'high collaboration') model, by contrast, was more of a bottom-up initiative, responding to needs arising at the operational level. Here, the most important driver came from the contractors, who requested collaborative strategies as a preferred way to handle complex projects. It was important for the STA to listen to such signals from the market, and the 'high collaboration' model was formally supported by the STA top management. However, the lack of implementation plan and resources pertaining to the relational contracting policy indicated that such direct input from market actors had less influence on client priorities than the 'pure client' policy, grounded in more abstract political ideas of marketization.

In summary, our analysis confirms the importance of adequate resources and managerial attention when implementing a new contracting policy. Still, in a public organization serving multiple goals, explicit top management support may be granted to several competing policies. When policies clash, resource allocation is a tangible and reliable cue to true organizational priorities.

Organizational structures and their impact on the implementation process

However, it was not only policy ambiguities and resources assigned that shaped the implementation process, but also how these factors interacted with organizational structures (cf. Döhler 2020) and institutions in the construction sector (cf. Andreas *et al.*, 2022). Typically, project level autonomy is high in project-based organizations (Hartmann and Bresnen 2011, van Marrewijk 2018). This decentralization can be compared to the freedom enjoyed by the traditional frontline bureaucrats described in the policy implementation literature (May and Winter 2009, Lipsky 2010). In the studied case, the project managers and other project-level staff were granted considerable authority in designing collaborative processes. Although they had limited influence over resource allocation – not unlike frontline bureaucrats in many other sectors – this autonomy still opened for bespoke

relational practices, influenced by individual interpretations, preferences and attitudes. As a result, conflicts between the 'pure client' policy and the relational contracting policy were resolved in different ways in the two projects, much depending on the project managers' respective attitudes. Thus, an important observation in this study is that variations in approaches to relational contracting may arise in response to policy conflicts that are conserved to be handled at the project level (cf. Matland 1995, Jensen *et al.* 2017).

Being perceived as reliable and predictable is, however, vital for public clients, especially in their relationships to suppliers (Kuitert *et al.* 2019). For contractors, variations in client behavior cause commercial risks, as they can never know what version of the policy is going to be enacted at the project level, or if the local interpretation is going to change if the project manager is replaced. Central client functions, then, may have an important role in aligning practices between projects. In the case studied, however, resources in the client's purchasing department were scarce, and the responsible purchasing officer was not expected or allowed to interfere in discussions that could potentially affect relationships and contract negotiations at the project level. Although some project participants requested more support, increased involvement from central units was also seen to challenge the autonomy of the project and program managers.

This suggests that industry level learning activities and guidelines, such as those observed by Matinheikki *et al.* (2019) and Aaltonen and Turkulainen (2022) are important in aligning and institutionalizing relational contracting practices. Provided that such initiatives are successful, the joint sensemaking results in increased consensus, which will positively affect learning, also between projects, and between different levels within organizations. Moreover, the legitimacy of industry level initiatives could protect sound collaborative practices from the undue influence of policies originating in other discourses, such as marketization.

Conclusions

Previous research has shown that the practices and outcomes of relational contracting models vary widely and has also identified a lack of systematic learning in this field (Hartmann and Bresnen 2011, Hall and Scott 2019, Gerber and Misko 2019, Plantinga *et al.* 2020). Most research has, however, focused on the project level, and recently there have been calls for studies with a broader perspective - addressing how factors

on the organizational and industry levels affect the design and outcomes of relational contracting models at the project level (Lahdenperä 2012, Engebø *et al.* 2020, Børve *et al.* 2017). For public clients, which must conform to a variety of, sometimes conflicting, political goals, the policy context is especially influential. In this paper, we apply theories of policy implementation to analyze the application of a new relational contracting policy in two infrastructure projects. We contribute to the growing body of research applying multilevel, contextualized perspectives on projects in the following ways.

First, we add to the literature on public clients as complex entities governed by multiple goals (Bresnen and Marshall 2010, Hartmann *et al.* 2014, Kuitert *et al.* 2019, Leendertse and Arts 2020). In our case study, competing policies grounded in general political preferences for marketization profoundly interfered with the operationalization and implementation of relational contracting policies. Thus, we provide an empirical example of how a public client acts at to reconcile political policies of marketization with external demands for relational contracting.

Second, by applying theories from the field of policy implementation, we introduce a new theoretical lens for understanding the phenomenon of relational contracting. We develop a framework with three dimensions relating to policy ambiguity, resources and implementation context. The case findings showed that policy ambiguity, and organizational influences more generally, are not necessarily obvious and easy to identify when they play out as confusion and frustration at the project level. Implicit and conserved policy clashes present additional difficulties to both implementors and scholars, since substantial contextual knowledge can be required to identify the causes of problems as well as effective strategies for solving them. The policy implementation literature, then, provides a useful tool to detect important organizational and policy level explanations and avoid attributing conflicts and implementation problems exclusively to project-level factors such as individual attitudes and competences. In particular, our analysis highlights the role of resources as indicators of policy clashes and organizational priorities.

Third, we add to the literature concerned with the wider institutionalization of relational contracting practices (cf. Hartmann *et al.* 2010 and Davies *et al.* 2019, Hall and Scott 2019, Plantinga *et al.* 2020, Leendertse and Arts 2020, Aaltonen and Turkulainen 2022) by showing how a combination of policy ambiguity and project-based organizing contribute to the frequently

observed variations in relational contracting practices and outcomes. Our findings clearly illustrate how conceptual ambiguities and a lack of shared definitions and practices hamper the introduction of new procurement and delivery models. Projects need knowledge, support and resources to operationalize and implement new contracting policies, but interventions by organizational-level functions may be perceived to challenge project autonomy. In this context, guidelines, standards and activities originating at the industry level play important roles in both reducing variation in practices between projects and supporting collaboration between organizational levels within organizations. Thus, our results confirm that transitioning to new contracting models in the infrastructure sector is essentially a process of institutional change.

This research also contributes to practice by its implications for industry-level agreements to implement new contracting practices. Here, market actors must ensure not only that there is a formal policy and top management support in place, but also that the new policy does not clash with other policies and comes with adequate resources and other organizational measures required to assure implementation.

This study is limited to the Swedish context and has focused primarily on implementation issues related to one client organization and two pilot projects. Future research would do well to study similar aspects in other contexts and countries, and focus on understanding co-development processes, including contractor strategies and industry-level initiatives and institutions, as well as the learning processes in the client organizations over time.

Disclosure statements

The authors report there are no competing interests to declare.

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