

THESIS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

Selecting Architectural and Engineering Consultants

Municipal Practices in Sweden

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To Robert, Ebba, Carl and Amelie

ABSTRACT

New political ambitions, not least in the area of sustainability, have gradually generated a need for new and developed procurement practices. Internationally as well as in Sweden, traditional price-focused procurement strategies are often used in construction-related procurement although new political goals call for more flexible approaches. Swedish studies have shown that this applies also to architectural and engineering services and especially in procurement for small contracts on a local government level. The purpose of this thesis is, therefore, to investigate municipal procurement practices in Sweden for these services. The research involved three specific objectives: To investigate patterns in how architectural and engineering consultants are selected in Swedish municipalities, especially which criteria and information sources that are used; to identify important influences on municipal practices for selecting consultants; and to suggest areas of development for practice. The thesis is based on three empirical studies. In the first study, interviews were conducted with representatives of five large public clients and with senior consultants and managers from four architectural and engineering consultancies in the private sector. In the second study, empirical data were collected through an explorative questionnaire survey distributed to 50 per cent of all Swedish municipalities, with a response rate of 72 per cent. The third study was a multiple case study, based on interviews with staff responsible for procurement of architectural and engineering services in five Swedish municipalities. Findings show that municipalities frequently use multiple criteria to award contracts for architectural and engineering services, but also that there is a high focus on price, or on non-price criteria that are easy to assess in tender evaluations. Further, 'personal' information sources are frequently used, while more advanced information sources, such as interviews and tender presentations, are generally avoided. Findings indicate that various circumstances in the decision-making context of the officials, including working conditions and tensions between procurement staff and technical staff, have an important impact on procurement practices. These contextual factors, primarily related to a scarcity of resources, ambiguous work guidelines, and differences in knowledge and professional culture of the two groups of staff, all contribute to creating a simplified procurement practice that poorly rewards supplier competencies that are important for the fulfilment of political ambitions for the built environment. It is argued that there is a need for selection procedures that are more adapted to the complexity of construction design services and also to policy goals for procurement in the built environment. This implies more specifically a need to incorporate a wider range of non-price criteria, with less focus on price, and to apply more advanced information sources in the award of contracts. Needs of improvements specifically directed at policy makers and managers include clearer procurement guidelines, the allocation of more resources to technical and procurement functions, and interventions to overcome barriers in collaboration between technical staff and procurement staff. This, in turn, implies more involvement and support from top management, and that procurement is seen as a strategic function.

Key words: construction; public procurement; local government; architectural and engineering services; professional services; Sweden

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Three of the appended papers of this thesis have been co-authored. Paper I is co-authored with Jan Bröchner and Anna Kadefors. They both contributed to the theoretical framework, the analysis, and writing of this paper. Paper II was co-authored with Jan Bröchner, and Paper V was co-authored with Anna Kadefors. Apart from the data collection, both these papers are more or less a joint production to which the authors contributed equally. I thank Jan and Anna for a great collaboration during the process of writing these papers.

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Josefin Sporrang
Bromma, April 2014

APPENDED PAPERS

This thesis is based on the work in the following papers, referred to by Roman numerals in the text:

- I Sporrong, J., Bröchner, J. and Kadefors, A. (2009) Public procurement of architectural and engineering services: fee and quality. *Proceedings of the 26th International Conference on IT in Construction and 1st International Conference on Managing Construction for Tomorrow*, Istanbul, 1-3 October, 2009, pp. 683-688. Taylor & Francis, London.

- II Sporrong, J. and Bröchner, J. (2009) Public procurement incentives for sustainable design services: Swedish experiences. *Architectural Engineering and Design Management* 5(1): 24-35.

- III Sporrong, J. (2011) Criteria in consultant selection: public procurement of architectural and engineering services. *Australasian Journal of Construction Economics and Building* 11(4): 59-76.

- IV Sporrong, J. (2014) 'Procurement bureaucrats' in Swedish local government: influence of coping strategies on municipal policy-making. Submitted journal manuscript.

- V Sporrong, J. and Kadefors, A. (2014) Municipal consultancy procurement: new roles and practices. Forthcoming in *Building Research and Information*.

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1. INTRODUCTION

The deregulation of public service sectors and a general trend of increased outsourcing in both the private and the public sector have made purchasing of services an increasingly important issue. In Sweden, annual construction-related public procurement amounts to around 90 billion SEK. Building and maintenance costs, and the efficiency of public service provision in areas such as healthcare, nurseries and schools are all highly dependent on the input provided by architectural and engineering consultants. The competence of these professionals is essential for providing the public with built facilities of high functional, aesthetic and technical quality.

A combination of high political ambitions related to the needs of contemporary society, not least in the area of sustainability, and stricter procurement rules implies that public procurement in general has become more complex and resource demanding. In parallel with this development, there is a growing concern that built environment professionals do not sufficiently contribute in meeting new political demands. Clients are here key actors, since their procurement practice strongly influences both individual construction projects, and the level and direction of competence development in all kinds of supplier firms. In Sweden, public clients have been criticized for their traditional price-focused procurement strategies (Sporrong et al., 2009). This phenomenon has been identified especially for small contracts and in procurement on a local government level (Lindqvist, 2001). Since the municipalities, taken together, stand for a large proportion of the total demand for services related to construction, their procurement practices can be expected to have an important effect on the Swedish built environment. The overall purpose of this thesis, therefore, is to investigate the practices used in Swedish municipalities for the procurement of architectural and engineering services.

1.1 Municipal procurement of services and legal context

Following the general trend of contracting out public services (Pollitt and Bouckaert, 2011), Swedish municipalities have increasingly become responsible for procuring contracts for various services such as catering, healthcare and education. The decision to contract out services and the procedures for doing so, lie with each municipality. For a long period of time only central government procurement was strictly regulated in Sweden. Hence, in local government, contracts were often negotiated with a preferred supplier and, not unusually, prolonged for decades, resulting in stable and long enduring relationships (SOU, 1991:26). As Sweden entered the European Union, the EC directives, in particular 92/50/EEC, for public procurement were implemented in a new Swedish law, the Public Procurement Act (2007:1091), which came into rule in 1994. This meant that procedures for procurement became more strictly regulated in all parts of the public sector.

The Swedish Public Procurement Act contains rules for procurement both above and below the European Community thresholds and, hence, the Act regulates also smaller contracts. The basic principles of the European directive of Public Procurement (2004/18/EC) are non-discrimination, equal treatment of tenderers, transparency and proportionality, and the main purpose is to ensure fair competition and free mobility of goods and services between the member states. Neither the directive nor the Act comprise any detailed rules of the tender evaluation procedures, including choice of selection and award criteria, the relative weighting given to each criterion and the design of the evaluation model. For the award of contracts, the Act stipulates that public authorities shall accept either the tender that is the most economically advantageous, or the tender that has the lowest price. Thus, officials responsible

for procurement can choose to award a contract either based on tender price only, or based on multiple criteria. Although the current version of the Act indicates more clearly than earlier versions when and how for example environmental considerations may be adopted, it is generally not very detailed in its instructions for evaluation procedures. However, a recent revision of the European procurement directive has been decided by the European Parliament in January 2014, which will have effects on a new version of the Act. The Act also contains rules for award procedures (including the alternatives open, restricted and negotiated procedure), and rules for the application of framework agreements.

1.2 Challenges related to political goals and the legal framework

In the built environment, several trends such as an increased focus on sustainability and innovation and a general urge to economise in public spending, have gradually generated a need for new and developed procurement practices. However, there are often conflicts between various goals, and there is therefore an increasing demand on procurement staff and processes to handle multiple goals. Further, in both the European directive and the Swedish Public Procurement Act, new procurement options and stricter rules have been introduced in the 2000s and opportunities for unsuccessful tenderers to initiate legal proceedings have increased. Internationally as well as in Sweden, there is a growing concern that the public procurement regulation and associated systems for control and legal enforcement have resulted in an overly formalistic and cost-focused practice that obscures procuring entities' primary goals of providing value-for-money goods and services to taxpayers. Obviously, the clash is stronger when it comes to ambitious political goals to use public procurement as a tool to transform society in a more sustainable and innovative direction. A Swedish procurement review (SOU, 2013:12) has identified complex regulations, lack of strategic focus, shortage of resources and contradictory views regarding the possibilities to address other dimensions than price as important causes. The review further points at a general inconclusiveness in ambitions and implementation guidance (in political goals, official procurement support and court verdicts). In addition to this, award practices have also frequently been discussed and criticised in media and in research reports funded by the Swedish Competition Authority (e.g. Lunander and Andersson, 2004; Sundbom, 2007; Lunander, 2009).

While all these issues are relevant for construction-related public procurement, there are also challenges specific for this area. In Sweden, architectural and engineering companies experience that there are important shortcomings in the way that many municipalities handle procurement of their services. Practices have been criticized for causing a larger focus on price than on non-price criteria (Lindqvist, 2001; Sporrang et al., 2009). Especially for small contracts non-price criteria tend to be undervalued, it is claimed. Further, construction-related procurement in Swedish municipalities and other public entities used to be handled mostly by their technical functions, supported by an industry level system of standard contracts and specification documents. Today, central procurement functions responsible for wider areas of services and products progressively become involved also in construction-related procurement, much due to the increasing complexity, stricter control and higher ambitions.

1.3 Rationale of the thesis and previous research

Many major challenges that today's societies face, from climate change to an ageing population, are intimately linked to how efficiently we build and renew the existing stock of built structures. The significance of the activities for which architectural and engineering consultants are engaged is quite evident, such as their effects on user satisfaction with public facilities, the costs involved for maintenance of these facilities and, not least, the devastating

consequences that faulty design or construction of a facility can have (Day and Barksdale, 1994). Practices among state and local authorities for procuring such consultants are of great importance for the supply of knowledge to projects that in the long run determine quality and sustainability of the built environment. Yet, few studies have addressed how providers of architectural and engineering services are selected. Knowledge is scattered and inconclusive regarding which practices are used, as well as their effects and context. While professionals and professional services (Reed, 1996; Løwendahl et al. 2001; Newell et al. 2002), and purchasing of business services (e.g. Axelsson and Wynstra, 2002) have gained increasing interest in the scholarly research in recent years, the question of how organisations - particularly in the public sector – procure construction-related professional services, remains less studied. This is also reflected in the area of construction management, where the focus in most research to date has been on the procurement of contractors rather than on consultants. Research on practices for consultant selection in public procurement is, not least, important given the need to legitimise public procurement decisions and the European Union regulations on tendering.

1.4 Purpose and specific objectives

Considering the challenges described in previous sections, and limited previous research, there is a need to establish an overall picture of practices used by public clients for the selection of architectural and engineering consultants, and also to gain a better understanding of the factors that shape development of practice in this area. Criticism of public procurement practices for these services has been directed especially towards municipalities, in particular their price-focused procurement strategies. Therefore, the empirical focus of this thesis is on local government practices, especially the criteria used for the award of contracts for construction design services.

Given the overall purpose of this thesis to investigate municipal procurement practices in Sweden for architectural and engineering services, three specific objectives are defined:

1. To investigate patterns in how architectural and engineering consultants are selected in Swedish municipalities, especially which criteria and information sources that are used;
2. To identify important influences on municipal practices for selecting consultants;
3. To suggest areas of development for practice.

In order to meet these objectives, three empirical studies were conducted: one pilot study based on interviews with public clients and consultants; one questionnaire survey directed at 50 per cent of the municipalities in Sweden; and one multiple case study including five municipalities. These studies resulted in five papers.

The term ‘practice’, as it is used in this thesis, stems from practice theory. Any organisation has a variety of practices, including executive board practices, managerial decision-making practices, communication practices between managers and employees, practices of design, construction, shop-floor activity, advertising, as well as dispersed practices of asking questions, reporting problems, etc. (Schatzki, 2005). Practice theory focuses on how people act in these everyday activities of organising, in both its routine and improvised forms (Feldman and Orlikowski, 2011). In this theory the agentic capacity of human action is stressed. Hence, decisions and actions reflect not just whatever official structures the organisation’s formal structure (rules) places on the employees, but also their know-hows and

other 'informal' matters that are not part of the formal (rational rule-like) structure of the organisation (Schatzki, 2005).

1.5 Outline of the thesis

This thesis consists of six chapters and five appended papers. In the first chapter the background of this thesis is presented. In Chapter 2 the theoretical framework is outlined. In the following Chapter 3, the research approach and the conducted studies are described. The five appended papers are then summarised in Chapter 4. In Chapter 5, findings are discussed and conclusions are drawn. Finally in Chapter 6, directions for future research are suggested.

2. THEORETICAL FRAMEWORK

This chapter provides an overview of the theoretical framework of this thesis. It includes both literature relevant for a general understanding of the research topic and theories that have been used more specifically to interpret and analyse empirical findings. The chapter is structured as follows: First, main characteristics of services and service firms in general are outlined, based on the services literature. Next, a review of literature relevant to the procurement of professional services is presented. Theories related to the public sector context of the thesis are then reviewed. The chapter ends with a description of selected theories on inter-professional collaboration and knowledge integration.

2.1 Characteristics of services and service firms

Many of the basic characteristics associated with professional services, such as strong dependence on human resources, the vital importance of tacit knowledge and the key role of experience and reputation (Løwendahl, 2000) are exhibited in architectural and engineering services. Before describing architectural and engineering services in greater detail some of the fundamental characteristics of services are defined, and also what is typical for professional service firms in general.

Characteristics of services

In the general services literature, typically four service characteristics are cited (Grönroos, 1990):

- (1) Services are more or less *intangible*;
- (2) Services are *activities* or a *series of activities* rather than things;
- (3) Services are at least to some extent *produced and consumed simultaneously*, which means the service cannot be stored for use at a later date;
- (4) The customer *participates in the production process* at least to some extent.

Another characteristic typical for services lies in the uncertainty of outcomes. This falls back to the well-known transaction-cost argument (Williamson, 1993), that one of the disadvantages of procuring services rather than producing them yourself is the inherent information asymmetry, since service providers almost always know more about the services they are capable of delivering than the buyers. It has been argued that the element of uncertainty is likely to be more prominent for professional services than for other simpler and more standardised services (see e.g. Nam et al., 2009). The transaction-cost argument about information asymmetry can be related to Parsons' (1939) functional interpretation of the essential characteristics of professions, (Friedson, 1994; Gross and Kieser, 2006). In this view, an 'asymmetry of expertise' between experts and their non-expert clients makes clients unable to assess the skill level of the expert and/or the quality of the expert's rendered service.

The concept of professional service firms

Professional service firms have been defined as service providers 'whose primary assets are a highly educated (professional) workforce and whose outputs are intangible services encoded with complex knowledge' (Greenwood et al., 2005, p. 661). However, since the focus in research on professional services is of a fairly recent date, a clear-cut, universally accepted definition of the term, which also makes a clear distinction as to what specific industries should be included, has yet to emerge (Näslund, 2012). The concept has gradually been developed since the 1960s, when especially organisational sociologists began to investigate the nature of organisations that employed significant numbers of professionals, labelled

professional organisations or professional bureaucracies (Smigel, 1964; Miller, 1967; Montagna, 1968; Friedson, 1970). In the early 1990s a body of literature on professional services firms (PSFs) started to emerge (Greenwood et al., 1990; Hinings et al., 1991; Maister, 1993; Winch and Schneider, 1993; Cooper et al., 1996). This focus on PSFs was linked to the emergence of research on knowledge-intensive firms, of which PSFs were often considered primary examples (Starbuck, 1992; Winch and Schneider, 1993; Alvesson, 1995), and also to the rapid growth of the management consulting industry, especially within the large accounting firms (Von Nordenflycht, 2010).

A recent contribution to the literature on PSFs is Von Nordenflycht's (2010) development of a taxonomy of PSFs, which suggests that professional service firms are characterised by high knowledge intensity, low capital intensity and a professional work force. Knowledge intensity, in this context, denotes that the firm's production relies on complex knowledge embodied in individuals, rather than in for example routines, and that this knowledge enables them to solve complex and idiosyncratic client problems (Von Nordenflycht, 2010). A recent body of research within the services literature focuses particularly on knowledge-intensive business services (KIBS). A large part of the employees in KIBS firms are white-collar, skilled employees (Tomlinson and Miles, 1999). The concept of knowledge workers is sometimes used to describe this group. A report by Miles et al. (1995) conceptualises KIBS and has served as a point of departure for most research and discussion on KIBS. Miles et al. (1995) make a distinction between two types of KIBS firms: traditional professional service providers and new technology-based KIBS. Compared to traditional professional service firms, new technology-based KIBS are defined as more science and technology intensive services, and more concentrated on artefacts and the physical world (Miles, 2007). Miles also stresses that these services have important roles to play in innovation processes, for example engineering services concerned with aircraft, construction, oil, and transport infrastructure. Laboratory testing and research services, and IT services of various kinds also belong to this group of services. Services that combine these different classes of knowledge are also mentioned, such as architectural and design services which combine aesthetic creativity with knowledge of technological possibilities, often using new technologies in their activities (Miles, 2007).

Characteristics of architectural and engineering services

As with professional services in general, services provided by architectural and engineering consultancies are largely based on knowledge embodied in the human capital of these firms. The outcome of construction projects that are contracted by private and public organisations is hence contingent to a large extent on the quality and capabilities of the human resources assigned to perform technical and design-related activities for these clients.

The core competencies of consulting engineering firms represent a wide range of separate professional domains, such as multidisciplinary engineering, project management, construction management, structural engineering, and electrical, mechanical, environment and energy engineering (STD, 2004). Project teams in engineering consulting are typically multidisciplinary and the production of the demanded services usually requires a sophisticated orchestration and integration of these different competencies (Koch and Bendixen, 2005). The knowledge and competencies of engineers are developing globally and they are expected not only to possess state-of-the-art expertise on classical specialist areas, but also to deliver systemic solutions merging a range of aspects, including innovations (Winch, 1998; Gann and Salter, 1999; Gann, 2000; Hobday, 2000; Sverlinger, 2000).

Architectural practices are, more than many other professionalised knowledge-based organisations, creative organisations, in essence hired by clients to provide novel solutions to spatial problems. This is also reflected in their training where innovation and problem-solving is emphasised. The creativity of architects is also an important reason why many of them have joined the profession. Quality of conception can be a major differentiator between firms. Consequently, many firms have the ambition to turn creativity into a competitive advantage (Winch and Schneider, 1993). As the classic professions of medicine and law, the architectural profession also includes ethical dimensions and a loyalty to society that goes beyond the contract with the immediate customer. The work of architects often influences aspects of the built environment that are supposed to last for a long period of time and affect the living and working conditions of many people. Hence, in their profession architects have to consider ‘good architecture’ and ‘good planning’, which in turn requires the architect to combine technical, financial, ecological and esthetical demands (Sveriges arkitekter, 2011, 2013).

As with professionals in general, the competencies and expertise of architects and engineers need to be continually developed and updated (Løwendahl, 2000). In architectural and engineering firms the project organisation is a central arena for knowledge development to take place. In team based projects, cross project learning, process or product innovation frequently occur, often based on initiatives from corporate management (Koch and Bendixen, 2005), however in most cases on client demand. Architects and engineers learn from the clients they work for and the projects they engage in and hence the projects determine both what they learn and how much. From this follows that it is absolutely crucial for a professional service firm, such as an architectural or engineering consultancy, to target and win the right kinds of projects and clients (Løwendahl et al., 2001). According to this logic, factors that may limit growth in these types of firms is not only the availability of input resources and number of customers, but also the ‘quality’ of client demand.

The service characteristics’ influence on the development of signals and social structures

The uncertainty and difficulty of evaluating services give rise to a need for mechanisms to signal quality. Such mechanisms include reputation systems, ethical codes and the creation of penalty systems (Von Nordenflycht, 2010). Further, the higher the level of uncertainty the more likely the participants are to depend on social structures, such as previous relations, when quality is difficult to judge beforehand (Podolny, 1994). The relations between actors on a market are therefore often aligned to the social structures that are in place (Baker, 1990). This view of markets as social structures, which are actively created and reproduced by the actors taking part of them, stems from sociology (Zelizer, 1978; Fliegstein, 1996; 2001). By this understanding, markets are social spaces, held together by norms and structures serving to reduce uncertainty and risk. The importance of social structures on markets has implications for choices of criteria in the selection of service providers, which will be further discussed in the next section.

2.2 Procurement of professional services

This section presents previous research on procurement of professional services, which includes research in both the private and public sector. Many fundamental issues are similar in private and public procurement, such as the decision whether to rely on the market or on internal provision of goods and services and the challenge of assessing supplier qualities (Tadelis, 2012). However, there are also important differences, such as the emphasis in public procurement on institutional restrictions laid down in special legislation. These issues are further discussed in this section. The section starts out with an outline of the focus of previous

research. This is followed by a description of the general purchasing process for consulting services. The criteria used in the selection of professional service providers are then discussed more in detail. Finally, previous research on the organisation of procurement functions is presented.

Focus of previous research

Given the high importance in both business and society of various professionals such as accountants, lawyers, management consultants and advertising and market research agencies, there are relatively few studies which focus on the purchase of these services. For example, the organisational purchasing literature has largely examined the purchase of goods as opposed to services, with little consideration of professional services in particular. The purchasing, marketing and professional services literatures do however include some studies of the selection procedures for the acquisition of services provided by professional services firms. Particularly the procurement of management consulting services has attracted the interest of a number of researchers (Dawes et al., 1992; 1993; Corcoran and McLean, 1998; Bäcklund and Werr, 2005; Lindberg and Furusten, 2005; Roodhooft and Van den Abbeele, 2006; Werr and Perner, 2007). Further, the main part of the research on procurement of professional services has so far been conducted on private sector organisations (e.g. Stock and Zinszer, 1987; Day and Barksdale, 1994; West, 1997; Bäcklund and Werr, 2005; Werr and Perner, 2007) with only scant attention paid to the potentially differing dimensions of the public sector (for exceptions see e.g. Dawes et al., 1992; Corcoran and McLean, 1998; Lindberg and Furusten, 2005; Roodhooft and Van den Abbeele, 2006). Within the realms of construction management research, most studies of procurement practices have been concerned with procurement of contractor services (see e.g. Wong et al. 2001; Palaneeswaran et al., 2003; Waara and Bröchner 2006; Kadefors et al. 2007; Holt 1998, 2010) rather than on procurement of construction professional services (e.g. Day and Barksdale, 1992, 2003; Hoxley, 2000, 2001; Christodoulou et al., 2004; Chow and Ng, 2010). Some of the studies within this previous research will be discussed here.

The purchasing process for consulting services

A common way of describing the purchasing process is to divide it into a number of phases (Edvardson, 1990). In the procurement of consulting services, the initial question that should be answered in the first phase is whether the company really needs a consultant. In the next phase the purchaser selects a consultant. The two subsequent phases are implementation and final consumption. It is mainly during the implementation phase that the consultant carries out the assignment and that the buyer consumes the service. Final consumption refers to the buyer's evaluation of the project and continued utilization of the service after the consultant's assignment is complete (Roodhooft and Van den Abbeele, 2006). Illustrating the purchasing process in this sequential way is common when describing industrial purchasing. However, in a service context it is often more appropriate to think of the purchasing process as a network or a circular process, where different phases can be activated at several different points in time (Bryntse, 1996): the service specification can be more or less revised during the contract period; for most services there is a constant need to deal with up-coming issues; there are systems of regular payments; and monitoring has to be done during the whole contract period. Hence, in contrast to the traditional way of describing the purchasing process, the procurement of services can be defined as dynamic, continuous and interactive (Bryntse, 1996). In the following paragraphs, each of the phases of this kind of purchasing process in the context of consulting services is discussed in brief.

Phase 1: Need detection. In this stage, the client must determine what the organisation wants to obtain from the relationship with the consultant; hence, the organisation must have a clear idea of what it expects to achieve from outside help (Edvardsson, 1990). Because of the invisibility of the product, there is also a need for written specifications of the content of the purchase (Bryntse, 1996).

Phase 2: Selection. This phase involves specifying the selection and award criteria, inviting expressions of interest, and selecting a firm based on the chosen criteria. European procurement directives permit selection of service providers based on lowest price or the economically most advantageous tender, but in the latter case the award criteria must be explicitly specified and allow for tenders to be compared and assessed objectively. The choice of criteria used in the selection of professional service providers in both the private and public sector is discussed in greater detail further down in this section.

Phase 3: Implementation. During the implementation phase the consultant carries out the assignment. In contrast to buying products, purchasing consultants is generally viewed as an interactive process where good results nearly always require effective interaction and communication between buyer and consultant (Jackson et al., 1995). Both the buyer and the consultant should contribute at different stages in the process. Successful relationships are often characterised by a high level of trust and interaction, and collaboration between the supplier and the customer is considered as a way to ensure the delivery of a quality service.

Phase 4: Final consumption and evaluation. In order to obtain good results from consulting projects, it is essential that participants make periodic appraisals of what is being accomplished and review the originally established goals (Roodhooft and Van den Abbeele, 2006). For example, regular procedures of approval linked to payment seem to be an essential part of managing and ensuring the service delivery (Bryntse, 1996).

Selection criteria and sources of information

In the public sector, the public procurement regulation makes a clear distinction between selection criteria (used in the pre-qualification stage) and award criteria (used in the award stage). In the general literature on the purchase of professional services this distinction is not, however, as clear. In this literature, it is common that only the term ‘selection criteria’ is used. Further, in this literature the selection criteria are not always distinguished from ‘sources of information’ (e.g. reputation of a firm or evidence of education levels or experience of the firm’s personnel). Not unusually, they are simply defined as ‘criteria’.

Previous research on the selection of professional service providers in the private and the public sector shows that there are some selection criteria and information sources that are more frequently used. These include previous experience of the supplier (Stock and Zinszer, 1987; West, 1997; Corcoran and McLean, 1998), reputation of the company (Stock and Zinszer, 1987; West 1997; Corcoran and McLean, 1998) or individual consultants (Dawes et al., 1992), past experience from exchanges with a consultant or firm (Stock and Zinszer, 1987), recommendations from inside and outside the organisation (Stock and Zinszer, 1987; West, 1997) and personal contact with the consultant (Stock and Zinszer, 1987; Dawes et al., 1992). In the literature, a distinction is sometimes made between ‘personal’ sources of information used in the procurement of services, such as client’s past experience of a supplier and recommendations by others inside and outside the company (Stock and Zinszer, 1987), and ‘official’ or non-personal channels such as supplier nominated references (Stock and Zinszer, 1987). Research has shown that the most highly rated sources of information used by

organisations when selecting both management consulting services and professional services in general are 'personal' sources (Dawes et al., 1993; Kotler and Connor, 1977). As this previous research illustrates, the criteria and information sources frequently used by organisations in the selection of a supplier seem to be tightly linked to established trust between the buyer and the supplier; an assumption that has also found support in several studies (Dawes et al., 1992; Clark, 1995; Grey, 1998; Glücker and Armbrüster, 2003; Furusten and Werr, 2005; Lindberg and Furusten, 2005).

In spite of this rather homogenous picture of private and public sector procurement practices, there are also differences, not least pertaining to the legal environment in which public procurement occurs. Hence, although research shows that 'personal' sources of information are used in both the private and the public sector, these decision elements should be less common in the public sector since the award criteria must be explicitly specified and allow for tenders to be compared and assessed objectively (Roodhooft and Van den Abbeele, 2006). Further, it has been found that public sector purchasers tend to emphasise price. In a UK study by Pottinger (1998), interviews with 49 managers and property professionals in the public and private sectors showed that interviewees perceived that the main differences in how public and private sector organisations select providers of property services were related to the weight assigned to price and quality. The public sector was found to place greater importance on price. Defining quality for a professional service was proved especially difficult and was of particular concern to managers in government departments.

Use of criteria in procurement of construction professional services

In the area of construction management research, relatively few studies have investigated procedures for the selection of construction professionals per se. However, studies show that clients all over the world tend to focus on price in the selection of consultants. In the Swedish context, empirical evidence suggests that once price is introduced, consultant selection becomes biased in favour of the lowest fee rather than the quality of service (Lindqvist, 2001). Similar findings have been reported for other countries by CIC (1998) and Drew et al. (2002). In the US, research has shown that both private and public sector choice of construction consultants are based on evaluations on three main factors - capability, chemistry, and/or client orientation (Day and Barksdale, 2003) - and also that the relationship with existing and potential clients and the personalities of the firm's personnel are significant factors for architectural and engineering companies in getting a contract (Day and Barksdale, 1992). In the UK, a study investigating the link between procurement and quality of professional services showed that clients' perception of service quality was higher when care had been taken with pre-selection of tenderers and when adequate weight to ability was given in the final selection process (Hoxley, 2000; 2001). Based on a Hong Kong study, Chow and Ng (2010) have proposed a detailed set of indicators for evaluating the expected performance of engineering consultants when procuring design services.

The organisation of procurement functions

Looking more specifically at the organisation of procurement functions, there is more research on this subject within the private sector than in the public sector, where the debate has focused primarily on the trend to contract public services and its effects. Especially regarding private sector procurement, authors have recognised a shift in the procurement function, away from its traditional administrative and transactional role to a more strategic role. Even if the extent of this shift has been disputed, it is now widely acknowledged that proactive value-focused rather than passive cost-focused procurement strategies are integral to long-term organisational strategy (Tassabehji and Moorhouse, 2008). In the private sector

there is also a trend that purchasing departments get more involved in purchasing activities, and it has been shown that such involvement may contribute to significant cost reductions in industrial purchasing (Schiele, 2007). However, research has also shown that resistance often occurs from the 'client' departments towards involving central purchasing departments, especially for the procurement of services (Schiele, 2005). Werr and Perner (2007) argue that purchasing functions may add value also in private purchasing of management consultancy services by formalising and structuring processes, but also warn that this may lead to a preoccupation with cost-related and measurable aspects of the service. Schiele (2005) studied government procurement of all types of consultancy services in Canada and found a pattern similar to that in the private sector: central purchasing departments participated less in service procurement than in procurement of products. Based on a study of five successful cases, Schiele argued that purchasing departments may add value also in public consultancy procurement.

Given the view that purchasing departments could increase purchasing performance if only they were allowed to get involved by the client departments, there is a discussion in the literature of how such involvement can be induced. Schiele (2005) emphasises the role of trust, and Höner and Mohe (2009) identify two strategies for influencing client departments to involve purchasing departments: control-based and incentive-based, and recommend the incentive-based strategy. Werr and Perner (2007) found that although purchasing functions spent much time trying to demonstrate the value of their services, it was only in organisations where there was a strong company policy that they actually became involved. A study of purchasing teams by Driedonks et al. (2010) showed that cross-functional collaboration is often a troublesome process, and teams that involved only purchasers were more satisfied with their performance.

2.3 The public sector context

Since this thesis investigates procurement in the public sector, this particular context is given further attention in this section. First, public sector goals and developments are described, then an overview of literature that analyses policy implementation and the particular situation of public officials working in the front line is presented. The theory reviewed here suggests that this decision-making context of public officials may have important implications also for the practices of procurement functions.

Public sector goals and developments

A typical characteristic of public organisations is their multi-functionality, which implies they must handle partially contradictory considerations (Christensen et al., 2007). Goals can be easy to operationalise. They can also be primarily symbols, ideas and visions or so called 'official goals' characterised by a high level of abstraction. Complex and vague goals, and prioritisation of many different considerations at the same time, are typical for the public sector. There is often an instable balance between different concerns and tensions in the organisations about how they should be prioritised (Christensen et al., 2007). Organisational objectives with these premises may be difficult to fulfil and may not give enough guidance for various decision-makers.

This conflict between different goals is also a frequent challenge in public procurement. Normally there are two groups of goals in procurement: procurement goals and non-procurement goals. The procurement goals usually include quality, timeliness, cost (more than just the price), minimising business, financial and technical risks, maximising competition, and maintaining integrity. Non-procurement goals may include environment protection or

green procurement, social goals and international relations goals (Thai, 2001). In the public sector, procurement has been utilised as an important tool for achieving both economic, social and other objectives (Arrowsmith, 1998). Lately, horizontal policies including sustainability dimensions have become increasingly common (McCrudden, 2007; Arrowsmith, 2010, 2012) in procurement. Thai (2001) describes public procurement as a system, where the ability of public procurement to fulfil procurement policies and goals is influenced by its environment and in turn, influences its environment. There are several types of environments, such as market environment, internal environment, legal environment, political environment, social environment, economic environment and other types of environment such as environment protection movements and foreign policy. These types of environments are not constant variables, but they interact with each other and become what Thai (2001) defines as conflicting 'forces' that public procurement professionals have to deal with. There are trade-offs between the environmental forces, and procurement professionals have to seek an optimal solution.

A process of decentralisation has been going on in the Swedish public sector for many years, affecting the formulation and use of public goals in general. In the traditional, integrated state the overarching society-related goals and the sectorial-related goals were dominating, whereas commercial goals were less important. In the more fragmented state model of today, broad political goals have become inferior to more commercial ones (Christensen et al., 2007). The background to this development dates back to the 1980s, a time period during which new models and principles for management and control gained ground in many European countries. This reform policy, usually referred to as New Public Management, was built on the assumption that the ability of the public sector to deliver services with high quality to the lowest cost as possible would be enhanced if market mechanisms increasingly could be used to balance the demand and supply of publicly financed services (Pollitt and Bouckaert 2004, Christensen and Lægveid, 2007). With New Public Management, efficiency goals such as efficient decision-making, cost efficiency and resource efficiency have gained a central position in for instance many Scandinavian public organisations (Kleven et al., 2000; Christensen et al., 2007). In Scandinavia, as elsewhere (see e.g. Dunleavy and Hood, 1994; Denhardt and Denhardt, 2000), this new management model is not, however, without criticism. It has been argued that more traditional systems with general goals give politicians more flexibility in their handling of several coexisting considerations. Another criticism is that this management model has led to a tendency to measure what is easy to measure, whereas other factors of a more qualitative character become outweighed or less prioritised (Christensen et al., 2007).

In the next section, literature related to the implementation of public policies and goals is reviewed.

Implementation of policies and goals

The discrepancy between how political issues are intended to be implemented and how they are carried out in practice is problematised in implementation theory (see e.g. Hill and Hupe, 1997; Winter, 2005). In focus of these studies is the issue to which degree and in what way the implementation process affects the political outcome. A general conclusion is that political decisions often change in the implementation process and that the actual result (from the perspective of the citizens/taxpayers) usually deviates from what was intended with the original decision. To which degree and how, depend among other things on the complexity of the political decision, decision-making processes, area of policy and the organisation that implements the decision (Matland, 1995; Hill, 2007; Winter and Nielsen, 2008).

Implementation theory has made an important contribution in terms of adding a public policy perspective to public administration and is valuable in illuminating the complexities of policy implementation. With a strong focus on how policies are transformed during the execution process till – and even after – the point of delivery, studies in implementation research have revealed many important barriers for implementation and factors that may make success more likely (Winter, 2003).

The theory has traditionally included two research perspectives – the top-down and the bottom-up perspectives (Hill and Hupe, 2009). Studies with a top-down perspective often focus on the implementation of a specific political decision, such as a law or political program. It usually assumes a control perspective on implementation, where the achievement of the legislation and the minimisation of decision points are in focus (Winter, 2003). The bottom-up perspective, by contrast, emphasises the influence that front-line staff have on the delivery of policies. Seen from ‘the bottom’, implementation can be summarised as ‘... a process of interaction and negotiation, taking place over time, between those seeking to put policy into effect and those upon whom action depends’ (Barrett and Fudge, 1981, p. 4). For Dunsire (1978), policy implementation is seen as pragmatism, whereas John (1998, p. 27) speaks of ‘the post-legislative stages of decision-making’. O’Toole (2000, p. 273) identifies the central question in implementation research as: ‘What happens between the establishment of policy and its impact in the world of action’. Although implementation research has increasingly tried to move beyond the different approaches that the top-down and the bottom-up perspectives represent (see e.g. Hupe and Hill, 2007), they are still useful in drawing attention to the fact that both top and bottom play important roles in the implementation process.

The process emphasis in implementation theory, ultimately expressed in the continuum between policy and action, implies that in the implementation stage policy-making continues. This is contrary to the emphasis in the theory of bureaucracy developed from the classic theoretical contributions of Max Weber and Woodrow Wilson. In that theory, administration starts where politics, or policy, ends. In the study of politics and government the possibility that there could be an interaction between the different phases as well as between different functionaries playing different roles, like the ones of decision-maker and implementer, was ignored for a long while. The fact that the ‘black box’ of implementation was not opened in much political science influenced by this view was what made Hargrove (1975) speak of the ‘missing link’.

Street-level bureaucrats

When bureaucracies ‘go bad’ there has traditionally been a tendency to see them as uncontrollable and subject to random acts of noncompliant behaviour (Brodin, 2012). Lipsky (1980), who in many respects is the founding father of the bottom-up perspective in implementation theory, complicated this picture. He saw that disparate types of public service organisations had common characteristics and that those characteristics systematically shaped much of what they did and how they did it. He also recognised that street-level work is deeply conflicted, confronting its practitioners with, as he put it, ‘the dilemmas of the individual in public services’ (a reference to the subtitle of Lipsky’s book). These insights provided the foundation for a theory of street-level bureaucracy. In this theory, the policy-making roles of street-level bureaucrats are built upon two crucial characteristics of their work: (1) relatively high degrees of discretion; and (2) a relative autonomy from organisational authority (Hupe and Hill, 2007). Lipsky observes that public employees who interact with citizens behave in ways that are unsanctioned, sometimes even contradicting official policy, because the

structure of their jobs makes it impossible to fully achieve the expectations of their work (Hupe and Hill, 2007). The work conditions of street-level bureaucrats include, according to Lipsky (2010), visionary, conflicting or ambiguous goals, combined with inadequate resources. The portrait of the street-level bureaucrat is hence one of considerable responsibility in allocating social values, but little effective external determination as to how to define and achieve objectives (Lipsky, 2010). In addition to this they work under constant resource constraints. As a result of these working conditions street-level bureaucrats tend to develop coping strategies (Lipsky, 1980; Meyers and Vorsanger, 2003), which are often characterised by various routines and simplifications, or patterned behaviours (Lipsky, 2010). These coping strategies affect in turn the quality of services and, ultimately, public policy. Brodtkin (1997) and others argue that chronic resource limitations coupled with the difficulty of monitoring the quality of front-line services in public agencies create conditions in which workers are very likely to deliver government services that are inconsistent and of poor quality. According to Lipsky the individual solutions to the work pressures 'add up' effectively to form public policy.

Studies adopting a street-level perspective have primarily focused on bureaucrats in the welfare sector, sometimes referred to as 'classic street-level bureaucrats' (see e.g. Johansson, 2012) or 'classic social service bureaucrats' (Nielsen, 2006). There are for instance a number of studies focused on social workers (Headrick et al., 2002; Keiser et al., 2004; Mastrofski, 2004; Honig, 2006; Taylor, 2006). However, research shows that there are many types of public officials that may be defined as street-level bureaucrats: They may be either formal government employees or work in organisations that are seen as part of civil society (Hupe and Hill, 2007); some are trained in public administration, others as professionals or experts; some perform their duties on their own, while others have frequent interactions with other actors, public as well as private (Johansson, 2012). As such, they occupy a unique and uniquely influential, position in the implementation process (Meyers and Vorsanger, 2003). Also, as public actors acting in the public domain, they are held publicly accountable for the results of their work (Hupe and Hill, 2007). Lipsky's stress on the relative autonomy of street-level bureaucrats has later been complemented by the insight that they are working in a micro-network of relations, in varying contexts; street-level bureaucrats do their work in a micro-network or 'web' of multiple, both vertical and horizontal, relations. Hence, despite their 'individual dilemmas', street-level bureaucrats work in a range of relationships. In the horizontal dimension they have co-workers in their departments – some of them colleagues with the same vocation – with whom they can consult, and they may maintain contact with peers working in 'neighbour' organisations. Those peers may be both members of their own profession or members of other professions. In the vertical dimension, street-level bureaucrats maintain functional and more or less structural relationships with, on the one hand, individual citizens (or companies) in their specific roles, and, on the other, public managers such as department chiefs. More at a distance in terms of the overall system, come their politically appointed superiors (Hupe and Hill, 2007).

As mentioned above, street-level bureaucrats necessarily have discretion and are forced to use it. As Lipsky states: 'Street-level bureaucrats have discretion because the nature of service provision calls for human judgement that cannot be programmed and for which machines cannot substitute' (Lipsky 1980, p. 161). Discretion and rules are interrelated: As rules specify the duties and obligations of officials, discretion allows them freedom of action (Hupe and Hill, 2007). While nearly all rules embody matters of interpretation, this is particularly the case with complex rules guaranteeing benefits or services (Hupe and Hill, 2007). In the context of the relation between task complexity and delegation of responsibility,

organisational sociologists, in their own discourse, have studied discretion. Since the work of Blau (1955), Merton (1957) and Simon (1957), organisation sociologists have shown that rules – whatever they come from – are never self-executing. Actors may be faced with situations in which rules are ambiguous or even contradictory. Over time, the number of rules they are expected to apply may have grown. At the same time these actors work under an action imperative: they have to act. Actors see themselves forced to make choices: choices about how to deal with a specific rule – in general and in specific situations – but also choices between rules (Hupe and Hill, 2007). Analysts of public administration distinguish between various sources of what they call ‘policy discretion’ (Ringeling 1978). Van der Veen (1990) identifies the character of the rules and regulations involved; the structure (division of labour) of the implementing organisation; the way in which democratic control is exercised; and work circumstances in the narrow sense – particularly interaction with clients – as sources of such discretion.

The street-level perspective has reversed the script of conventional policy research, focusing not on what formal policy seem to require, but on what organisations actually do in the name of policy. Informal patterns of practices, stemming from the discretion of officials, assume greater interest than random acts of discretion, because patterns of practice structure bureaucratic interactions in systematic ways, creating systematic consequences for the distribution and content of policy-as-produced (Brodkin, 2012). Another innovation of the street-level perspective is that it seeks to understand street-level work from the inside out. It begins not with what others (e.g., managers or policy makers) want from frontline practitioners, but with an effort to investigate the realities of work for those directly engaged in policy delivery at the front lines. According to this perspective, an increased understanding of the logic of street-level work as practitioners experience it, should lead to a better understanding and possibility to predict how changes in the work environment may alter their practices and thus affect what they produce as policy through their informal routines (Brodkin, 2012).

2.4 Inter-professional relationships

In purchasing as in many other organisational activities, different groups of staff possessing complementary knowledge bases must usually cooperate in order to accomplish certain tasks at hand (see Section 2.2). When organisational units have extensively different knowledge bases, skills and cultures, this may cause challenges for efficient joint action. Theories of inter-professional collaboration and knowledge integration address these kinds of challenges, including how differences may influence competence integration between groups of staff.

The literature shows that groups and units within organisations may form distinct communities of practice, or epistemic communities, sometimes also extending beyond organisational barriers to involve similar functions in other organisations (Brown and Duguid, 1991, 2001; Wenger 2000). Communities of practice are groups of people who share a concern and learn from each other to improve their practice. Through formal education and regular interaction these communities develop a shared repertoire of resources: experiences, stories, tools and ways of addressing recurring problems. They are efficient in managing knowledge and initiating innovation within the group, but knowledge integration and creative collaboration between groups is more difficult. For example, Dougherty (1992) described technical departments and marketing departments as different ‘thought worlds’ with fundamental problems to communicate and combine their knowledge. A link between knowledge and identity has also been made. Santos and Eisenhardt (2005) state that activities and practices have to be consistent with ‘who we are’, and identity is seen as especially

important in situations of ambiguity where other guides for behaviour are unavailable. Further, knowledge and skills represent investments and are means for individuals to demonstrate and experience competency, which is another reason why it is often very costly both to change our own knowledge and to influence and transform the knowledge of others (Carlile, 2002).

Further, there seems to be a general tendency to underestimate the need for communication to transfer knowledge between oneself and others, and organisations repeatedly fail to acknowledge the coordination needs that arise when tasks are divided between more people (Heath and Staudenmayer, 2000). Knowledge specialisation complicates such coordination still more by creating cognitive barriers of understanding between subtasks.

Together, research on policy implementation and inter-professional collaboration highlight that resource constraints, contradictory goals and differences in both knowledge and identities between the professions involved may strongly influence the public policy actually delivered. In particular, and in accordance with observations in general purchasing literature (Driedonks et al., 2010), coping strategies can be expected to involve a reluctance to engage inter-professional collaboration.

2.5 Summary

The theoretical framework presented here has analysed professional services and the public clients buying these services. Typical characteristics of professional services, including architectural and engineering services, were described and their implications for choices of criteria in the procurement of these services. The theoretical reasoning presented here included the influence that the decision-making context, for example working conditions and inter-professional collaboration, may have on public procurement practices. Hence, the characteristics of public sector goals were mentioned, and also the various challenges of these goals for the daily work of public officials, including public purchasers. The working conditions of public officials in the front line, and the consequences these conditions may have on the quality of public services, were also described. Finally the chapter discussed the challenges implied when staff representing widely different groups and units within organisations must cooperate, as is often the case of purchasing activities. All of these contextual factors can be expected to have an important influence on municipal procurement practices.

3. METHOD

3.1 Overview of the three empirical studies

Given the three objectives of this thesis – to investigate patterns in how architectural and engineering consultants are selected in Swedish municipalities, especially which criteria and information sources that are used; to identify important influences on municipal practices for selecting consultants; and to suggest areas of development for practice - three empirical studies were conducted. These included one pilot study, based on interviews with five large public clients and consultants and managers from four architectural and engineering consultancies in the private sector (Study A); one questionnaire survey directed at 50 per cent of the municipalities in Sweden (Study B); and one multiple case study including five municipalities (Study C). An overview of these studies is provided in Table 1. The research process involving these three studies, is described in the next section.

Table 1. Overview of the three empirical studies

<i>Study</i>	<i>Unit of study</i>	<i>Purpose of the study</i>	<i>Research objective</i>	<i>Data source</i>	<i>Paper</i>
A	Large public clients Consulting firms	Provide insight into the basic issues and problem area of the research topic	3	Interviews with five public officials and four experts from consulting firms; tendering documents	I
B	Municipalities	Provide an overview of how architectural and engineering services are procured	1, 3	Questionnaire survey directed at 50 per cent of the municipalities in Sweden	II, III
C	Municipalities	Provide a better understanding of the findings of Study B, especially the relationship between practices and their context	2, 3	Interviews with 12 municipal officials in five municipalities; tendering documents; policy documents	IV, V

3.2 The research process

Research strategy

A researcher is generally faced with a set of methods for data collection, such as questionnaire surveys, interviews, participant observation and written sources (Denscombe, 1998). In this thesis methodological triangulation and data triangulation (Denzin, 1978), implying the use of several kinds of methods and data, have been used as a means to strengthen the research. As mentioned above, the thesis includes one interview-based pilot study, one multiple case study and one questionnaire survey. The survey research technique was chosen as a strategy in the early phase of the research, since it would offer an opportunity to reveal various characteristics of the population, to identify areas that could merit further investigation, and also provide quantitative weight to the findings. The motive for choosing the case study method for this research was the complex and context specific nature of the research topic, and scarcity of previous research related to the area of investigation. According to Yin (2003),

case studies are in general the preferred strategy when “how” or “why” questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real life context. Hence, an important rationale for using a case-based approach was to develop an improved understanding of the empirical context through deeper analysis of certain phenomena identified in the research process.

An abductive approach

In research there are mainly two broad methods of reasoning: the inductive and the deductive approach. Deductive approaches are concerned with developing propositions from current theory and make them testable in the real world. Inductive approaches, on the other hand, go from observations to theory; ‘grounded theory’ (Glaser and Strauss, 1967) is dominated by induction where theory is systematically generated from data, although with deductive elements. A third possibility, the abductive approach, introduced by Peirce (1931), stems from the insight that most great advances in science have neither followed the pattern of pure deduction nor of pure induction (Kirkeby, 1990; Taylor et al., 2002). Peirce had no unified definition of the concept but introduced various definitions throughout the evolution of his work (Kirkeby, 1990). Today abduction has entered a range of disciplines, each of which has developed the approach further in their own way (see e.g. Eiter and Gottlob, 1995; Andrewsky and Bourcier, 2000; Danermark, 2001), and hence different streams of abductive research currently coexist in modern science (Kirkeby, 1990). Within the social sciences, abduction refers to the use of a known rule to explain an observation.

‘Systematic combining’ developed by Dubois and Gadde (2002) is grounded in an ‘abductive logic’. It reflects more than the pure deductive or inductive approach the research process of this thesis. The main objective of any research is to confront theory with the empirical world. In systematic combining, however, this confrontation is more or less continuous throughout the research process. Hence, the main characteristic of this approach can be summarised as a continuous movement between an empirical world and a model world. During this process, the research issues and the analytical framework are successively reoriented when they are confronted with the empirical world. In a comparison with the two broad methods of reasoning, systematic combining can be described as closer to the inductive than the deductive approach. However, the continuous interplay between theory and empirical observation is stressed more heavily than in a more inductive, ‘grounded theory’ approach. Also, systematic combining builds more on refinement of existing theories than on inventing new ones.

The empirical data collection – three phases

The first of the three studies of this thesis was a pilot study (Study A). The aims of this study were to provide insight into the basic issues of the research topic, to define the problem area, and to contribute to the refining of further data collection plans. This study, which was based on interviews with large public clients and consulting firms, indicated that identified problems were mainly related to municipalities and, hence, that further research should investigate more specifically how these public entities procure architectural and engineering services. The purpose of the following study (Study B), an explorative questionnaire survey, was hence to gain a better overview of how these services are procured on a local level. Once this study had been carried out, analysis of findings indicated variations and complexities in how these services were procured, and that a more in-depth qualitative study was necessary in order to gain a better understanding of the identified municipal practices. Hence following the survey, a case study was conducted, designed as a multiple case study (Study C).

An illustration of the use of the systematic combining approach during the process of this research is the successive re-orientation of research issues and the analytical framework, as these have been confronted with the empirical world. Especially in Study C, research issues were modified. As described further down, much care was taken in the research planning stage of Study C to select cases that would enable meaningful cross-case comparison to explain variations in municipal procurement practice. However, as the case study interviews proceeded, it was found that despite differences in size, procurement volume and questionnaire responses, both selection practice and experienced problems were more similar between the municipalities than what had been expected, based on what the questionnaire survey (Study B) had indicated. Cross-case comparison thus became less salient in the analysis and, as a consequence, research issues were revised. The framework was also re-oriented over time according to what was discovered through the empirical fieldwork, as well as through analysis and interpretation. In Study C, in particular, empirical observations brought about a need to expand the analytical framework to theories in other domains and disciplines. In this study, the evolving framework also directed the search for empirical data. Below, each of the three studies is described more in detail.

3.3 Study A, the pilot study

In Study A interviews were conducted with representatives of five public organisations with a considerable volume of procurement of construction-related services: SFV (the National Property Board), Banverket (the former Swedish National Rail Administration), Vägverket (the former Swedish Road Administration), Markkontoret i Stockholm (the City of Stockholm Real Estate and Traffic Administration) and Göteborgs Stads Upphandlingsbolag (the City of Gothenburg Procurement Company). For each organisation, one experienced procurement official or manager was interviewed. In all five cases, documentation on procurement procedures was also provided by those interviewed. Furthermore, interviews were carried out with senior consultants and managers from four architectural and engineering consultancies in the private sector. The number of employees in these firms ranges from 50 within the smallest company to 5,000 within the largest firm. Three of the companies are Swedish, one of these has offices also in Norway, Denmark and Finland; one company belongs to a large international group.

The interviews aimed at investigating procurement models used by the public clients, and also the architectural and engineering consultants' views regarding public procurement models in general. The interviews also investigated the interviewees' opinions on problems and shortcomings related to public procurement of architectural and engineering services.

The interview guide used for interviews with the public clients included the following main issues:

- their methods and procedures for procurement of architectural and engineering services
- their general opinions about public procurement of architectural and engineering services
- areas of development (problems and shortcomings)
- their opinions of the public procurement regulation and its influence on practices for selecting consultants

Questions posed to the consultants dealt with the following matters:

- typical public clients and assignments
- their opinions about typical practices and methods used in public tender evaluation processes
- their perceptions about the influence of public procurement practices on issues such as quality, sustainability, supply of competence, the architectural and engineering consultant professions, as well as on the industry as a whole
- their opinions about the public procurement regulation
- areas of development regarding practices for selecting architectural and engineering services in the public sector

The interviewees of the public organisations were persons who had accumulated considerable working experience in the area of selection and performance of architectural and engineering consultants. The architectural and engineering consultancy representatives were managers and senior consultants who had worked in the construction industry for many years. Interviews were semi-structured (Denscombe, 1998), implying also that interviewees were invited to comment freely on issues relating to the questionnaire. All of the interviews were conducted face-to-face, recorded and transcribed. Summaries of the interviews were later submitted to those who had been interviewed for corrections and comments. Documentation of procurement methods was also analysed.

3.4 Study B, the questionnaire survey

Study B involved an explorative questionnaire survey targeted at Swedish municipalities. Below, a summary is provided of the steps taken in the development and completion of this survey.

Survey design and pretesting

Four common survey approaches are postal mail, internet surveys, telephone and face-to-face (Czaja and Blair, 2004). For this study the postal mail survey was chosen as a relevant method, mainly because of the resource efficiency implied in this approach. Among the disadvantages of postal mail surveys and internet surveys, compared to the two other approaches, are that response bias is potentially greater, since respondents can more easily ignore these surveys. These types of surveys must also be completely self-explanatory because no one is present to assist if something is confusing or complex.

The design of the survey was specified based on the analysis goals (Czaja and Blair, 2004) of Study B: to be of an explorative character, searching for rather broad information within the area of study. These goals were chosen since the study would be conducted in an early phase of the research, and since previous research related to the study's topic was scarce. The design and length of this kind of survey naturally becomes quite different from a survey that, for example, aims to test a number of hypotheses derived from theory. To increase the reliability and validity of the study the questionnaire was developed with support from a group of industry experts, also to ensure that the right construction procurement terminology was used. The final version of the questionnaire consisted of six pages (see Appendix 1), plus a covering letter setting out the research objectives and a brief description. The questionnaire was divided into five sections with the themes 'respondent background', 'procurement organisation', 'tender evaluation procedures', 'procurement policy of the municipality' and 'areas of development'. The survey questions were closed, which implies that each question had a fixed number of response categories. Further, five-degree Likert scales were used to measure respondent opinions of several questions and statements. The final section included an empty space where respondents could write down comments.

Pretesting is considered to be one of the most important components of a survey (Czaja and Blair, 2004). Hence, prior to implementing the survey, the questionnaire survey was sent to three procurement officials in two municipalities, not included in the random sample. These persons suggested minor changes regarding the structure of the survey and the phrasing of questions to enhance clarity.

Sampling

For this study simple random sampling, a common form of probability sample, was used. With this kind of sampling, each unit of the population has an equal probability of inclusion in the sample (Bryman and Bell, 2007). The sampling was conducted based on random numbers so that a sample of 50 per cent of all Swedish municipalities, numbered from 1 to 290, were selected. Once the sample was defined, the next task was to identify officials responsible for procurement of architectural and engineering services in the municipalities included in the sample. Since no prior records were available for this purpose, a list with this information had to be constructed. This was accomplished by looking for relevant information on the web pages of the municipalities and then contacting the municipalities by telephone. Assistance from people within the respective organisation was sometimes needed in order to detect the right person to be contacted. An advantage of this time consuming procedure was that once in contact with the right officials, they could be prepared in advance that they had been selected for the survey, be informed about the survey topic and the reason why the survey was conducted. The final list of potential respondents included officials that were either managers or experts, belonging to the procurement department and the technical or real estate department within their respective municipality.

Data collection and response rate

Since some of the municipalities in the sample had a shared procurement function (usually small municipalities within the same geographical region), 130 questionnaires were distributed in total, instead of 145. After a follow-up phone call or e-mail to notify non-respondents, answers were received from 93 out of the 130 questionnaires distributed, equivalent to a response rate of 72 per cent. Although the unit response rate of this survey was relatively high, the survey data also revealed relatively high item nonresponses in some survey questions. The item nonresponse was more or less concentrated to particular questions. A common characteristic of these questions was that these were more time consuming to answer, probably often requiring the respondent to consult records rather than to answer from memory. Factual questions that request great detail about issues may require more effort than many are willing to expend. A disadvantage of postal mail surveys is that respondents can more easily ignore these types of questions (Czaja and Blair, 2004). Given the time constraints of the respondents of the survey, a shorter survey, or the exclusion of more difficult questions, could have generated lower item nonresponses. However, important determinants of the content and length of the survey had been that the survey would be conducted in an early phase of the research and was aimed to be of an explorative character. These factors required in turn more detailed information from respondents, it was reasoned. Other probable reasons for high item nonresponses could afterwards be traced to changes in the public procurement regulation, to questions not being applicable to the situation of some respondents, and to respondents missing or misunderstanding that they were supposed to reply to certain questions. Parts of these limitations were given specific attention in the subsequent case study, where issues representing survey questions with high item nonresponse rates could be investigated more thoroughly, such as a more detailed account of the use of selection criteria, and the use and exact content of the municipalities' procurement policies.

Data coding, data file construction and analysis

The next step following the data collection was data coding. This was accomplished through the assignment of numbers to the responses given to survey questions. After this step had been taken, and before data analysis could begin, data were entered into a computer data file. By the end of this process, data were checked or 'cleaned' to identify and correct data-entry-errors (Czaja and Blair, 2004).

The data collected via the questionnaire survey were, firstly, analysed by use of bivariate analysis (see e.g. Sims, 2000) and, secondly, by analysis of variance (see e.g. Kothari, 2009). Bivariate analysis is concerned with the analysis of two variables at a time in order to uncover whether or not the two variables are related. Exploring relationships between variables means searching for evidence that the variation in one variable coincides with variation in another variable (Bryman and Bell, 2007). A variety of techniques are available for examining relationships. For this study contingency table analysis was used. A contingency table allows two variables to be simultaneously analysed so that relationships between the two variables can be examined (Bryman and Bell, 2007). By use of this type of analysis, patterns in survey data could be found, such as the link between satisfaction with existing procurement procedures and respondent's position and procurement experience (see Paper III for a more detailed account of the adoption of this technique).

Further, analysis of variance (ANOVA) was used. Through the ANOVA technique one can, in general, investigate any number of factors which are hypothesised or said to influence the dependent variable. In this study one-way ANOVA was used. In this form of analysis, the focus is on one factor (as opposed to two or more) and the differences amongst its various categories having numerous possible values are investigated (Kothari, 2009). The ANOVA technique was used in order to investigate if differences in the survey responses were related to any particular patterns within the population. The analysis included various background variables of respondents and their municipalities as independent variables, and procurement methods as dependent variables (this is further described in Paper III).

3.5 Study C, the municipality case study

Study C consisted of a multiple case study of five Swedish municipalities that were included in the questionnaire survey (Study B). The study was inspired by practice theory. This theory recognises the importance of practices in the on-going operations of organisations and the centrality of people's actions to organisational outcomes. The theory is to some extent a reaction to an earlier emphasis in organisational theory that focused primarily on structural features while neglecting the agentic capacity of human action. Thus, according to this theory, decisions and actions reflect not just whatever official structures the organisation's formal structure (rules) places on the employees, but also their know-hows and other 'informal' matters that are not part of the formal (rational rule-like) structure of the organisation (Schatzki, 2005). On an empirical level the theory can be described as focusing on how people act in organisational contexts; the focus is on the everyday activity of organising in both its routine and improvised forms (Feldman and Orlikowski, 2011). On a theoretical level, the theory focuses on understanding relations between the actions people take and the structures of organisational life. Theoretical relationships that explain the dynamics of everyday activity are, further, articulated; how these are generated and how they operate within different contexts and over time (Feldman and Orlikowski, 2011). Key theorists who have advanced specific practice-based theoretical relationships include Bourdieu (1977;

1990), de Certeau (1984) and Giddens (1976; 1979). More recent influences on contemporary practice theory include the works of Latour (1992; 2005) and Schatzki (2002; 2005).

The cases included in this study were selected so that they would represent different categories of municipalities in terms of size, yearly procurement contract sum and type of region. The selection was made on the basis of information obtained in the questionnaire survey of Study B. Furthermore, municipalities were selected to enable meaningful pairwise cross-case comparisons. Thus, each municipality had similar market conditions to another municipality (being located in the same region or same type of region), and also represented different selection practices based on the data obtained in the questionnaire. This type of sampling may be categorised as ‘stratified, purposeful sampling’ (Patton, 2002). By using the mentioned criteria for the screening of cases, five cases were found to be an appropriate number covering the varied characteristics.

In-depth semi-structured interviews were conducted with persons who had been identified to be involved, both directly and as managers, in the procurement of architectural and engineering services in the selected municipalities. In each case, one official representing a technical department and one representing the procurement function were selected for interviews, although these had different titles and roles depending on how the municipalities were organized. Since the procurement manager position in one of the municipalities was vacant at the time of the interview, the former procurement manager and the deputy procurement manager were interviewed instead. In another municipality the technical department was being reorganised and only the representative from the procurement department could be interviewed. The interview questions covered the following topics:

- procurement organisation and activities (including selection methods and practices)
- procurement policy and goals, including respondents’ perceptions and adherence to these
- the perceived influence of the public procurement regulation on practices, and respondents’ views of the regulation
- organisational culture
- respondents’ opinions on problems and shortcomings

Questions to operational staff (procurement officers and project leaders) were more focused on actual procurement procedures and experiences, whereas questions posed to managers mainly dealt with objectives for procurement within the municipality, choice of procurement policy and choices concerning organisational structure and processes. The diversity of interviewees ensured that a variety of perspectives were obtained (Eisenhardt and Graebner, 2007). Each interview lasted between one and two hours. The interviews were tape recorded and transcribed. Further data were obtained through the analysis of documents provided by the municipalities. These comprised relevant policy documents and examples of requests for proposal.

3.6 Data analysis of qualitative data

The empirical data collected for Study A and C were analysed using a coding process in which data were categorised using qualitative data analysis techniques (see e.g. Miles and Huberman, 1984). Classifying and coding qualitative data produce a framework for organising and describing what has been collected during fieldwork (Patton, 2002). The coding was developed from three sources: (a) the interview questions, (b) review of the literature for ideas to be examined, (c) and a few additional categories added during coding

when passages did not fit well in the available categories (Patton, 2002). The process of coding could be summarised as a search for recurring regularities in the data. These regularities revealed patterns that could be sorted into existing or new categories. The data analysis included working back and forth between the data and the classification system to verify the meaningfulness and accuracy of the categories and the placement of data in categories.

3.7 Limitations

Study A and C are based on a limited number of interviews with public officials, and managers and consultants from consulting firms. In addition, the three studies of this thesis are restricted to a Swedish context. These limitations obviously make it difficult to make far-reaching generalisations. Further, a weakness of the chosen research design is that 'architectural and engineering services' have been analysed as a single unit. These are, firstly, usually recognised as two types of construction-related professional services and, secondly, these services are heterogeneous. However, this weakness was partially overcome by the inclusion of a question in the questionnaire survey (Study B), where respondents were asked if they perceived any differences in the evaluation of the two types of service providers. A majority responded that there is little difference.

4. OVERVIEW OF APPENDED PAPERS

This chapter provides an overview of the five papers of this thesis.

4.1 Paper I

Title: Public procurement of architectural and engineering services: fee and quality

The purpose of Paper I is to investigate current Swedish practice among public clients procuring architectural and engineering services, in particular how they use other criteria than price when awarding contracts. The paper is based on the pilot study (Study A) involving interviews with five large public clients - three central government agencies and two local government agencies - as well as with architectural and engineering consultants.

The findings show that several of the public clients included in the study, especially the central government agencies, apply detailed selection models that aim at balancing quality and fee when selecting architectural and engineering consultants. However, concerning public sector award practices in general - hence practices followed by clients ranging from procurement officials in central government to those who work in small municipalities - the consultants perceive that clients tend to exaggerate the price factor. As a consequence, low fee consultants should, in general, be more successful in winning commissions. This imbalance between quality and price in tender evaluations may, in turn, have a negative impact on the quality of the service. According to the consultants, low fees may obstruct the development and provision of better services and the ability to make the necessary investments to be innovative and develop skills. Further, consultants claimed that public clients exaggerate the legal requirements for objectivity and transparency, which as a consequence creates an extra administrative burden for tenderers. The paper recognises a need for adapting public procurement methods to the complexity of the service to be purchased. It is concluded that higher expertise among procurement officials, better administrative practices, benchmarking efforts and an increased contact between buyers and suppliers, could be important ways of improving public procurement procedures in general.

4.2 Paper II

Title: Public procurement incentives for sustainable design services: Swedish experiences

Paper II describes the selection procedures including environmental requirements that municipal clients rely on in the procurement of services provided by architectural and engineering consultants, and discusses which incentive effect these may have for sustainable design. Based on findings from Study B, involving a questionnaire survey with responses from 93 municipalities, the paper intends to give more insight regarding how environmental issues are perceived, framed and acted upon in municipal procurement of building design services.

The survey results indicate that many municipal clients in Sweden include sustainability criteria in their tender evaluations for architectural and engineering services, but far from all clients. In sum, the incentive effect for sustainable design management among service providers is not found to be strong. Inadequate expertise among procurement officials and varying adherence to existing policies among municipal buying entities are identified as main obstacles to environmental concerns in public procurement. The results also suggest that

individual attitudes among municipal procurers have an effect on procurement routines. It is concluded that in particular smaller municipalities need more support for their development and application of procurement strategies that encourage design services providers to improve their sustainability skills.

4.3 Paper III

Title: Criteria in consultant selection: public procurement of architectural and engineering services

Paper III examines which criteria and information sources that municipal officials in Sweden use in tender evaluations for architectural and engineering services. Further, views of the officials on the practices and problems of consultant services procurement are investigated. The paper also examines if there are any important differences in practices or views within the population of municipalities and how these can be explained. The paper is based on data collected in Study B, which involved an explorative questionnaire survey distributed to 50 per cent of all Swedish municipalities, with a response rate of 72 per cent.

The results show that, although some municipalities use more advanced methods, there is a strong focus on price or more easily measured non-price criteria in municipal procurement. Both for simple and complex projects, remarkably few municipalities include other project-specific criteria than those connected to individual experience, education and personality of key project personnel. Typically, this information is easy to assess in the evaluation process. Criteria related to the design and execution of projects, and also richer information sources such as interviews and tender presentations, are generally avoided. It is also found that as basis for their procurement decisions, a majority of the municipalities use 'personal' information sources, such as their previous experiences of companies and consultants. Further, although respondent answers show that most officials perceive that price is given too much attention in tender evaluations, most respondents report that they are satisfied with current practices. Managers, as well as officials with more procurement experience, tend to be more satisfied than other officials. Satisfaction also appears to be connected to the existence of a procurement policy and more advanced selection methods. Apart from these results, no particular patterns in survey responses related to characteristics of respondents or municipalities are found that could explain differences in procurement practices within the population. Hence, one conclusion is that future studies are needed in order to explain identified variations. The results also suggest that a number of contextual factors influence purchasing practices. These factors include aspects related to the procurement function (structure and procurement processes), and individual characteristics such as procurement skills and personal preferences of municipal officials. It is concluded that such relationships between procurement practices and their context should be the focus of future studies.

4.4 Paper IV

Title: 'Procurement bureaucrats' in Swedish local government: influence of coping strategies on municipal policy-making

Drawing primarily on the theory of street-level bureaucracy, Paper IV examines the policy context of officials involved in the procurement of architectural and engineering services and how it shapes procurement practice. The paper is based on a multiple case study of five Swedish municipalities (Study C).

The findings show that similar to ‘classic street-level bureaucrats’, primarily bureaucrats in the welfare sector, such as doctors, social workers and teachers, that traditionally have been in focus in street-level research, the municipal officials involved in procurement tend to develop coping strategies, in essence simplifications and routines, as responses to various work pressures. These coping behaviours may have important effects on the quality of municipal construction projects. There is a preference among the officials for simplified and ‘safe’ evaluation models and standard solutions that meet the requirements of resource efficiency and without any doubt comply with the procurement regulation. As a consequence of these coping behaviours, important procurement goals such as environmental considerations and other quality-related goals are downplayed. The study also indicates that the officials’ adoption of coping strategies is affected by their personal opinions. Encapsulating the coping behaviours of the officials, a tendency to strive for satisfactory and appropriate procedures is identified. The paper shows that the theory of street-level bureaucracy may be applied also to understand practices of public officials in the procurement area. Thereby the paper contributes to the small set of studies that focus on street-level bureaucrats who work in relation to organisations.

4.5 Paper V

Title: Municipal consultancy procurement: new roles and practices

In Swedish municipalities both technical functions and procurement functions are normally involved in the procurement of architectural and engineering services. These two functions possess partly overlapping and partly complementary knowledge bases, which are both needed in order to design an appropriate procurement model for each case. Based on a multiple case study (Study C), Paper V investigates how the working conditions of technical staff and procurement staff, and the relationships between these two groups influence procurement practices. The analysis combines research on purchasing functions in general with theories of policy implementation and inter-professional collaboration and knowledge integration.

The technical staff and the procurement staff represent two different traditions, the former older and related to construction procurement in general and the latter related to public procurement in general, and more recently developed. In all municipalities, there was a trend that centralised procurement departments were taking over more of the responsibility for construction-related procurement, also architectural and engineering services. This was causing conflicts, partly because the technical staff preferred to rely more on lowest price in selecting service providers, often in combination with own previous experiences of consultants, while procurement staff favoured quality-based selection that fulfils legal requirements of objectivity. Differences in knowledge and professional culture are found to create barriers to communication and competence integration between the two groups of staff. The technical staff acts as the internal client in this case, and consequently their views often have important influences on which practices that are used. Also important are various uncertainties related to formal guidance, such as an abstract or unclear procurement policy, conflicting goals and perceived ambiguities in the procurement regulation. In order to attain a more efficient procurement practice it is concluded that substantial involvement and support from top management is needed. This includes reduced uncertainty as to how quality may be considered, the allocation of more resources to technical and procurement functions, and interventions to overcome barriers in collaboration between technical staff and procurement staff. This, in turn, implies that procurement is seen as a strategic function.

5. DISCUSSION AND CONCLUSIONS

The purpose of this thesis has been to investigate procurement practices for architectural and engineering services in Swedish municipalities. Given this overall purpose, three objectives were defined: (1) To investigate patterns in how architectural and engineering consultants are selected in Swedish municipalities, especially which criteria and information sources that are used; (2) to identify important influences on municipal practices for selecting consultants; and (3) to suggest areas of development for practice.

Three empirical studies were conducted: one pilot study based on interviews with public clients and consultants; one questionnaire survey directed at 50 per cent of the municipalities in Sweden; and one multiple case study including five municipalities. These studies resulted in five papers. In the next section the main findings of this thesis are discussed in relation to the three objectives.

5.1 Patterns related to selection of architectural and engineering services

Since previous research on the procurement of professional services has given only scant attention to the selection of construction design consultants, the first objective of this thesis was to investigate patterns in how architectural and engineering consultants are selected in Swedish municipalities, especially which criteria and information sources that are used. The questionnaire survey (Study B), corresponding to Paper II and III of this thesis, showed that Swedish municipalities frequently use multiple criteria to award contracts for architectural and engineering services. However, this study also revealed that there is a high focus on price, or on non-price criteria that are easy to evaluate. Although some municipalities use more advanced methods, survey responses showed that for the evaluation of tenders regarding both simple and complex projects, remarkably few municipalities included project-specific criteria other than those connected to individual experience, education and personality of key project personnel. The findings suggest that among the non-price criteria used, evaluators are more focused on person-related issues than aspects connected to design and the execution of projects. The limited attention given to sustainability criteria is discussed specifically in Paper II. In relation to previous research, the identified focus on price in this study is in line with other studies on consultant selection, in Sweden and in other parts of the world (CIC, 1998; Lindqvist, 2001; Drew et al., 2002).

Previous research on both private and public sector procurement of professional services has shown that established trust between the buyer and the supplier, as reflected in for example experiences from personal contact with consultants, may have an important influence on the selection of a supplier (Dawes et al., 1992; Clark 1995; Grey, 1998; Glücker and Armbrüster, 2003; Furusten and Werr, 2005; Lindberg and Furusten, 2005). Day and Barksdale (1992; 2003) found that relational aspects were important also in procurement of architectural and engineering services, in both the public and private sectors. As shown in Paper III, the questionnaire survey revealed that a majority of the municipalities use 'personal' information sources, such as their own previous experiences of companies and consultants as a basis for their procurement decisions. As such personal information sources are in conflict with the public procurement regulation, the findings suggest that many municipal officials have not completely replaced traditional sources of information associated with private sector purchase with more formal sources that reflect the requirements of the regulation, an interpretation that also found support, later, in the interviews with municipal officials in Study C.

Statistical analysis of the questionnaire survey results showed that variations in practice that existed could not be traced to simple factors such as size of municipality or procurement volume, and also suggested that various contextual factors seemed to influence the identified procurement practices. One conclusion from this study was therefore that a qualitative study was needed in order to better understand differences in practices and the relationship between practices and their context.

5.2 Important influences on municipal practices

The second objective of this thesis was to identify important influences on municipal practices for selecting consultants. Hence, a multiple case study (Study C), investigating the procurement practices of five municipalities included in the questionnaire survey, was carried out. A review of the theory of street-level bureaucracy (Lipsky, 2010; Meyers and Vorsanger, 2003) within implementation theory, traditionally focusing on classic welfare bureaucrats, such as doctors, social workers and teachers, showed that various factors related to the working conditions of officials working in the front line of public organisations may strongly influence the public policy actually delivered. Applied to the field of public procurement, this theory suggested that procurement policies are produced at the local level as public officials develop coping strategies to handle various work pressures. In line with this theory, Study C, presented in Paper IV and V, indicated that coping strategies typical for many ‘street-level bureaucrats’ were used by the municipal officials responsible for procurement, and that these strategies constituted an important influence on practices for selecting consultants. The work pressures of procurement bureaucrats included large workloads, inadequate resources, uncertainties related to work guidelines (procurement policies and goals and how the procurement regulation should be interpreted), as well as stricter control of adherence to the procurement regulation. These working conditions lead to a preference among the officials for routinized, simplified and ‘safe’ evaluation models and standard solutions that meet the requirements of resource efficiency and without any doubt comply with the procurement regulation. The study further indicated that the officials’ choices of coping strategies were affected by their personal opinions. The identified coping behaviours can also be seen as a tendency among the officials to strive for satisfactory and appropriate procedures, which is in line with general theories of decision-making (March and Simon, 1958; March and Olsen, 1989). An implication of this practice was that municipal policy goals, including quality and environmental considerations, were frequently downplayed.

Previous research has shown that there is a trend towards an increased involvement of central purchasing departments, but that client functions often resist this development, especially in the procurement of services (Schiele, 2005; Werr and Perner, 2007). A similar trend was found in the studied municipalities. As described in Paper V, the case study (Study C) pointed at barriers in the cooperation between the technical staff and the procurement staff in the procurement of architectural and engineering services. Drawing on theories of inter-professional collaboration and knowledge integration (Brown and Duguid, 1991, 2001; Dougherty, 1992; Wenger 2000; Carlile, 2002; Santos and Eisenhardt, 2005) the study indicated that differences in knowledge and professional culture between technical functions, responsible for building projects, and procurement functions, dealing with procurement in general, created obstacles to communication and competence integration. Findings showed that the technical staff preferred to rely more on lowest price in selecting service providers often in combination with own previous experiences of consultants, while procurement staff favoured quality-based selection that fulfil legal requirements of objectivity but require more resources from both groups of staff. Since the technical staff acted as the internal client organisation in this case, their views often had an important influence on existing practices.

In summary, the case study (Study C) showed that pressures and challenges in the decision-making context of the municipal officials, primarily related to resource constraints, unclear work guidelines and tensions between the two groups of staff involved in procurement, all contributed to a simplified procurement practice. A theoretical contribution of the study is that it shows that the theory of street-level bureaucracy, which usually focuses on bureaucrats in the welfare sector, may be applied also to public officials in the procurement area.

Finally, it could be noted that the five municipalities included in the case study (Study C) were selected partly to represent different practices based on their responses to the questionnaire survey (Study B). However, these differences turned out to be smaller than expected. Similar work conditions, stricter control from regulation authorities and the transparency of procedures in public organisations, which open up for the possibility that organisations within the public sector may get inspired by or even copy the practices of other agencies, could be important reasons to the relatively homogenous practices of municipalities indicated by the case study.

5.3 Areas of development

Corresponding to the third objective, several areas of development for practice are suggested in this thesis. In particular, this research reveals a current need for more refined ways of evaluating architectural and engineering services in Swedish municipalities; in essence, a demand for selection procedures that are more adapted to the complexity of these services as well as to new political goals in the public sector, including an increased focus on sustainability. A need to balance quality and price (fees), with less focus on price, to incorporate a wider range of non-price criteria, and to apply richer information sources in the award of contracts, is identified. Although municipalities often include multiple criteria in tender evaluations, tender price is generally the single most important criterion in order to win a contract. The most frequently used non-price criteria tend to be those that are easy to evaluate. These criteria may not be highly accurate and informative measures of the value or effectiveness of a consulting service. By including appropriate criteria in tender evaluation procedures, purchasers may more effectively contribute to policy goals for procurement in the built environment, including cost efficiency, quality, and various forms of sustainability.

Further, public sector buyers' use of non-price criteria may influence firms to rethink their strategies. Hence, requirements for a range of capabilities may act as incentives for consultancies aiming for public sector contracts to improve their competencies, which in turn will make them more competitive on an international market. It is therefore imperative that clients look beyond fees and more simplistic non-price criteria to select consultants based on better methods to measure their knowledge, skills and abilities. Procurement officials also need to know how to adapt selection procedures to the public procurement regulation, so that legal restrictions do not become an obstacle for more advanced tender evaluation procedures.

Based on purchasing literature (e.g. Axelsson and Wynstra, 2002; Tassabehji and Moorhouse, 2008), implementation theory (Lipsky, 2010; Meyers and Vorsanger, 2003; Brodtkin, 2012), and literature on inter-professional collaboration and knowledge transfer (e.g. Wenger 2000; Brown and Duguid, 1991, 2001; Heath and Staudenmayer, 2000; Santos and Eisenhardt, 2005), this thesis highlights a number of areas of improvement that are relevant for both policy makers and managers in the public sector. Firstly, in order to achieve a more efficient procurement practice, more resources allocated to municipal procurement functions are needed. Clearer guidelines in terms of policies and goals including how these should be

operationalised for procurement of architectural and engineering services are also required. A development of the procurement function, away from its traditional, administrative and transactional role to a more strategic role, would be an important step in order to fulfil these needs. A review of the internal structure of the procurement function is also required, including who should be involved in the purchasing decision process and to what extent. Further, an improved cooperation between the departments involved in the procurement process should be encouraged and facilitated, in order to integrate more efficiently the complementary competencies of officials responsible for procurement. Finally, the relationship between policy and resources needs to be developed. In order to achieve higher quality in the provision of architectural and engineering services for municipal construction projects, this research underlines a need for a shift in focus, from crafting policy ideas that are to be realised with available resources, to an enabling approach, focusing more on facilitating and ensuring quality in policy delivery.

In summary, this thesis has revealed important patterns for the selection of architectural and engineering consultants in Swedish municipalities. It has also enhanced our understanding of the actions and decisions that constitute municipal procurement practices, by showing how these are shaped by the decision-making context of the municipal officials. In conclusion, the thesis shows that there is a need for extensive managerial intervention and support for the development and refinement of both procurement organisations and practices, in order to improve the quality of public construction projects as well as to fulfil other political goals for the built environment. The thesis thereby contributes both to the understanding of construction-related procurement and to research on procurement of professional services and public administration in general.

6. FURTHER RESEARCH

This final chapter suggests a number of directions for future research.

The Public Procurement Act came into force in 1994 and was later, in 2008, replaced by a new version of the legislation. A recent revision of the European procurement directive has been decided by the European Parliament in January 2014 which will, once again, lead to a new version of the Act. In addition to changes in the legislation there have for several years been a large number of cases in County Administrative Courts, related to award criteria practices. Award practices are also frequently criticised in the media and in various research reports (e.g. Lunander and Andersson, 2004). Further, in this thesis interviews with municipal officials showed that many officials are uncertain how the procurement legislation should be interpreted. The interviews also revealed that courts on the same level judge differently in different regions. This indicates that award practices have neither become predictive or stable. Since the empirical data presented in this thesis cover only a restricted period of time, there is little to say about longitudinal patterns. Thus, the development of contract award practices and also court verdicts over time is worth investigating further.

Comparative studies of practice in several EU Member States would also be valuable. Critics of the Swedish Public Procurement Act have argued that the national legislation is unnecessarily complicated and that it provides poor guidance to practitioners. If this is true, it is one reason why complaints from aggrieved tenderers in Sweden might be different from complaints brought in other countries.

Another direction for further research would be to compare private sector practices with public sector practices in more detail. Although there are examples of such research (e.g. Lian and Laing, 2004; Roodhooft and Van den Abbeele, 2006), it would be interesting to investigate this issue further, not least in consideration of the trend that central purchasing functions tend to become more involved in procurement in both sectors.

The interaction between learning processes and procedures for selecting architectural and engineering consultants could be expected to affect project qualities and, ultimately, the built environment. Paper II of this thesis analysed the link between public procurement procedures and company strategies, by discussing the incentive effect for potential service providers to develop environmentally sustainable techniques. Future research should analyse consequences of municipal procurement procedures by in-depth studies of strategies of architectural and engineering consultancies in response to municipal practices: How do current procurement practices affect consulting companies' strategy development? How do criteria used by municipalities in tender evaluations relate to what the consultancy companies perceive as conducive to good value for money in projects and their own long term development? Do current procurement practices provide incentives for the provision of value oriented services? Do they encourage strategies that raise skills among architectural and engineering consultants? There is little previous research on this link between award practices in public procurement and strategies in firms that provide architectural and engineering services.

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APPENDIX 1: QUESTIONNAIRE SURVEY

Municipal procurement of architectural and engineering services (within construction)

This questionnaire survey is conducted by Chalmers University of Technology, the division of Service Management, with financial support from the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (Formas), the Chalmers Centre for Management of the Built Environment, the ARQ Foundation for Architectural Research, the J. Gust. Richert Memorial Fund, STD and the Swedish Federation of Consulting Engineers and Architects, as part of the PhD project *Matching Competencies*.

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1. Types of service procurement that are part of your responsibility – and which primarily reflect your answers

1.1 Which types of services are part of your responsibility (in your function as a specialist or advisor)? (one or two marks)

architectural services* engineering services** both A and E services

1.2 Which kinds of objects are part of your responsibility?

(one or two marks)

buildings infrastructure both buildings and infrastructure

* In this survey architectural services do not include community planning.

** Only engineering services connected to buildings and infrastructure are included in this survey.

2. Procurement function

2.1 What is your **age**?

<25 26-30 31-40 41-50 51-60 61 -

2.2 Which **education** do you have?

(none, one or several marks)

qualified graduate from upper secondary engineering course post-secondary education in economy or law other:
 post-secondary education in engineering (e.g. graduate engineer) occupational training

2.3 What is your **position**?

Procurement Coordinator Facilities Coordinator Technical Services Manager
 Procurement Officer Facilities Engineer other:
 Procurement Manager Real Estate Manager

2.4 On average, how much **experience** (number of purchases) of procurement of architectural and/or engineering services do you have?

0-9 purchases 20-39 purchases 60- purchases
 10-19 purchases 40-59 purchases

2.5 Which function **do you represent** and which other functions participate normally in the tender evaluation for different architectural and engineering consulting assignments?

(one or several marks)

Your function	Participants	Simple projects	Complex projects	Framework agreements
<input type="checkbox"/>	A shared procurement function of several municipalities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	A central procurement function within the municipality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	An internal department within the municipality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	A public utility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	External consultant (supporting one or several steps in the process)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Other participant:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.6 Approximately how many **framework agreements** for architectural and engineering services have been awarded per year in the past three years?

(none, one or several marks)

- 1 framework agreement 2-5 framework agreements
 6-10 framework agreements 11- framework agreements

2.7 Approximately how many **other contracts** (i.e. not framework agreements) for architectural and engineering services have been awarded per year in the past three years?

(none, one or several marks)

- 1 other contract 2-5 other contracts
 6-10 other contracts 11- other contracts

2.8 What is the approximate **yearly contract sum** of the municipality (or the shared procurement function of several municipalities) for architectural and engineering services?

- less than 1M SEK 1-2M SEK 3-10M SEK more than 10M SEK

3. Procedures

3.1 Which **award procedure** is normally used in procurement of architectural and engineering services, under or above the threshold value?

(one or several marks)

Award procedure	Simple projects	Complex projects	Framework agreements
<i>Below the threshold value: direct agreement</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Below the threshold value: simplified procedure</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Below the threshold value: selective procedure</i>	<input type="checkbox"/>	<input type="checkbox"/>	
<i>Above the threshold value: open procedure</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Above the threshold value: restrictive procedure</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Above the threshold value: negotiated procedure</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Services of this kind are seldom procured according to the Public Procurement Act	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.2 How common is it that these services are procured as **framework agreements**?

Type of assignment	Always	Often	Sometimes	Seldom	Never
Simple projects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Complex projects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.3 How are contracts **awarded** for architectural and engineering services?

Main principle for award of contract	Simple projects	Complex projects	Framework agreements
Lowest price	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The economically most advantageous tender	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.4 In what form should the **price** be quoted in tenders concerning architectural and engineering services?

- hourly rate budget fixed price other:

3.5 Which **criteria** are normally used to award contracts for architectural and engineering services?

(Indicate typical percentages for the criteria that are used, alternatively mark with a cross.)

Criterion	Simple projects	Complex projects	Framework agreements
General criteria			
The financial and economic standing of the company
The company's previous projects of similar kind
The company's areas of competencies%%%
Quality Management System%%%
Environment Management System%%%
Other:%%%
Other:%%%
Specific project			
Price%%%

Individual experience of key project personnel (e.g. project organisation and management)%%
Education of key project personnel%%
Personality related criteria of key project personnel (e.g. ability to cooperate)%%
Project execution, action plan%%
Technical aspects of design%%
Aesthetic aspects of design%%
Innovative/creative solutions%%
Life-cycle costs%%
Other:%%
Other:%%

3.6 Which spread do the tenders usually have for the criteria that you use?
(one or several marks)

Criterion	Very low spread	Low spread	Neither low or high	High spread	Very high spread
General criteria					
The financial and economic standing of the company	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The company's previous projects of similar kind	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The company's areas of competencies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality Management System	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environment Management System	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Specific project					
Price	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Individual experience of key project personnel (e.g. project organisation and management)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Education of key project personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personality related criteria of key project personnel (e.g. ability to cooperate)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Project execution, action plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technical aspects of design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aesthetic aspects of design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Innovative/creative solutions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Life-cycle costs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.7 How do you experience the degree of difficulty in using the criteria you have chosen?
(one or several marks)

Criterion	Very easy	Easy	Both easy and difficult	Difficult	Very difficult
General criteria					
The financial and economic standing of the company	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The company's previous projects of similar kind	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The company's areas of competencies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality Management System	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environment Management System	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Specific project					
Price	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Individual experience of key project personnel (e.g. project organisation and management)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Education of key project personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personality related criteria of key project personnel (e.g. ability to cooperate)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Project execution, action plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Technical aspects of design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aesthetic aspects of design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Innovative/creative solutions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Life-cycle costs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.8 Indicate to which degree the following statements about **criteria** for the evaluation of architectural and engineering services are correct according to your opinion:
(one or several marks)

Statement	I fully agree	I mostly agree	I agree to some extent	I hardly agree	I fully disagree
Although evaluation is according to “economically most advantageous”, price is often decisive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We often rely on lowest price because we wish to avoid judicial reviews	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In general, we attach too much weight to price	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.9 Which of the following **information sources** do you rely on in the evaluation of tenderers?
(one or several marks)

Information source	Simple projects	Complex projects	Framework agreement
Company reputation (image/brand)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recommendations by other purchasers (references not included)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Previous experience of the company	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Previous experience of specific consultants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CV	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interviews	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
References	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competitions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.10 According to your opinion, are there any **differences** in evaluating architectural and engineering services?

Major difference Substantial difference Some difference Very little No difference

4. Procurement policy and effects

4.1 Does the municipality have a **procurement policy** or general guidelines for the procurement of services?

Yes No Don't know

4.2 If the answer to question 4.1 is **no**, do you think there should be a policy?

Yes No

4.3 If the answer to question 4.1 is **yes**: Which of the following aspects are part of the procurement policy of the municipality and to what extent do you think they are applied in procurement of architectural and engineering services?

(one or several marks)

Aspect of policy	Is included in the policy	Is always applied	Is often applied	Is sometimes applied	Is seldom applied	Is never applied
Total economy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Long-term issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sustainability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comparable competitive opportunity of the tenderer irrelevant of the size of the company	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

High level of competence (of what is being procured and legislation) of staff responsible for procurement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Continuous education of staff responsible for procurement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.4 How much do you think the municipality's way of procuring architectural and engineering services **affects** companies that provide these services?

(one or several marks)

Effect on companies	I fully agree	I almost fully agree	I partially agree	I hardly agree	I fully disagree
It leads to an increase of the number of small consulting firms in the industry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It leads to an increase of the number of firms with a high level of competence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The willingness of the tenderers to invest in high competence increases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The willingness of the tenderers to invest in innovative solutions increases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The international competitiveness of the tenderers increases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Areas of development

5.1 According to your opinion, how **well** does procurement of architectural and engineering services work in the municipality?

(one or several marks)

Type of assignment	Very good	Good	Neither good or bad	With certain weaknesses	Bad
Simple projects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Complex projects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Framework agreements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.2 If the answer to the previous question (5.1) was other than "Very good" or "Good", in which respects do you experience that there are **inadequacies**?

(none, one or several marks)

Inadequacy	I fully agree	I almost fully agree	I partially agree	I hardly agree	I fully disagree
Competence for evaluating architectural services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competence for evaluating engineering services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Knowledge of relevant evaluation methods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Knowledge of the Swedish Public Procurement Act	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Financial resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How the purchasing function is organised	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cooperation between internal functions in procurement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Management's interest in procurement related issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Education of procurement personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Knowledge exchange (networks, other forums)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.3 If there are inadequacies according to answers to question 5.2, which **consequences** are probable, in your opinion?

(none, one or several marks)

Consequence	I fully agree	I almost fully agree	I partially agree	I hardly agree	I fully disagree
Uncertainty of how tenders should be evaluated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Uncertainty among tenderers of how they will be evaluated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Excessive focus on price	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The number of tenders becomes lower	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The number of tenders becomes unreasonably high	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lower tender quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lower service quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.4 Generally speaking, how do you perceive the quality of **the content of tenders**, i.e. the information that architectural and engineering consulting firms provide based on the Request for Proposal?

(one or several marks)

Type of assignment	Very good	Good	Neither good or bad	Bad	Very bad
Simple projects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Complex projects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Framework agreements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.5 Irrelevant of the answers to questions 5.1 – 5.4, what is your general experience of the **results** of services performed by architectural and engineering consulting firms?

(one or several marks)

Type of assignment	Very good	Good	Neither good or bad	Bad	Very bad
Simple projects, with or without framework agreement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Complex projects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.6 If the answer to the previous question (5.5) was other than "Very good" or "Good": in which respects do you experience there are **inadequacies** related to the companies when it comes to services performed?

(none, one or several marks)

Inadequacy	I fully agree	I almost fully agree	I partially agree	I hardly agree	I fully disagree
Total cost for the service performed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The technical quality of the service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Time of delivery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competence (education, experience)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cooperation (communication, flexibility, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The presence of key project personnel in the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.7 Mark with a cross what you think about the following statements:

Statement	I fully agree	I almost fully agree	I partially agree	I hardly agree	I fully disagree
I have previously worked as an architect (consultant) or an engineering consultant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The regulation of public procurement creates inefficiency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Consultant competence is decisive for the success of a project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In general there is ambiguity regarding what municipalities want to achieve with procurement in a long-term perspective	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

It is important that public procurement functions has an incentive for companies so that they become more competitive in an international perspective	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The public sector does too little to create a sustainable Sweden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There are too many public buildings that have faults and deficiencies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is mostly mistakes in the design phase that lead to faults and deficiencies in public buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Innovative (creative) solutions should be rewarded to a larger extent in the selection of A/E consultants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Municipalities do not show enough confidence in start-ups among A/E firms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It should be possible to find a better method for measuring creativity of architectural services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is easier to solve unexpected problems with companies that have previously delivered A/E services to the municipality than with completely unknown companies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Other opinions

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