

Public eProcurement in Action: Policies, Practices and Technologies

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Abstract. This paper examines how abstract governmental eProcurement policies are translated into practice. We adopt a social constructionist perspective on policy and argue that the processes of eProcurement in public sector organizations are interwoven in broader policy processes and heterogeneous networks. Using the case study method we provide an empirical illustration of how this perspective could be drawn upon to make sense of eProcurement in action.

1 Introduction

Public eProcurement research is underrepresented in the eProcurement literature. Whilst it has similarities with private sector contexts in terms of deriving economic value and quality it differs in terms of its social welfare implications [1]. Of further significance to this study is the limited attention to and perspectives on eProcurement policy. For example, policy has been discussed in terms of the technology to support its delivery [2], a driver in the design of the procurement process [1] or as an implication arising from eProcurement use [3]. Less attention appears to have been given to the role of policy itself in shaping eProcurement practice.

The objectives of public eProcurement, commonly found in government policy, are primarily focused on governance practices in terms of achieving better value for money, efficiencies and effectiveness and transparency in government procurement. While these are valid statements of the desired outcomes, they: offer limited guidance in terms of action (how the policy is implemented); may conflict with other policy areas because of competing objectives or priorities; and, prove hard to reach in the prescribed timeframe. Further, over time attention may shift to other priorities because of changing political landscapes and multiple layers of government. Consequently the goals articulated may bear little resemblance to what is happening in practice raising the question about the significance of policy, 'what is policy for' [4: 49].

That policy is a purposive course of action in terms of achieving some predetermined goals suggests that if the outcome differs significantly from the stated intentions then there has been some 'implementation failure' with the policy [4: 40-53]. Whether implementation is a problem and the type of problem it presents

depends upon the perspective being applied [4:53]. While policy may be clearly grounded in some conscious choice, its origins may exist in practice [4:15]. Therefore an alternative perspective is required that assists in addressing: How we arrive at these moments described as eProcurement policy implementation success or failure? What are the events that preceded them? What role does policy play in shaping these moments?

Our study addresses these questions by examining how abstract governmental eProcurement policies are translated into public procurement practices through adopting Colebatch's social construct of policy [4] and theoretical concepts from actor-network theory [14] serving two objectives. Firstly, by adopting these perspectives we argue that the processes of eProcurement in public sector organisations are interwoven in broader policy processes and heterogeneous networks. Secondly, we provide an empirical illustration of how this analytical lens is useful in making sense of eProcurement in action. We achieve these objectives through a case study analysis of three government agencies.

The study contributes to the eProcurement literature in two ways. Firstly the analysis makes visible the role(s) played by key actors in different settings, which assisted in translating eProcurement policy into practice. Secondly, the analysis provides us with a starting point for critically engaging with the notion of policy in eProcurement. We return to these themes in both, the analysis and case descriptions.

The paper is organised as follows. The next section discusses the policy construct. This is followed by an outline of our research design and methods. We then illustrate how the perspective could be employed to make sense of eProcurement in action through three case studies. The cases provide empirical evidence of the interplay between policy and eProcurement practice. Finally we discuss our conclusions and implications arising from this study.

2 A Social Constructionist and Actor-network Perspective: Policy, Practice and Actors

Colebatch adopts a social constructionist approach influenced by structuration, institutional organisation theory and governmentality in his analysis of the policy process. That is, neither policy nor the problems to which it addresses are natural phenomena with an existence of their own, but are produced by the policy participants. He recognises two dimensions to policy, the vertical and the horizontal which impact on the way that we understand and interpret policy. The vertical dimension views policy from a top-down perspective focusing on "instrumental action, rational choice and the force of legitimate authority". The horizontal dimension is concerned with the way policy structures action. That is, the relationships and nature of linkages within and between organisations, the interpretive frameworks used by policy participants in understanding policy questions and the "institutional formations within which these are mobilised" [4:24]. The two dimensions are mutually shaping in that the implementation of the authorised decision requires cooperation from "relevant others outside the line of hierarchical authority". Further the shared interpretive frames of meaning that arise from the horizontal

dimension are given effect via “the instruments of the vertical dimension” such as policy directives. Complementing this with the actor-network perspective provides a socio-technical lens on the phenomena that emerges.

3 Research Design and Methods

The three case studies are drawn from a series of cases prepared for the Australian Government Information Management Office (AGIMO). Data collection consisted of documentary evidence and in-depth interviews. The documentary evidence analysed included official records (e.g. policy documents, annual reports, presentation materials), consultancy reports, reports from international bodies such as the European Union and newspapers. The material was collected over a period of four months (from May 2004 to September 2004). Interviews were conducted with key people from senior management levels as well as those in the eProcurement project areas in all three case sites. The interviews lasted on average one hour depending on the issues raised by the respondent.

The in-depth interviews had two objectives: to obtain a descriptive account of the eProcurement systems and to understand why the systems are what they are today. The latter objective required probing questions on issues relating to policy. During the fieldwork tape recordings of interviews were made, transcribed and reviewed. Where issues were unclear or required further elaboration follow up contact was made for clarification. Interviewees produced documents including reports to support their statements. This allowed a form of triangulation of research evidence, together with member checking of the case study write-ups.

We conducted a thematic analysis of the evidence collected. The analysis was focused at two levels. Firstly providing thick descriptions of the eProcurement systems and their impact. The concern was not merely to find evidence of the existence of particular practices but to gather detailed description of how these practices evolved. This analysis was a prelude for an interpretive analysis informed by the policy perspective to gain a richer and deeper understanding of how eProcurement was shaped in each context. Of particular importance were the historical circumstances of each agency and how these enabled an understanding of the eProcurement system.

4 eProcurement in Action: Empirical Illustrations and Analysis

This section is divided into two parts. First, each of the cases is described in terms of how they came about doing eProcurement (background and context) and how eProcurement was mobilised over time. The second part provides analyses of these findings in terms of the interplay between policy and practice.

4.1 Case Descriptions

4.1.1 Public eProcurement in Italy

Background and Context

Prior to 2000, the use of e-commerce and information technology (IT) more generally was considerably lower than comparable economies, notwithstanding that Italy had the highest mobile telephone usage in any industrialised country. Explanations for this included: “a dislike of the written, as opposed to the spoken word; the necessity of mastering English; and, a mistrust of fixed accounting systems” [5]. Further to this, requirements of the Italian Anti Trust Authority relating to fairer competition and audit recommendations regarding improving cost efficiencies in the purchasing of goods and services focused attention on strengthening public procurement practices.

With a view to reinforcing the “modernization” process of the public administration, [6] the responsibility for ‘Il Programma di razionalizzazione della spesa’ (The Program for the Rationalisation of Public Spending) mandated by the ‘Legge finanziaria’ (Financial Act), as amended, was delegated to Concessionaria Servizi Informatici Pubblici (CONSIP). CONSIP is a private company owned by the Ministro dell’Economia e delle Finanze (Ministry for the Economy and Finance (MEF)), which advises and assists public administrations with their procurement. Established in 1997, predominately as an information technology provider for the MEF, CONSIP created a second division in 1999, called the Direzione Acquisti in Rete della PA (DARPA) (Division of Online Purchasing). Of the 500 employees that work in CONSIP, approximately 170 are dedicated to DARPA.

DARPA was assigned the task of developing master conventions for “frame contracts” with suppliers to satisfy needs of Central and Local Administrations. It is structured into six key areas, namely: project management, monitoring and research and development; legal; purchasing; sourcing; eProcurement marketplace strategy; and eProcurement systems. Approximately half the number of employees are situated in the purchasing and sourcing sections to assist public administrations and suppliers in adopting and using eProcurement.

eProcurement has evolved as one of the main instruments for the rationalisation program, promoting the simplification and innovation of procurement procedures as well as macro level initiatives relating to the efficiency and transparency of government operations through IT enabled innovations. Further the goals of the rationalisation program and the eProcurement initiative were consistent with broader European Union directives and initiatives relating to public procurement, electronic exchange of information between public administrations and economic reform. However, whilst eProcurement was consistent with and drew attention to broader national and international strategies these were secondary to the primary objectives of reducing costs, simplifying purchasing procedures, and increasing transparency in public administrations.

How eProcurement was Mobilised

The business design of eProcurement is comprised of electronic catalogues, reverse-auctions and the electronic marketplace. It initially began with an electronic cataloguing system in July 2000 following the rationalization program being mandated by the 'Legge finanziaria' (Financial Act) 2000 earlier that year. Incorporated in the Financial Act was the use of common strategies in purchases supported by framework agreements negotiated by CONSIP [7]. Whilst it was compulsory for central government departments to join the program, local bodies, such as municipalities and schools needed only to take the frame contracts as a term of reference. The electronic cataloguing system replicated the specifications and terms of the frame contracts for public administrations to view online. During this period there was a major "ramp up of resources" to support the program. Further on, an online auction platform was developed for the use of CONSIP in awarding frame contracts for goods and services. This further enforced transparency in purchasing procedures of goods and services. The platform not only enabled suppliers to view and bid for the tenders but also informed them of the outcome.

CONSIP activities were also impacted by the creation of Presidential Decree 101 in 2002 regulating the use of digital procedures for public procurement in Italy. Whilst the Act was amended in 2003 to set out in further detail the statutory requirements for public administrations, it was subsequently amended maintaining the obligation only for the purchasing of goods and the supply of services characterised by high quality low labour intensity. However, the onus is still on the public administrations to demonstrate that they can negotiate a better position elsewhere if they choose not to use the system. Further enforcement had created "a little bit of rupture in the system." Resistance was experienced from both the public administration areas as well as the supplier side because of changing procurement practices and the need to use information technologies. As a result the program slowed in the earlier parts of 2004.

CONSIP conducted a major change management program to assist and educate the public administration bodies and suppliers about the "new model." Further, as a large portion of the economy in Italy is based on small and medium sized enterprises (SMEs), pressure was exerted from strong supplier associations for equitable access to government business. They were concerned that in deriving economies of scale through the aggregation of demand, SMEs were being excluded. CONSIP considered ways of tailoring the online environment so that SMEs could participate. The electronic marketplace was established in 2004 for smaller purchases and supplies in different geographical locations.

The economic and broader governance goals such as increased transparency appear to have been fulfilled. However challenges remain with respect to cultural resistance and technological issues, such as electronic payments. Making the system initially compulsory was seen as a necessity premised on the notion that suppliers would be more interested if they had certainty that someone would buy from the system. However, as the system is developed further, CONSIP are endeavouring to create an image that is more aligned with flexible services than obligations.

4.1.2 Public eProcurement in Western Australia

Background and Context

Prior to 2002, the responsibility for government tendering was with Contract and Management Services (CAMS). Following recommendations made from the Machinery of Government review a number of government agencies were rationalized. The Department of Commerce and Trade (DCT) and CAMS merged to form the Department of Industry and Technology (DoIT). Further to this a taskforce was formed to undertake a review into the effective delivery of government priorities. The Functional Review Taskforce (FRT) was required to examine the programs, functions, activities and services of each agency serving two purposes: (1) to determine their efficiency and effectiveness; and (2) to identify areas of expenditure where a whole of Government approach could produce a more effective outcome. In December 2002 the FRT reported its findings to Cabinet who subsequently endorsed the majority of the recommendations relating to procurement reform, corporate services reform, eGovernment, and capital asset management from a whole of government perspective.

Areas of interest in procurement reform included: reviewing inefficient processes; standardisation of systems and specifications; and exploring more aggregation opportunities across the public sector [8]. Reforms commenced in February 2003 with the DoIT being disbanded. The responsibility for government procurement was moved to a new Government Procurement Division of the Department of Treasury and Finance (DTF) and the IT innovation and policy area shifted to a new Office of eGovernment in the Department of Premier and Cabinet. Whilst the State Supply Commission has the broad policy role for Government purchasing, incorporating policymaking and regulation, the responsibility of procurement is devolved to individual public authorities or the DTF and the Department of Housing and Works for above threshold purchases.

The second phase of the review focused on the procurement function itself. Recommendations from the independent review [9] were endorsed in December 2003. Labelled as *Smarter Buying* the reform program serves two purposes. Firstly, to *harvest* savings, through strategic sourcing initiatives, while maintaining equitable access to government business. Secondly, delivering better quality procurement outcomes by enhancing the professionalism of procurement activities, the skills of procurement officers, processes and systems and streamlining procurement policy. These reforms are coordinated by the Procurement Program Management Office (PMO), located within the DTF.

How eProcurement was Mobilised

The Government Electronic Market (GEM™) electronic procurement system is comprised of: Gem Tendering; Gem Purchasing and Gem Contracting. Gem Contracting is a more recent initiative and so is not discussed further. The Gem Tendering system evolved from the Government Contracting Information Bulletin Board, which arose from the Commission on Government Review (1998-1999). It was created to advertise tenders and give early tender advice. The online tendering

idea served to trigger interest by CAMS into the potential for electronic marketplace, electronic purchasing and electronic procurement systems.

Gem Purchasing was launched in early 2000 and supported by other initiatives of the time such as the WA Government Online Agenda. The initiative was kicked off with a buy local initiative and a budget of approximately \$3 million. The limited budget later proved to be a contributing factor to problems in the production environment and data corruption because of inadequate system testing.

Gem Purchasing became an instrument of state development in terms of: (1) encouraging business with government; and (2) maintaining market space following concerns expressed by the then Department of Commerce and Trade that business could be lost to the eastern states of Australia. However, while operational and functional issues were being addressed, there was a view that Gem Purchasing was evolving into a phenomenon that was extending to something further than what was initially intended. Gem Purchasing was intended to serve as a vehicle in transforming CAMS' core business of managing contracts. However CAMS endeavoured to change its procurement practices at one level whilst also trying to change contracting processes. This "resulted in elements of the agency practicing business as usual, while at the same time trying to change the paradigm" and as a result the "execution was fragmented"[10]. Secondly, when CAMS was later merged with DoIT it became part of a culture where the use of technologies was intrinsic to driving change.

The contract for supplying the IT platform for Gem Purchasing was awarded to a locally led SUN Microsystems consortium in August 2000 with other providers producing the catalogues and integrating the individual modules. The contractor faced a steep learning curve in understanding the IT architecture, which resulted in implementation delays and dissatisfaction in agencies. The system was fully functional by July 2001 coinciding with the commencement of the Department of Justice Prisons Supply Chain Management project. This project was completed in July 2002 with all WA prisons using the system.

Notwithstanding the number of agencies using Gem Purchasing, only the Department of Justice Prisons Directorate has embraced Gem Purchasing holistically and remains the only significant user of the system. The remaining users tend to be smaller agencies that do not have any purchasing system capability. The lack of uptake resulted in a review, conducted by AOT Consulting Pty Ltd which concluded in August 2003. During the course of the review no work could be done on the system as it was "frozen."

The review revealed in addition to the resource and implementation issues raised above, three other key issues. Firstly, increased interest from national and international government agencies were viewed as having distracted and diverted critical resources away from WA clients. Secondly, enlisting a large number of suppliers early was viewed as a key strategic error as there were a limited number of buyers in the marketplace. Finally, other reform and structural issues created competing priorities. The review concluded that Gem Purchasing should continue, subject to its recommendations being implemented.

4.1.3 Public eProcurement in Scotland

Background and Context

Public eProcurement in Scotland is shaped by broader UK public policies for improving government efficiency and delivering better value for money to taxpayers. In 1998, the UK Government report *Efficiency in Civil Government Procurement* [11] identified a series of targeted measures for improving public procurement. Following this, the 1999 *Review of the Civil Service in Government* [12] made recommendations for improvements in public procurement.

These included:

- improving procurement processes
- developing the skills and status of the procurement profession and
- exploring e-commerce and technology-enabled options for procurement.

Following Devolution in 1999, public procurement in Scotland became the responsibility of the new Scottish Parliament. In January 2000 the Minister for Finance established the Procurement Supervisory Board (PSB) to review public procurement issues including eProcurement. The PSB membership includes representatives from Central and Local Government, the Scottish Health Service and the private sector. The PSB proposed a strategy for eProcurement encompassing the whole of the Scottish public sector. The strategy received ministerial approval in November 2000 and central funding was allocated to the National eProcurement Scotl@nd (NePS) programme.

How eProcurement was Mobilised

The NePS programme falls within the portfolio of the Scottish Procurement Directorate (SPD) and is the key agent for implementing the Scottish eProcurement strategy. The SPD has both a policy and an operational role. In addition to its responsibility for shaping public procurement policy and practice in Scotland the Directorate is also responsible for planning and coordinating the day-to-day procurement activities of the Scottish Executive.

In 2000 the Scottish Procurement Directorate conducted a review of business models for public eProcurement and concluded that no existing business model was completely suitable for use in the Scottish context. It was recognised that a holistic approach was required for eProcurement in Scotland where procurement process reform and the implementation of new technologies for procurement take place in a coordinated manner.

The NePS team took a broad interpretation; defining eProcurement as a business service as opposed to a technology solution, known locally as “little e, big P”. The team developed a business model that emphasises the use of common methodologies for buyer-enablement and supplier-adoption and uses intermediary organisations to assist in providing the service and managing the technology platform.

The aim of the NePS programme is to establish a common platform and a common approach to eProcurement in the Scottish public sector that will result in efficiencies and cost savings for both buyers and suppliers.

The focus of the programme is to:

- provide a joined-up approach to public procurement in Scotland

- achieve efficiencies through improved procurement processes and deliver cost savings to government (and the Scottish taxpayer)
- raise the importance of procurement as a business activity
- improve the supplier experience of dealing with government (suppliers will be required to interact with one system when selling to the public sector)
- provide benefits to government agencies by developing common procurement processes, sharing of procurement knowledge and experiences and
- where appropriate, establish collaborative procurement practices.

The business design for the eProcurement in Scotland is a fully hosted and managed service that brings eProcurement into the reach of all Scottish Public Sector organisations through the initial investment of the Scottish Executive. The NePS programme team coordinates and supports the uptake of the service, which is provided by a private sector organization (Cap Gemini) and hosted on elcom's PECOS Internet Procurement Manager platform. The service is subscription-based and extends to Central Government, Local Government and the National Health Service Scotland. Buying organisations pay an annual management fee; there are no annual management fees for suppliers.

A Scoping and Readiness Assessment to establish the current status of the buying organisation in terms of readiness for adoption of the service is an integral part of the service. It includes activities such as spend profiling, analysis of supplier base and purchase-to-pay processes as well as an assessment of technology and human resource capabilities. The result is an implementation plan specific to the situation and context of each buying organisation.

The technology (the PECOS system) is a fully hosted application service that supports a range of buyer and supplier procurement functions including catalogue management, order cycle management, approval routing and electronic tendering and auctions. The PECOS system also provides financial settlement and invoicing functions and a range of reporting tools.

A key requirement of the NePS service is that it is accessible to all suppliers regardless of size and technology capability. The NePS team developed a range of procedures and supporting documentation for supplier adoption and enablement.

NePS has promoted a very holistic view of eProcurement as an end-to-end business service; requiring a multi-functional team with a good understanding of public procurement policies and practices and skills for re-engineering and benchmarking business processes. The NePS team assumes the role of an intermediary; supplying information and expertise to buyers and suppliers, coordinating change management activities and developing training programmes. They take a hands-on approach, using the implementation of the NePS service in the Scottish Executive (known locally as EASEbuy) to gather valuable experiential knowledge and to refine their support instruments and activities.

Broad economic goals and the provision of a whole of government eProcurement service have been realised. Going forward, procurement is a major theme of the *Efficient Government Initiative* announced in July 2004 [13]. The initiative promotes shared services, best practice and cross-sectoral working. Specific focus is on “back-office efficiencies” such as invoicing; the NePs team is now working towards offering “e-Invoicing” capabilities and moving the Scottish Public Sector closer to achieving complete e-Commerce solutions in government.

5 Analysis

Emerging from the three cases, the objectives of public eProcurement commonly focussed on governance practices in terms of achieving better value for money, efficiencies and effectiveness and transparency in government procurement. For example, Italy's rationalisation programme, the broader UK reform policy in Scotland and transparent tendering in Western Australia. While these are valid statements of the desired outcomes, they offered limited insight into how the policies were implemented and changed over time. Adopting Colebatch's policy perspective assisted in moving from the debate about whether objectives are meaningful or not, and whether they have been implemented or not, to understanding how the different images and business designs emerged and the influence of policy.

The cases reveal that the generic term of eProcurement groups different images and designs in a single concept. Further, while business designs of eProcurement reveal similarities amongst the different sites (with the exception of purchase to pay for Scotland) they evolved differently revealing the criticality of temporal context in policy design. Government priorities shifted arising from progress (or not) towards particular objectives or unintended consequences arising from practice. Thus, whilst the initial interpretation of eProcurement may have been shaped via instruments of policy directives, this varied in different social and temporal contexts. Of further interest is that while each site has its own history, culture and economic contexts that influenced the interpretation of eProcurement amongst the different cases, these differences do not 'explain' the specific directions taken in each site. We found that actor-network theory complemented Colebatch's policy perspective providing useful sensitising concepts in which to follow the series of moves relating to the development of eProcurement and the mechanisms by which site specific translations came about. Whilst we present these elements as sequential moments below, this is solely for the purposes of ease of analysis as it is more appropriate to conceptualise them as parallel dimensions in the social practice of organising.

Policy Inscriptions

eProcurement does not just begin as a blank slate but rather embodies social and economic relations and assumptions about meanings and uses of eProcurement. By viewing inscription over time we reveal how human and technical actors may affect the functionality of eProcurement and the form in which it evolves. For example, in Italy and Scotland broader government reforms were inscribed in eProcurement initiatives at the start and over the course of its development. This is in contrast to Western Australia, which initially adopted a narrower focus in terms of improving transparency in tendering. In the latter case competing policy priorities and objectives were more evident.

Translations and Intermediaries of Policy

Translations of eProcurement from abstract policy objectives to practice differed in each case evident by the multiple interpretations of eProcurement. In Scotland eProcurement was initially translated as a service for the whole of the public sector and as an instrument of reform in Italy. From its inception of improving transparency

in the Western Australia government tendering process, the practice shifted towards a means of improving large volume government purchases through ‘new’ eProcurement technologies. A concomitant opportunity viewed by CAMS was that it could transform its own business and be seen as a leader in the area.

In each case there were structures and agents that mobilized these interpretations and designs. For example, in Scotland a heterogeneous network consisting of the National eProcurement Scotland Programme, technology providers and consultants, instruments and methodologies for buyer engagement and supplier adoption, buyers and suppliers in their own right, and databases of case studies were assembled to translate eProcurement policy into practice. The National eProcurement Scotland Programme and CONSIP in the case of Italy were obligatory passage points in enrolling key actors, such as government agencies, suppliers and IT providers and aligning their interests. In the Western Australia case the focus on technical functionality created difficulties in aligning the interests of different government agencies because of previous technology investments, continual structural changes and competing policy objectives. For example the “buy local” initiative influenced the engagement of a local technology consortium who had limited experiences with aspects of the technology architectures.

Irreversibility and stability

In the case of Italy and Scotland a convergent network emerged consisting of a body of allies in the form of government agencies and suppliers with a crystallized conception and mutual understanding of eProcurement. Hence the actors engaged in actions in support of the inscribed policies resulting in irreversibility. In contrast the Western Australia case did not stabilize in the form expected and different outcomes emerged largely due to issues relating to emphasis on the functionality of the ‘new’ technology versus existing functionality in established financial management systems and the changing identities and activities of the ‘responsible’ agencies. We are not stating here that irreversibility and stability are necessarily desirable, rather it was considered desirable in the context of Italy and Scotland. Further, it is part of ongoing change activities and so will not necessarily remain this way, for example with further policy reform.

6 Conclusion

The results highlight four key issues relating to public eProcurement policy. Firstly in the two cases (Italy and Scotland) where eProcurement is viewed more desirably, policies were based on broader government reform than on eProcurement itself. Secondly, the generic term of eProcurement is constituted of different images and designs. Hence designing policy in terms of a single concept may be misleading. Thirdly while business designs of eProcurement reveal similarities they evolved differently amongst the cases suggesting the need to take into account the temporal context when designing policy tools. Finally, at a theoretical level, this paper has illustrated the value of adopting a social constructionist and actor network perspective in exploring the complex terrain of eProcurement policy and practice. By utilizing this

perspective, the policy processes which lead to the varying images of eProcurement become more visible. The design of eProcurement systems and practices are reflected in rules and procedures that persist over time and are both a shaper and an outcome of policy processes. That is in practice the policy process is not a systematic linear implementation of objectives.

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