

AN ANALYTICAL FRAMEWORK FOR THE MANAGEMENT AND REFORM OF PUBLIC PROCUREMENT

Paul R. Schapper, João N. Veiga Malta and Diane L. Gilbert*

ABSTRACT. Public procurement frameworks in developed and developing countries alike are recognised as being characterised by an unstable tension between the public expectations of transparency and accountability, and of efficiency and effectiveness of resource management. This conformance - performance tension, manifest throughout a complex procurement environment, is further destabilised by conflicting stakeholder interests at the political, business, community and management levels and exacerbated by competing claims between executives, lawyers, technologists and politicians for lead roles in this arena. The application of new technology in this discipline offers a qualified potential to substantially resolve these tensions. However, the application of technology is itself at risk from a lack of understanding about the nature of its impact and the wider political dimensions of professionalism in public procurement.

INTRODUCTION

The concepts of transparency and accountability are nowhere more significant in public administration than in procurement, which may account for more than a third of all of a government's outlays. Yet while these attributes are paramount as in regards to good governance, they do not on their own distinguish procurement from many other activities of public process. However, there are many other elements that combine to

** Paul R. Schapper, PhD., is a Professorial Fellow, School of Business, Curtin University of Technology, Australia. His research interest is in the applications of technology to public sector governance. João N. Veiga Malta, BCom, is Electronic Government Procurement (e-GP) Program Coordinator, Inter-American Development Bank. His research interest is in public procurement and electronic procurement. Diane L. Gilbert, --BSc, is Procurement Consultant. Her research interest is in public sector reform and governance.*

make public procurement especially enigmatic, one of the least understood and most vulnerable areas of public administration.

Public procurement is inherently a politically sensitive activity, not least because it involves significant amounts of public money even within the context of a national economy. Pegnato (2003) estimated the US federal procurement figure at around US\$200 billion per annum; while Coggburn (2003) put the combined level for state and local governments at more than US\$1 trillion. Thai and Grimm (2000) estimated government's collective purchasing at around 20% of GDP while, for developing countries, Nicol (2003) put the figure at 15% of GDP. For Russia, federal procurement in 2004 was expected to amount to about 40% of the country's budget (Fradkov, 2004). The Organisation for Economic Co-Operation and Development (OECD) Development Assistance Committee (DAC) (2003) estimated the volume of global public sector procurement at 8% (US\$3.2 trillion) of the worldwide GDP of US\$40 trillion. Aspirations to de-politicise public procurement face major hurdles: decisions about its appropriation can involve financial hardships and job losses for various regional or sectional constituencies, thereby inviting intense political interest. Further, even just a few low value performance failures can, it seems, be of greater political significance than pandemic inefficiency (Dilulio, 1994; Osborne & Gaebler, 1992).

Compounding the issues implied by its overtly political and business dimensions are widespread misunderstandings and even gross ignorance within the executive structures of governments as to what procurement actually entails (Coggburn, 2003; OECD/DAC, 2003). There is often little understanding of what skills are required and what risks are implied as well as what opportunities may be available (e.g. GAO, 2000). Failure of awareness and expertise at this level commonly represents a real risk to good governance, even creating the anomaly whereby public procurement may sometimes be characterised as transparent while not accountable (e.g. see Isaac [1997] on the Cave Creek disaster).

The significance of public procurement reform for developing countries is increasingly being appreciated by development agencies globally, recognising that the social and economic costs (Schapper & Malta, 2004) of the weaknesses in public procurement governance are compounded by increases in sovereign risk that this represents for foreign investment (Jones, 2002). However, even amongst the reformists

in this area there are common misunderstandings and a lack of consensus about this activity with, for example, many perceiving it as a regulatory problem and others as a mainstream management function.

These problems are by no means limited to developing countries (Hunja, 2003; Nagle, 1992). Even in those jurisdictions with stronger administrations the issues are poorly appreciated and susceptible to systemic failure of accountability -- often because the agents of accountability themselves have at best a weak appreciation of the issues (e.g. Peachment, 1992). Cases have involved, for example, failures to understand when contractual relationships exist; or when the passing of information on the process constitutes breaches of confidentiality (Finn, 1997). Even where these weaknesses are exposed, it will commonly be on an occasional and exceptions basis despite the problems sometimes being ongoing and endemic.

While many of the issues have already been discussed in the literature, this paper seeks to develop a model to suggest why traditional reform of public procurement as a narrow management concept is unlikely to succeed beyond delivering minimal governance benchmarks. The analysis will show that public procurement is subject not only to divergent political, managerial and regulatory objectives, but also that key performance measures associated with these divergent objectives introduce conflicts between and even within government agencies themselves. However, the analysis will be extended to suggest how the tensions embedded in the procurement environment may be vulnerable to emerging technologies that may be significant in reconciling the ideas about the management of this function. On the other hand, in circumstances where there is only superficial appreciation of the broader management issues and of their technological possibilities, the reform of public procurement remains exposed to ill-fitting management models and influences even within the technological environment.

To develop this analysis it is first necessary to identify and understand the concepts, management and political agendas that define and constrain the procurement environment itself.

SCOPING THE PROCURMENT ENVIRONMENT

It is unlikely that an analytical framework for public procurement can be understood by digesting a procurement training manual. It is impossible to develop a comprehensive framework for the

understanding, analysis or management of public procurement independent of its political context. By its very magnitude, public procurement demands high quality public governance in terms of transparency and accountability as well as effective management that can deliver optimum risk management and value-for-money outcomes (NPR, 1993). It also demands coherence with other public policy environments, especially business policy because of its significance in the economy (Harland, Gibbs, & Sutton, 2000) even though these various operational elements often fail to come together into a coherent policy or politically sensitive management framework.

Within the management environment, control, risk mitigation and transparency objectives are often the focus of centrally mandated regulatory compliance frameworks while management performance in terms of value outcomes is often pursued through devolved decision-making and deregulation.

In what follows we seek to develop each of these factors as a foundation for a framework within which they can be more meaningfully ordered, related and understood. All of these elements make up the procurement environment and need to be accounted for in any useful framework if it is to reconcile the activities of procurement managers with the demands of their executives, the agendas of the politicians and the expectations of the business sector, the media and the community.

Procurement Management Objectives

Many jurisdictions worldwide have, implicitly or explicitly, similar management objectives for public procurement (e.g. Qiao & Cummings, 2003; Jones, 2002; Thai, 2001). Common policies are widespread between jurisdictions, notwithstanding the great variances in methodologies and operational practice. For example, in a collective action by the forum for Asia-Pacific Economic Cooperation (APEC) countries, their Government Procurement Experts Group has developed a set of non-binding principles that included transparency, value for money, open and effective competition, fair dealing, accountability and due process (APEC, 1999). Individual member countries decide on the applicability of individual elements to them, taking into account the specific characteristics of their economies and the costs and benefits of adopting specific measures

Such common policies are generally constructed from the following elemental objectives:

- *Public confidence* – underpinned by attributes of accountability, transparency, equity and fair dealing in relation to procurement processes;
- *Efficiency and effectiveness* – in the use of public monies to achieve value for money and efficiency of delivery of procurement *outcomes*; and
- *Policy compliance and consistency* – of both the processes and outcomes of procurement in relation to other policy objectives and expectations of the public sector such as environmental issues, training and apprenticeships, international obligations and especially business and regional employment impacts.

These objectives are unsurprising and are consistent with generic public management. They simply say that the management of public procurement needs to be in accordance with community standards, and effective, efficient and consistent with the broader roles of government. However, while they seem simple, experience is that translating them into operational reality involves issues and policies that are frequently in conflict if not mutually incompatible.

Broadly, three approaches, sometimes in various degrees of combination, are employed to deliver these objectives. The following discussion includes each of these approaches, generally defined in terms of their focus on *regulation*, *management* and *centralisation* of public procurement.

Regulation and Compliance

In jurisdictions where the dominant political concern has been the principles of transparency, equity and fair dealing (*public confidence*), management of public procurement through an extensive regulatory framework often constitutes the status quo. This framework reflects a traditional approach to public procurement – and for many other government functions perceived as basic processing – by relying heavily on regulation as the primary means of control of administrative process and implementation of policy. Regulations control the micro-management steps throughout the procurement process.

A highly regulated procurement environment is designed to minimize discretion in circumstances considered to be at high risk from undue influence. A highly prescriptive approach may also seem appropriate in jurisdictions where officials have minimal procurement skills, and which are striving to ensure transparency or prevent or overcome corruption: the regulated approach is almost universal in, but not exclusive to, developing countries. An attempt to standardise procurement regulations is the *Model Law on Procurement of Goods, Construction and Services* developed by the United Nations Commission on International Trade Law (UNCITRAL, 1994) through its Working Group on the New International Economic Order.

A highly regulated management environment is also often a means of political risk minimisation (Pegnato, 2003) in developed countries. In these cases, the focus is on compliance with the prescribed process as a means of elimination or avoidance of risk. Assessment of procurement management performance is defined in terms of compliance with the set rules. Examples of regulated environments are diverse and include Canada, the USA, Brazil and Thailand. Many of the US state and local entities also undertake their procurement in a regulated environment, under the provisions of the Model Procurement Code (MCP) for State and Local Governments, developed by the American Bar Association (Rickard & Radwan, 2004).

The penalty for a highly prescribed framework is its lack of flexibility in managing agency needs, placing it immediately in tension with performance and efficiency. The detailed codification of process is designed to eliminate scope for partiality in outcomes and protect governments from scandal and corruption (often with limited success), but in doing so also tends to eliminate all but the most mechanical aspects of this activity (Kelman, 1990; Pegnato, 2003). Regulated frameworks are procedurally costly and, while readily prescribed for simple procurement, are slow to adapt to changes that require the re-engineering of process, or the development of increasingly complex procurement associated with sophisticated supply chains. Micro-regulation of the process also has the unintended consequence of eroding the skill requirements of procurement officials, thereby undermining professionalism in this activity. Procurement training in this context consists of learning the rules. This lack of professionalism can, in turn, be expected to increase the need for further regulation of process as well as reduce value-for-money in procurement which requires extensive

management skills. This erodes accountability except in terms of compliance.

Significantly, the transparency goal of this regulatory model can also be self-defeating: the daunting volume of regulations acts to obfuscate transparency by making the processes difficult for stakeholders such as business to comprehend (MacManus, 1991).

Managerialism and Performance

Social and economic pressures at both domestic and global levels have required governments to seek better performance from their public sectors. Successive waves of management and financial reforms have, *inter alia*, focused on improving public procurement efficiency, effectiveness and outcomes (Callender & Matthews, 2002). Many of these reform initiatives have featured managerialism and a general shift towards devolution and decentralisation (Thai, 2001; McCue & Gianakis, 2001). Usually, this shift away from the centre has been attributed to a need to respond more effectively to the sensitivities of the client or the community; or to engage more fully the capabilities of all of the human resources at the disposal of the organisation or the public sector. The management of public procurement has been subjected to the same reform pressures. For example, this statement from the Australian Government's procurement reforms:

... In seeking improvements to the accountability and administration of the procurement function, the Government expects departments and agencies to exploit fully procurement's potential to add value to program delivery, contain and reduce costs in real terms and contribute to the achievement of broader policy objectives, particularly for industry development. (*Purchasing Australia*, 1995, p. 1)

The requirement for procurement to deliver higher performance in terms of improved *value-for-money* and *fit-for-purpose* outcomes has led to the development of more complex supply chains (e.g. through outsourcing and partnering arrangements) to deliver comprehensive service solutions, requiring more sophisticated relationships with suppliers. These more complex supply chains represent a move away from simple competitive markets and require a deeper understanding of industry structures and capabilities. These higher value supply chains also require more extensive management skills to develop and maintain

(e.g. NASPO, 1999; Martin, 2002). Some characteristics of this evolution are presented in Table 1.

TABLE 1
The Changing Nature of Public Procurement

Simple processes	-->	Complex contracts & relationships
Largely goods	-->	Complete service solutions
Sourcing considerations	>	Strategic business decisions
Low value, low risk	-->	High value, high risk
Back office function	-->	Central to strategic management
Warehousing	----->	Just-in-time
Basic skills	----->	High level skills

To be able to manage these more complex relationships and outcomes, management of procurement has faced increasing pressure for devolution from centralised control to line agencies. Accompanying this devolution has sometimes been an assignment of greater flexibility, or varying degrees of deregulation within a broader governance framework and with more highly skilled managers. A lesser reliance on regulated prescription of the process of procurement has also given rise to the need for more coherent management tools and policies (which are not always provided) to manage stakeholder interests and risks.

Efficiency of Process

The foregoing discussion has centred on public procurement management firstly for compliance and then for effectiveness in terms of best value-for-money and fit-for-purpose outcomes. These objectives traditionally have each led jurisdictions down quite different paths, the first defining procurement as a legal process, the second in terms of management.

Of further significance is the operational efficiency of the process as it relates both to government and to business. Efficiency of process is a concurrent consideration regardless of whether procurement is defined as a regulated process or managerial task. The efficiency equation is important in this discussion because it introduces complications to the tension between centralisation and decentralisation of management of the

framework (see also discussion on centralisation and delegation in Johnson, Leenders & McCue, 2003).

The efficiency of procurement processes and some of the approaches intended to deliver value-for-money outcomes are not neutral to the degree of centralisation or devolution. Indeed, the sources of efficiency available to best-practice procurement are multiple. The efficiency and effectiveness of procurement are often sensitive to scale and coordination and involve both public administrative processes and industry structural and transactional issues. In this way, efficiency overlaps with the concept of value-for-money outcomes.

Even in highly competitive markets, price can be negotiable in terms of volume and time undertakings provided to suppliers – often at little or no risk to buyers. Thus, additional to the low credit risk represented by government, the level of supplier risk can almost always be decreased through agency demand aggregation giving greater certainty and volume to suppliers with the associated savings available to be passed on. These benefits sometimes become evident through, for example, outsourcing service arrangements such as for IT networks and services. An example of enhanced coordination and aggregation in IT acquisitions is the opening up in early 2003 of the US General Services Administration IT schedule to allow access by state and local governments, thereby expanding the potential customer base for federal IT contracts, with benefits for both buyers and suppliers.

These factors militate against optimum efficiency outcomes being consistent with complete devolution of contracting for many simple goods and services as well as for more complex services such as IT systems and networks and telecommunications arrangements. These considerations explain the hybrid management systems of some governments such as Singapore (Jones, 2002; McCue & Gianakis, 2001), while others employ consortia approaches (Aylsworth, 2003).

A second avenue for efficiency relates to the costs of transactions. Transaction costs are greater in the public sector because of the generally more demanding requirements of transparency. Also, the great majority of transactions are small purchases, typically a few hundred dollars or less, such that the cost of transaction processing becomes a large or even a dominant proportion of the purchase. The significance of transaction costs can be gauged by the cost of processing of a simple procurement commonly estimated at between US\$75 –US\$100 (NASPO 1997) and the

reality that generally about 70% of public sector procurement transactions are less than US\$500 (Schapper, 2000).

A third avenue for efficiency savings emerges through redefining the outcome requirements themselves and represents an overlap between efficiency and performance. This category of opportunity requires significant management data as well as strategic agency management with a strong interagency coordination of efficiency goals. Here, public administration challenges the existing and often traditional modes of business and administration and seeks new solutions. For example, an administration with 10,000 IT 'seats' may seek to use this buying power to negotiate a better licensing deal with its desktop systems, or it may consider alternative solutions altogether such as outsourcing of all or part of the function, use of a shared service centre, or a total re-engineering of the relationship with its clients and stakeholders, such that much of the processing is done outside the organisation as has occurred with e-tax in the taxation industry in Australia (ATO, 2004). The first option represents an example of aggregate buying while the latter ones are examples of more strategic approaches.

All of these issues and options are further complicated by the structure of public procurement which in most countries is dichotomised between low value, high volume procurement (such as office supplies) and high value, low volume procurement such as major capital works. Most *transactions* in every jurisdiction will be of low value and high volume, including most office supplies for example, although most *expenditure* will be involved with high value, low volume exercises. Small transactions (for less than \$US5000) will usually be undertaken through a simplified quoting system or even straight off a pre-existing contract. For higher value procurement (typically above \$US25000-100,000) a public bidding or tendering process is usually the standard methodology. These larger complex exercises require high levels of expertise relating to not only contract specification and risk management, but also in the ongoing relationship and performance management.

Policy Coherence

Some jurisdictions develop procurement policy to address only the relatively narrow agenda of transparency, value or process efficiency. A broader, more strategic policy suite is adopted by others who have recognised that this function can be developed to harmonise more

effectively the elements of procurement with other government policies such as workforce training, environmental protection, and regionalisation and business policy. This broader approach to procurement policy can also reflect a view that an inherent role of government is to recognise and exploit the potential for externalities.

It is in this extended policy environment that procurement may often appear to become politicised. An alternative model accepts that this broader holistic policy set that may seem to interfere with the scope of the procurement professional is in reality valid and even a preferred state of affairs. Political 'interference' often may simply be a manifestation of legitimate political representation for the broad impacts of procurement beyond the relatively one dimensional value-for-money objective. Of course this is only a small step away from illegitimate interference which means that transparency becomes of even greater significance. To the extent that this presence has a legitimate role the challenge is not one of quarantining public procurement from politics, community and business but one of incorporating these stakeholders in a way that good governance is preserved. Indeed it seems that there is substantial scope for harmonisation between these seemingly opposing forces.

For example the nexus between public procurement and business policy is especially evident and has been embraced by many, including Canada, Korea and the USA, with explicit legislative preference given to domestic and small business suppliers to government. The significance of this policy integration reflects the appreciation that governments, in the normal course of their activities and in addition to their business development programs, are major players in national and regional economies of many countries around the world.

The methodologies and policies they adopt for procurement for their service and construction inputs, as well as through their contractors, can therefore have significant influence over the prosperity or survival of many businesses or industries. For example, in some jurisdictions the public sector represents more than 50% of the information technology market. Evidence also supports the contention that access to government work acts to improve small and medium enterprise (SME) capabilities, competitiveness and potential to enter other markets, as well as boost the economies of remote communities (e.g. U.K. Procurement Policy Unit, 2001).

This alignment of public procurement with business policy can be reflected at numerous levels within the procurement cycle, without resorting to the use of expensive and anti-competitive price discrimination or breaching agreements such as the World Trade Organisation's Agreement on Government Procurement. For example, typically more than 85% of government procurement transactions are of low value goods or services for which small local suppliers can have an inherent competitive advantage, or disadvantage, depending on how governments might go about aggregating these transactions into a higher value supply chain.

At another level, the tendering or competitive bidding exercises by government are generally expensive and time-consuming for business: for small businesses these costs can be prohibitive, effectively barring them from competing (MacManus, 1991) even though they might otherwise be highly competitive. For larger businesses and multinationals these costs can be readily absorbed. In this example, the procurement methodology adopted by government can be seen to be both anti-competitive as well as anti-small (generally local) business.

Similarly it is significant for SMEs that bidding documentation be standardized across government in order that industry does not have to undertake an ongoing and expensive learning process agency by agency. Inconsistent documentation creates uncertainty amongst suppliers as to what agencies are actually seeking, and often requires bidders to provide similar information repeatedly but in slightly different formats. One of the most persistent complaints by industry in some jurisdictions relates to the inconsistent application of policy and procedures between government agencies or even by different officials within the same agency. This creates confusion, reduces the potential for industry (especially SMEs) to improve its skill base, reduces transparency, undermines confidence, adds to cost and is the root cause of why some otherwise competitive SMEs conclude that doing business with government is 'too hard' (MacManus, 1991; Kovacic, 1992). Well-understood and transparent processes also provide a powerful audit mechanism by recruiting much of industry to engage in informal peer review of bid outcomes.

Thus the very structure, efficiency and application of the bidding processes engaged by governments can be implicitly biased for or against otherwise competitive small and regional businesses. If these and other

issues are not recognized and accounted for within the policy framework, or if the policy is simply *laissez faire*, it is unlikely that they will be competitively neutral to the business environment.

Therefore operational or process methodologies can not be divorced from public policy if the holistic policy set is to be coherent, even though, to the procurement professional, political interest in these issues may seem unprofessional and even improper. These issues involving the harmonization of business policy and public procurement, significant as they are, become of even greater importance in the way government adopts technology into its supply chain management.

REFORM AND PUBLIC PROCUREMENT

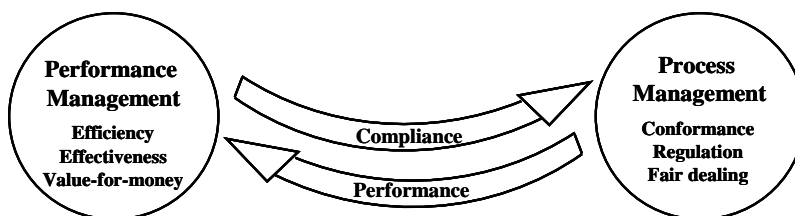
Public procurement and public administration more generally, have been the focus of successive waves of management reform worldwide, stretching across a third of a century. These reforms have included managerialism, outsourcing, corporatisation, centralisation and devolution, and have been driven by an imperative to improve the performance and cost-effectiveness of the public service (Self, 1993). These reforms have frequently been confronted by apparent tensions between the basic qualities of public governance, such as accountability and transparency versus outcomes and performance (Considine & Painter, 1997; Hughes, 1994).

Operational failures of procurement governance are attributed by pro-regulators to weaknesses in the professionalism of practitioners rather than to any inherent weaknesses in the regulations as such; while pro-management advocates also attribute failure to professional weaknesses but identify the causes with the regulatory regime itself which tends to reduce the role of management of everything other than mechanical compliance. In both cases the broader political context and policy roles are frequently not acknowledged at all.

Governments have responded to many of the issues with cyclical reforms of regulation and management and sometimes centralisation to deliver the corresponding expectations of the day in terms of compliance and performance respectively. Some reforms have revealed a lack of understanding of the basic elements of procurement. Well-planned public procurement, especially aggregated buying, can frequently outperform the spot and auction markets, yet some governments have devolved away this option (for example the Australian Government)

while some others may be building unrealistic expectations around the new capacity for online auctions which potentially disaggregate buying and forgo returns to scale. The drivers of these responses have been such as to generate predictions that they condemn public procurement to never ending cycles of reform, as illustrated in Figure 1, that swing between rigid regulations of micro-processes through to the deferment to performance management (Pegnato, 2003; Kovacic, 1992; Shoop, 1994).

FIGURE 1
Compliance – Performance Reform Cycle



Requirements for greater performance produce a refocusing of procurement management away from accountability for compliance through rule-bound codified processes (McCue & Pitzer, 2000) towards accountability for outcomes. In turn, inevitable failures in due process produce a return to regulation for compliance. A degree of polarisation can be observed worldwide between jurisdictions governed by compliance and those by value-for-money or performance.

Within a performance model for public procurement, the role of regulation is primarily to establish management principles and objectives rather than to micro-manage the processes. In contrast to the UNCITRAL model law approach, the performance management approach advocated by the OECD/DAC Development Assistance Committee (2003) describes procurement and its governance in terms of strategic mainstream management (see also Qiao and Cummings, 2003). Representing the management approach are the European Commission, UK (Thai, 2001) and Australia (Purchasing Australia, 1995).

This substantially political tension between compliance and performance and the relationships with centralisation versus devolution

lies at the heart of the debate around the reform of public procurement, as it has done over its history (e.g. Nagle, 1992). Piecemeal government reforms will often seem clumsy, but at least some of the responsibility for this lies with management itself. Management often exacerbates the problem by narrowly defining the scope of procurement such that it cannot be expected to encompass many higher level demands including often legitimate political agenda.

AN ANALYTICAL FRAMEWORK FOR PUBLIC PROCUREMENT

The preceding discussion describes a procurement management environment which includes elements of law, finance and accounting, risk management and politics; and where practitioners from each of these professions at times claim this function as their province. This claim-staking is recognised explicitly in the various management frameworks that can be found worldwide for procurement governance and is indicative of the lack of consensus, including within reform agendas, about what government procurement entails or of its strategic significance.

This lack of consensus about the scope and nature of public procurement is often as prevalent and varied within organisations and even between procurement practitioners as it is between these professions. For organisations in which procurement is conceived of as a mid to low level back-room activity driven by compliance, process management will be the status quo, and relatively few agendas of performance or wider policy will be met, and reform becomes endemic. Alternatively, where organisations conceive of procurement in terms of organisational performance--usually in terms of indicators such as budget impact-- broader policy expectations and compliance will be neglected. Frequently too, public sector organisations will be of a scale that does not seem to justify anything more than a clerical approach to this function.

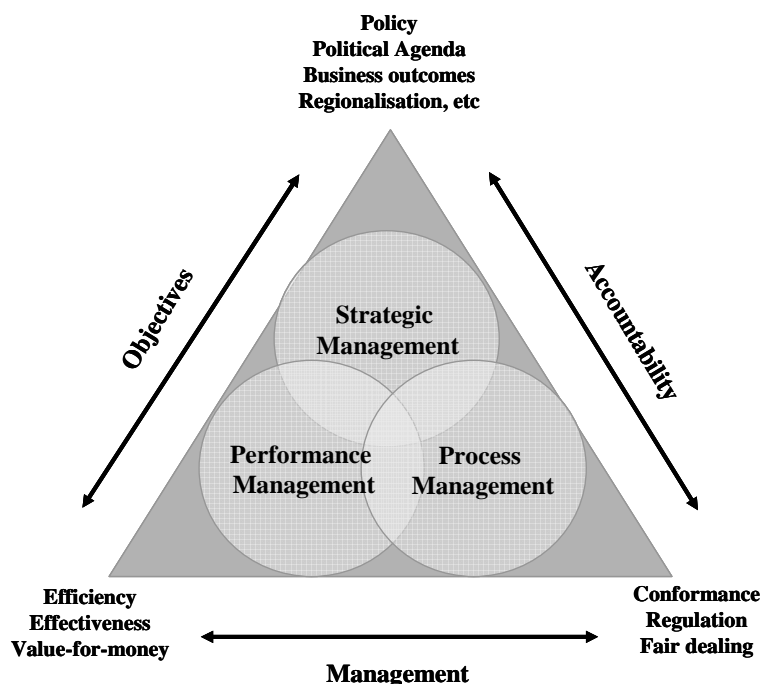
Even where the impacts of these elements are acknowledged, there is often insufficient scope or incentive for management to coordinate or collaborate with other public sector agencies, or to develop the means and roles to reconcile transparency with substantial bodies of regulations as well as with efficiency and effectiveness objectives and related policy goals such as business development. These elements do not readily co-exist and may even seem incompatible. For example, the commercial and operational realities of procurement efficiency and effectiveness generate

management responses in opposing terms of both centralisation and devolution.

Only where organisations or governments recognise the appropriate scope of public procurement, balancing the process, performance and strategic imperatives, can they develop the skills, incentives, performance measures, organisations and management tools to deliver the full range of political / community expectations. These elements and their relationships are illustrated in the model in Figure 2. In the absence of a comprehensive framework such as this, government reforms can be expected to remain piecemeal and cyclical.

Figure 2 shows that any public procurement exercise can be subject to competing goals of conformance management and performance management, and each of these may also be competing with broader strategic political goals of the government or reforms such as outsourcing

FIGURE 2
The Procurement Management Framework



and privatisation which in turn may not coincide with the roles and related performance measures of each organisation. Within this model Strategic Management will be associated, *inter alia*, with broader reforms such as process re-engineering, outsourcing and restructuring as well as policy issues such as business and regional development, while Process Management will be associated with simple, off-the-shelf purchasing, and Performance Management with complex procurement, alliance contracting and construction. This also suggests that the different regimes of process management, performance management and strategic management are likely to be associated with the centralisation-devolution conflict that is often evident in procurement reforms. In particular:

- Strategic Management will be consistent with the centralisation of contract design and documentation, specification and evaluation, and also the regulation of process. This will also be consistent with central agency roles.
- Performance Management will be consistent with the decentralisation of contract specification, evaluation and regulation, but the centralisation of contract value (contract aggregation). This will be consistent with the larger operational organisations including those responsible for public works.
- Process Management will be consistent with the devolution of contract processes, mostly consistent with smaller organisations requiring simple purchases.

Managing public procurement would seem to demand an arbitrage between these various elements but this is rarely evident in practice. Procurement practitioners respond to the requirements of their own organisation and will generally identify their role in terms of process management / simple procurement vs. performance management / complex procurement vs. strategic procurement and policy depending on whether they are in a small or a larger operational organisation or a central policy agency. But this role identification cannot quarantine these managers from the inherent tensions which arise from the conflicts between centralisation and decentralisation that is a consequence of these alternate roles. Efforts to strengthen or reform public procurement will often include centralisation vs. decentralisation or devolution considerations but have rarely reconciled or even recognised the tensions between these basic constituents of the procurement environment, and instead have identified the need for change with the outcomes of these

problems and in doing so have often preserved or even deepened the underlying divergences.

Understanding these complex issues is often unappetising both to executives and to politicians, making their reconciliation seem unachievable. The emergence of technology into this field is, however, beginning to reshape the possibilities.

Impact of Technology

The effects of technology on this environment should be assessed in terms of the three broad objectives already listed: transparency of process, efficiency, and policy coherence. The potential for technology to enhance governance and transparency has been noted by others for public administration generally (see for example Shadrach and Ekeanyanwu [2003]). E-commerce in government provides the opportunity for major enhancements to transparency, primarily through more effective audit, for the great volume of simple low value transactions. Technology can, at very low cost, transform procurement fraud control from a process that relies largely on chance to one based on audit sampling of 100% if required. Further, audits can be improved not just in terms of coverage but also through profiling that can readily be constructed of the buying activities and sourcing decisions for each procurement agent within any government agency.

The mechanism is different for high value complex procurement exercises. Key transparency features here include enhanced public access to up-to-date policies, information on bidding programs, standardised documentation and lodgement of bids, progress of tender evaluation, and announcements of outcomes. Thus for high value exercises, transparency is strengthened primarily through direct public disclosure of all stages of each procurement exercise, while for low value procurement, transparency is strengthened primarily through greatly improved audit capabilities.

This enhanced transparency from the application of technology to this function delivers directly what volumes of regulations seek to do indirectly and often tenuously. Procurement regulation usually aims at ensuring transparency through due process by stipulation of procedural steps. The outcome of this is, as already noted, often a lack of transparency because of obfuscation by comprehensive rule sets. Technology bypasses much of this by delivering very low cost audit

paths and highly accessible activity records: transparency is delivered more directly. Much of the cumbersome volume of regulations is irrelevant to the technology other than as a one-off to guide systems development. The regulation versus performance issue becomes substantially circumvented.

In terms of efficiency the opportunities for technology to streamline procurement come through at many levels both for suppliers and buyers in the payment cycle, financial management integration, approvals, reporting, etc. The degree of manual processing in simple procurement which can be streamlined with a well-designed and functional government e-commerce system can be appreciated through an understanding of all of the elements that make up typical supply chain processing which includes search, requests for quotations, authorisations, financial reconciliations and much more.

For complex procurement, the efficiency equation is more related to the quality and relevance of management information instead of manual processing. Performance in terms of value-for-money outcomes can be affected by improvements in management information facilitated by technology, but these benefits can only be fully realized where the application of technology is accompanied by adequate skill sets of procurement managers. Thus, efficiencies provided by online access to catalogues and pre-negotiated contractual arrangements will be negated if the contractual arrangements themselves are inadequate.

Thus the effects of technology on this environment are at three levels. Firstly, by significantly enhancing the capacity for transparency for simple procurement, technology helps reconcile the tension between performance and conformance. Secondly, by reducing the cost of transactions for simple procurement, it directly contributes to efficiency objectives of management. Thirdly, it has the capacity to strengthen management information and thereby increase the effectiveness of more complex procurement, provided that the skill levels of management are in place. It can also significantly reconcile centralised policy determination with devolved management, as well as enhance the policy role itself.

Externalities

Most of this discussion has focussed on government as a buyer. Many of the transactional efficiencies to benefit government through the

application of technology will also benefit businesses as suppliers to government and so intersect with business development policies of government. Also the greater access to documentation and more efficient information and document transmission, together with improved transparency, makes bidding for government work more attractive for business and competition can be expected to increase. Indeed there is evidence that this is what happens: online availability of tender information has been attributed to increasing competition for government work in both developed and developing countries. OECD/DAC (2003) reported an analysis of individual procurement projects as showing that such methods that enhance competition and transparency can result in a reduction of contract costs by as much as 20-30%.

Beyond these micro-economic and management benefits of technology, there are externalities that have the potential to be important, especially for smaller and developing countries which do not have robust, broad-based private sectors to drive technology take-up. With government accounting for a significant proportion of the economy, the speed of take-up of technology by the broader economy will be influenced substantially by the rate of government adoption. The role of government in accelerating the technological enablement of economies has been observed by the OECD (2003). It is also for this reason that the e-commerce model and standards adopted by government carry significance much greater than the immediate applications intended for in government. A strategic approach to technology by government which harmonises with its industry policies will enhance interoperability and connectivity throughout the economy in a shorter time horizon than might otherwise be expected with potentially significant gains in productivity and competitiveness. This effect once again reflects the need for synergy between procurement and broader policy agendas.

DISCUSSION AND CONCLUSION

The conduct of public procurement has reflected tensions between public expectations of high standards of governance, management requirements for performance, overt (and covert) political influence and pressures from broader stakeholder interests such as business. However there are no clearly agreed international best practice models for the management of public procurement to address these issues and government responses have varied accordingly. As discussed, at one

extreme are highly prescriptive and regulated structures, while others are characterised by almost complete deregulation and devolved responsibilities where procurement is just another element of mainstream management. These disparities reflect fundamental differences in the understanding of procurement in different jurisdictions, often deriving from their historical circumstances and political constraints. In many jurisdictions these tensions remain in unstable equilibrium (e.g. Hunja, 2003; NPR, 1993; Peters, 1996; McCue, Buffington & Howell, 2003).

The scope of procurement processes is rarely well defined. Differentiating between high value and low value acquisitions often fails to acknowledge that devolved decision-making and deregulation are not entirely consistent with improved management outcomes.

These issues reveal quite different perceptions of what public procurement is for different organisations, agendas and stakeholders. This also suggests that reconciliation between these competing forces is not simply difficult but improbable because it represents more than conflicting expectations about what procurement is all about – it also represents broader conflicting roles between, for example, central and operational organisations. However, the reform of much of this area becomes more viable when the reform process addresses the technological possibilities as a starting point.

The information-sharing capabilities of technology allow, *inter alia*, elements of centralisation of process and devolution of procurement decision making to be combined more efficiently, thus alleviating the Management, Accountability and Objectives tensions illustrated in Figure 2. Here technology can efficiently combine centralised aggregated procurement and complex approaches to the market, evaluation and contract management, with the information, buying techniques and any controls applicable to the resulting arrangements being accessed simply by devolved buyers.

Should this potential of technology seem simple and attractive, the question arises as to why so few jurisdictions have availed themselves of the full potential of these applications. In reality, numerous governments have found the promises to be compelling but are often unprepared for the implied level of reform. E-commerce in government can lead to improved expenditure analysis and control, but requires a redesign of the purchasing cycle and associated management reform. It will not result in improvements by simply grafting technology onto existing manual

processes (Schapper & Malta, 2004). Instead, the benefits of this application of technology require understanding of the politics and reform in management, policy, legislation, business acceptance and sometimes infrastructure as well as technological functionality and connectivity. The need for awareness and management strategies to bring all these issues together has been identified by multilateral development banks as a key to reform (Multilateral Development Bank resource paper, March 2004).

There have frequently been mistaken presumptions that because the potential of this technology is great then it is easy, or because results have not come easily the potential is not great. It is possible to allocate substantial resources to procurement systems and technologies without impacting significantly on the underlying issues, partly because of the lack of understanding of procurement itself, and partly through a lack of understanding of the scope and limitations of technology in addressing the issues. The complexity of the procurement management environment and its interaction with the skill set of procurement professionals, summarised in Figure 2, illustrates why reform does not come easily and reform with technology is not necessarily any easier than reform historically (Pegnato, 2003; MacManus, 2002).

The opportunities for genuine reform and a break in the cyclical re-invention of the procurement management framework require a holistic approach to each of these political and operational realities of public procurement and its strategic significance. Weaknesses at this level continue to be the greatest area of risk to the successful application of technology in the reform of this function.

REFERENCES

- Australian Taxation Office (ATO) (2004). "The ATO's E-tax and On-line Lodgement." [On-line]. Available at <http://www.ato.gov.au>.
- Aylesworth, M. (2003). "Consortia Purchasing for Higher Education in Canada, US, UK and Australia." Paper presented at the International Research Study of Public Procurement Workshop, Budapest, Hungary, April 10-12.
- Asia-Pacific Economic Cooperation (1999, September 2). *Non-Binding Principles on Government Procurement* (Report by the Chair of the

- Government Procurement Experts Group). [On-line]. Available at www.epec.org.
- Callender, G., & Matthews, D. (2002). "The Economic Context of Government Procurement: New Challenges and New Opportunities". *Journal of Public Procurement*, 2 (1): 55-71.
- Coggburn, J.D. (2003). "Exploring Differences in the American States' Procurement Practices." *Journal of Public Procurement*, 3 (1): 3-28.
- Considine, M., & Painter, M. (Eds) (1997). *Managerialism: The Great Debate*. Melbourne, Australia: Melbourne University Press.
- Dilulio, J.J. (1994). *Deregulating the Public Service: Can Government be Improved?* Washington, DC: The Brookings Institute.
- Finn, J. (1997, July 2). "Major Changes in Tendering Law – the Hughes Case." *Legal Briefing No. 33*. [On-line]. Available at <http://www.ags.gov.au/publications/agspubs/legalpubs/legalbriefings/br33.htm>
- Fradkov, M. (2004, May 13). "State Procurement to reach 40% of 2004 Budget Expenses." *The Russia Journal Daily*. [On-line]. Available at <http://www.russiajournal.com.news/cnewswire.shtml?nw=43741>.
- General Accounting Office (2000). *Space Shuttle: Human Capital Challenges Require Management Attention* (GAO/T 00-133) Washington, DC: Author.
- Harland, C., Gibbs, J., & Sutton, R. (2000). "Supply Strategy for the Public Sector: Framing the Issues." *Conference 2000 Proceedings* (pp. 342-351). London, Ontario, Canada: Richard Ivey School of Business.
- Hughes, O.E. (1994). *Public Management & Administration: An Introduction*. London, UK: McMillan.
- Hunja, R. (2003). "Obstacles to Public Procurement Reform in Developing Countries." WTO-World Bank Regional Workshop on Procurement Reforms and Transparency in Public Procurement for Anglophone African Countries, Tanzania. [On-line]. Available at www.worldbank.org.
- Isaac, A. (1997). "The Cave Creek Incident: A Reasoned Explanation." *The Australian Journal of Disaster and Trauma Studies*, 3. [On-

line]. Available at www.massey.ac.nz/~trauma/issues/1997-3/contents.shtml - 9k (Retrieved September 23, 2004).

- Johnson, P.F., Leenders, M.R. & McCue, C. (2003). "A Comparison of Purchasing Organizational Roles and Responsibilities in the Public and Private Sectors." *Journal of Public Procurement*, 3 (1): 57-74.
- Jones, D. S. (2002). "Procurement Practices in the Singapore Civil Service: Balancing Control and Delegation." *Journal of Public Procurement*, 2 (1): 29-53.
- Kelman, S. (1990). *Procurement and Public Management: The Fear of Discretion and Quality of Government Performance*. Washington, DC: AEI Press.
- Kovacic, W.E. (1992). "Regulatory Controls as Barriers to Entry in Government Procurement." *Policy Sciences*, 25 (1): 29-42.
- MacManus, S.A. (1991). "Why Businesses are Reluctant to Sell to Government." *Public Administration Review*, 51 (4): 328-344.
- MacManus, S.A. (2002). "Understanding the Incremental Nature of E-Procurement Implementation at the State and Local Levels." *Journal of Public Procurement*, 2 (1): 5-28.
- Martin, L.L. (2002). "Performance Based Contracting for Human Services: Lessons for Public Procurement?" *Journal of Public Procurement*, 2 (1): 55-71.
- McCue, C.P., Buffington, K.W., & Howell, A.D. (2003). "The Fraud/Red Tape Dilemma in Public Procurement: A Study of U.S. State and Local Governments." Paper presented at the International Research Study of Public procurement Workshop, Budapest, Hungary, April 10-12.
- McCue, C.P., & Gianakis, G.A. (2001). "Public Purchasing: Who's Minding the Store?" *Journal of Public Procurement*, 1 (1): 71-95.
- McCue, C.P., & Pitzer, J.T. (2000). "Centralized vs Decentralized Purchasing: Current Trends in Government Procurement Practices." *Journal of Public Budgeting, Accounting & Financial Management*, 12 (3): 400-420.
- Multilateral Development Bank resource paper. (March 2004). "Strategic Electronic Government Procurement – An Introduction for

Executives.” Available at <http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=645439>.

Nagle, F. J. (1992). *A History of Government Contracting*. Washington, DC: George Washington University.

National Association of State Procurement Officials (1997). *State and Local Government Purchasing: Principles and Practices*. Lexington, KY: Author.

National Association of State Procurement Officials (1999). *Survey of State and Local Government Purchasing Practices* (5th ed.). Lexington, KY: Author.

National Performance Review (1993). *From Red Tape to Results: Creating a Government that Works Better and Costs Less*. Washington, DC: US Government Printing Office.

Nicol, W. (2003). “Mainstreaming the Procurement Function into the Public Expenditure Policy and Effectiveness Dialogue.” Paper presented at the World Bank Roundtable, Paris, France, January 22-23. [On-line]. Available at www.oecd.org.

Organisation for Economic Cooperation and Development (2003). *ICT and Economic Growth: Evidence from OECD Countries, Industries and Firms*. [On-line]. Available at www.oecd.org.

Osborne, D., & Gaebler, T. (1992). *Reinventing Government: How the Entrepreneurial Spirit Is Transforming the Public Sector*. New York: Plume.

Peachment, A. (1992). *The Executive State: WA Inc and the Constitution*. Perth, Australia: Constitutional Press.

Pegnato, J.A. (2003). “Assessing Federal Procurement Reform: Has the Procurement Pendulum Stopped Swinging?” *Journal of Public Procurement*, 3 (2): 145-175.

Peters, B.G. (1996). *The Future of Governing: Four Emerging Models*. Lawrence, KS: University of Kansas Press.

Purchasing Australia (1995). *Transforming Procurement: Guidance on the Organisation and Management of Procurement*. Canberra, Australia: Australian Government Printing Service.

- Qiao, Y., & Cummings, G. (2003). "The Use of Qualifications-Based Selection in Public Procurement: A Survey Research." *The Journal of Public Procurement*, 3 (2): 215-249.
- Rickard, R., & Radwan, C.M. (2004, June). "Meet Bid Protests Head-On." *Government Procurement*: 20-22.
- Schapper, P. R. (2000). "Electronic Business Solutions." Paper presented at the Business Forum of the Millennium, held at the University of Western Australia, Perth, Western Australia, June 6-9.
- Schapper, P. R., & Veiga Malta, J. (2004). "Cómo Hacer para que el Estado Compre Mejor." *Gobierno Digital*, 3: 16-29.
- Self, P. (1993). *Government by the Market? The Politics of Public Choice*. London, UK: MacMillan.
- Shadrach, B., & Ekeanyanwu, L. (2003). "Improving the Transparency, Quality and Effectiveness of Pro-poor Public Services Using the ICTs: An Attempt by Transparency International." Paper presented at the 11th International Anti-Corruption Conference, Seoul, Korea, May, 25-28.
- Shoop, T., (1994). "Steven Kelman: Advocate of Reform." *Government Executive*, 26 (8): 68-72.
- Thai, K.V. (2001). "Public Procurement Re-Examined." *Journal of Public Procurement*, 1 (1): 9-50.
- Thai, K.V., & Grimm, R. (2000). "Government Procurement: Past and Current Developments." *Journal of Public Budgeting, Accounting & Financial Management*, 12 (2) pp 231-247.
- UK Office of Government Commerce, Procurement Policy Unit (2001). *Procurement Policy Guidelines*. [On-line]. Available at www.ogc.gov.uk.
- United Nations Commission on International Trade Law (1994). *UNCITRAL Model Law on Procurement of Goods, Construction and Services*. [On-line]. Available at <http://www.uncitral.org/en-index.htm>.