

**E-PROCUREMENT IN THE PUBLIC SECTOR:
STORY, MYTH AND LEGEND**

BY CHRISTINE TONKIN



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Abstract

The phenomenon of e-procurement in the public sector is steeped in story, myth and legend, much of it arising from the smoke and mirrors of the dot.com era. It is sometimes difficult to separate where the sales pitch for the latest solutions ends and where the reality begins. The situation is complicated in the public sector by the desire of governments to be at the forefront of technological advances and for public procurement, including e-procurement, to be used as a vehicle for the achievement of a raft of public policy objectives. Electronic commerce and its application to procurement is not a recent phenomenon. On the contrary, it has been around for over thirty years and widely used in certain sectors but not commonly in the public sector until very recently. Unravelling the story of the recent uptake of e-procurement in the public sector is a study in itself. However, there continues to be a paucity of academic interest in this area. There is a popular view that e-procurement is really about electronic market places and if one does not have an electronic market place, one is not doing e-procurement. However, there is a variety of ways in which technology is used to support procurement management and all the forms of e-procurement are used in the public sector. Some fundamental confusion about the rationale for the adoption of e-procurement by government entities has given rise to a failure to perform adequate analysis in support of business case development. There is little evidence that adequate baseline information to assess the impact of e-procurement initiatives is collected. There is evidence that the benefits are over-stated and that measurement of the benefits is confused with making a case to meet political or commercial needs. Finally, the use of e-procurement as a vehicle for achieving a range of public policy objects is little more than an act of blind faith in the absence of adequate evaluations of its efficacy.

Introduction

The earliest literature on e-procurement is that relating to electronic data interchange – a technology that has been in use in organisations since the 1960s, (Millman 1998) One of the earliest articles on this subject was a 1967 paper extolling the benefits of electronic data interchange for buyers and sellers in the hospital environment. (Meyer 1967). Most discussions about electronic inter-organisational systems in the academic literature up until the mid 1990s involved electronic data interchange. It is only from the mid 1990s onward that there is a shift towards the discussion of the use of the internet for electronic commerce. In fact electronic data interchange continues to be the primary medium of electronic commerce. For example the OECD found that electronic commerce transactions via the internet are about a third of those through established electronic data interchange. Internet and electronic data interchange transactions represent between 0.4% and 1.8% of total transactions in those countries where usage is measured, (Anonymous 2002e). Therefore, notwithstanding the hype surrounding electronic commerce, it currently remains relatively insignificant and is primarily occurring using relatively longstanding form of technology.

While much of the promotional literature surrounding electronic commerce would suggest that e-procurement has universal application and that one day all procurement will be supported electronically, it is clear from the literature that the extent of its adoption varies particularly by industry. It is more likely to be used in a production environment, be it manufacturing or in production-like service environments such as in aspects of hospital management.

There are many references concerning the use of e-procurement in the hospital environment. Examples include, in, (Anders 1991; Carabello 2001; Chapin-Strike 1994; Fields 1989; Foster 1988; Goes and Park 1997; Halse 1983; Hansen 1996; Huntley et al. 1997; Law and Ooten 1992; Liu et al. 2001; Meyer 1967; Schuweiler 1997). The automotive industry has a relatively long history in the use of inter-organisation electronic systems in procurement, (Ageshin 2001; Anonymous 2001b; Burgess et al. 1997; Chen and Chen 1997; Cooper and Yoshikawa 1994; Lauer 2000; Mooney 1985). Similarly electronic commerce has been extensively adopted in the retail industry, (Bamfield 1994; Cunningham and Tynan 1993; Raghunathan 1999; Roadcap et al. 2000; White 2000). The travel industry is another with a relatively long history of use, (Chircu and Kauffman 2000; Malone and Yates 1989). All those industries in which electronic commerce has been commonly used over a long period of time include the management of high volume materials or information flows.

Small and medium sized enterprises are asked to embrace electronic commerce, (Chircu and Kauffman 2000; Mooney and Pittman 1996) and it has been suggested that it is the great equaliser between small and large and domestic and foreign firms, (Cavusgil 2002; Foong 1999). However, the literature on small and medium enterprise supplier adoption of this technology usually highlights significant barriers or issues, (Buhalis and Main 1998; Foong 1999; Raymond and Blili 1997; Woodgate 1992). It has been found that factors such as organisational readiness, external pressure and perceived benefits are important in decision-making by small and medium sized enterprises, (Iacovou et al. 1995). The role of the owner, inter-organisational relations including power and dependency and the nature of inter-organisational systems, as well as the flexible responsive attributes of this type of firm were found to be significant factors in their preparedness to use electronic data interchange, (Chen and Williams 1998). In Singapore, it was found that relative advantage, compatibility and trialability were significant in explaining willingness to adopt among small and medium sized enterprises, (Kendall et al. 2001). In the Portuguese clothing and textile industry, adoption of electronic data interchange was found to be closely related to the values and senior management of small and medium sized enterprises, (Dhillon and Caldeira 2000). The appropriate use of electronic commerce by small firms in large firm manufacturing supply chains, including an examination of the capabilities required of small firms, is the subject of an ongoing program of research in Europe, (Caldwell et al. 2002).

There is little history of extensive e-procurement use in the public sector except perhaps in certain entities in the military and public health sectors. As would therefore be expected, the academic literature covering public sector e-procurement is very limited.

However, there are some useful examples including, (Allen 1998; Arnold and Essig 2002; Cater 2001; Harink and Van Rooijen 2002; Harland et al. 2001; Liao et al. 2002; Oscar 2001; Spinardi et al. 1997; Teo et al. 1997).

Information about public procurement initiatives is most commonly elicited through relevant conferences¹ or through unpublished reports, for example, (Anonymous 1998; Doyle 1995; Esposito et al. 2003; Griffith and Cattroll 2003; Parker and Lawes 2003; Ritchie 2003). Much of the commentary on public sector e-procurement arises from the popular press announcing forthcoming projects or the awarding of related contracts to supply “solutions”, (Anonymous 2001a; Anonymous 2002f; Denton 2002; Moodie 2000). In addition, various government agencies advise public sector entities on the uptake of e-procurement². One of the most thorough approaches in this regard has been that of the United Kingdom Government through the Office of Government Commerce, (Anonymous 2001c; Anonymous 1998; Birks et al. 2001). There is also evidence of networks supporting the development of electronic commerce in procurement, for example the Australian Procurement and Construction Council, (Anonymous 2002d), and the European Commission sponsor relevant networks.

Whatever the information source, there is insufficient systematic research of the adoption of e-procurement in the public sector to answer some important questions. For instance, what is the extent of its uptake? Although there are headline initiatives in place, to what extent are these significant in the management of procurement effort within public sector entities? Also very importantly, what drives the adoption of e-procurement in the public sector? The lack of evidence of its extensive use throughout a period when it was widely used in certain industries may indicate that the extant technologies were not appropriate to the public sector and that the adoption of e-procurement only became feasible with the advent of the internet and more cost effective and ubiquitous solutions. It could also be that, notwithstanding the more readily available supporting technologies, the procurement profiles of typical public sector entities have not warranted significant investments in e-procurement. Another proposition is that its adoption is being driven by wider policy considerations rather than the business related benefits. Whatever the case, the significant investment of public resources in e-procurement and its consequences for public procurement outcomes deserves careful investigation.

Background

What is e-procurement?

E-procurement is simply aspects of the procurement function support by various forms of electronic communication, (Knudsen 2002), and its use in both the public and private sectors takes many forms including:

¹ For example, the European Public Procurement Group sponsored a conference in Brussels in October 2001 at which information about various European public procurement electronic commerce initiatives was presented.

² The Queensland State Government provided extensive guidance for public sector agencies wanting to adopt electronic commerce in procurement at its web-site between 1998 and 2000.

- Electronic data interchange - inter-organisational information system using structured data exchange protocols often through value added networks
- e-MRO – mechanism for ordering indirect items from an on-line catalogue
- Enterprise resource planning – automation of procurement related workflows including auto-faxing, auto-emailing or other forms of messaging directly with suppliers.
- web-based enterprise resource planning – automated procurement workflows but web based
- e-sourcing – way of identifying new sources of supply using Internet technologies
- e-tendering – the process of inviting offers from suppliers and receiving their responses electronically
- e-reverse auctioning – using Internet technologies bidders usually bid down the price of their offer against those of other bidders until no further down-ward bids are received
- e-auction for disposals – using internet technologies for on-line auctions of items for disposal
- e-informing – use of internet technologies for gathering and distributing procurement related information
- e-collaboration – collaborative procurement related planning and design using facilitating technologies

This typology has been adapted from various sources including, (Caldwell et al. 2002; de Boer et al. 2002; Knudsen 2002; Telgen 2001) and from information elicited through Queensland Government procurement networks.

Market places (marketsites) take various forms and may be buyer, supplier or neutral centric and have been thought beneficial in reducing costs and optimising supply chains, (Barratt and Rosdahl 2002). It has been suggested that there are five generic marketsite models, (Telgen 2001):

- portals – representing “*a door to the internet*” where the provider secures revenues through “*advertising, agreements with*” telecommunications companies, a percentage transaction fee on sales and payment of subscriptions;
- communities – bringing together those with similar interests where the provider obtain revenues through “*advertising, marketing to members and subscription*”;
- aggregators – “*combining purchasing and sales volumes*” where the provider obtains revenues through: taking a “*percentage of each transaction*”; the receipt of fixed fees per transaction, receipt of fees from suppliers for their inclusion in catalogues, advertising and subscriptions;
- e-markets – representing a virtual marketplace of buyers and sellers through which the provider receives revenues from a percentage of each transaction, “*a fixed fee per transaction*” receipt of fees from suppliers for their inclusion in catalogues, advertising and subscriptions; and,
- e-retailers – providing retail services on-line through which the provider receives revenues or reduces costs through product sales, reduction of cost of sales, advertising and marketing efficiencies.

Marketsite models are further differentiated according to a number of variables, (Barratt and Rosdahl 2002).³

- How procurement is undertaken: spot buying or systematic buying
- The type of marketsite: MRO Hub – indirect goods and services, yield manager - spot purchasing indirect goods and services depending on availability, exchange – spot purchasing direct commodities, catalogue – systematic purchasing of direct goods or services.
- Marketsite charges: transaction charge, fees services, other revenues, no charges and whether the supplier charged and/or the buyer is charged
- Market orientation: vertical, horizontal
- Power/control: buyer centric, seller centric, neutral
- Services offered to participants: cataloguing, financial services, logistics services, ERP integration, dispute settlement, other services, and, management information.

The term e-procurement has become synonymous with electronic market places (marketsites). During the height of dot.com mania between about 1999 and 2000 electronic market places were seen as a potentially lucrative source of revenue for aspiring dot.com companies. The promotional material was along the lines that if your organisation is not using a market place then it is not doing e-procurement and would be left behind. This line was generally accepted in the public sector which saw the potential of electronic market places as a magic pudding into which could be mixed a large part of the spending of public sector entities with great opportunities for small and medium sized enterprises and other worthy suppliers. Notwithstanding the very wishful thinking, the reality has been different.

In a recent overview of Nordic marketsites, it has been highlighted that most have been struggling to secure profitable levels of throughput and the future of certain of these was unclear, (Lundgena 2003). Similarly an analysis of the state of play in Hungary, identified lack-lustre outcomes for market places and the ‘still birth’ of one aimed at the public sector, (Szeman 2003).

In early 2003, the Western Australian Government decided to review the operations of its electronic market place that had been experiencing relatively low levels of throughput and which was the source of complaint especially from suppliers, (Prior 2003). A recent report into the Victorian State Government’s EC4P initiative that includes an electronic market place, identified very low levels of throughput focussed mainly on stationery and clothing. It was also noted that the majority of suppliers participating in the electronic catalogue indicated that they would not continue to do so if they were required to meet the cost of catalogue maintenance, (Cameron 2003). The second incarnation⁴ of the Queensland Government Electronic Marketplace (QGEM) was found not to be viable without the participation of Queensland Health which was the only Queensland

³ The framework has been adapted from that presented by Barratt and Rosdahl, 2002.

⁴ The first incarnation of a proposal for a horizontal electronic market place was under development in 1995 but was abandoned in 1996. The second incarnation arose in 2000. The third incarnation in the form of messaging technology came to fruition in 2003. However, its application in support of procurement activities remains under consideration.

Government entity with a procurement transaction profile that could potentially justify the substantial investment necessary to establish the market place. However, Queensland Health had already invested in a strategy to undertake further automation in the purchase to pay cycle through ERP to ERP integration with key suppliers, (Timbrell 2002)

Why is it that market places, while intuitively attractive fail to meet expectations? It would seem that one issue is that the level of throughput expected often does not materialise. Why is this so? Under what conditions are market places viable in supporting procurement effort? These are important questions to be answered through careful research. However, while there is literature describing the forms of e-procurement and its implementation, only recently have studies of the efficacy of the various applications of this technology emerged in the academic literature. For example, there have been a number of recent research papers identifying the conditions under which e-reverse auctions are likely to deliver the best outcomes, (Arbin and Hultman 2003; Pearcy et al. 2003; Smeltzer and Carr; Wagner and Schwab 2003)

There is some evidence of systematic assessment of the forms of e-procurement in use in the public sector, (Anonymous 2003; Anonymous 2002h; Ritchie 2003; Tonkin 2002; Tonkin 2003), and these studies indicate the use of the range of forms. However, there does not appear to be adequate research of the efficacy of the various forms in public sector contexts.

Benefits of e-procurement for the public sector

It has been suggested that the public sector is likely to benefit more from the use of electronic commerce for the purpose of sourcing than for transaction management, (Baker 1999), and that electronic commerce promotes economic efficiency in public sector procurement, (Arnold and Essig 2002). The implications for supply chain transformation from the perspective of transaction cost optimisation have been considered, (Bakos 1991; Croom 2001; Essig and Arnold 2001; Rasheed and Geiger 2001). The use of e-procurement is thought to have implications for information asymmetries or impactedness in inter-organisational relationships and in particular for search and monitoring costs. Alternative explanations for the benefits of e-procurement arise from the resource based perspective through which the resources of the firm may be leveraged to achieve competitive advantage with electronic commerce presenting opportunities to enhance firm resources, (Dhillon and Caldeira 2000; Rasheed and Geiger 2001).

While there is some evidence that electronic commerce in procurement may not result in reduced costs in acquisitions in particular markets, (Lee 1998), various cost reductions and benefits have been identified, (de Boer et al. 2002). These include the implications of e-procurement for the following:⁵

- The cost of expenditure on goods/services related directly to the production/service delivery;
- The cost of non-production goods and services;

⁵ This analysis of cost and benefit implications is adapted from de Boer, Harink et al, 2002.

- The cost of operational purchasing activities – eg., requisitioning, ordering, expediting and administrative support;
- The cost of tactical procurement activities – eg., formulating specifications, selecting suppliers, negotiating with suppliers, contracting, disposals etc;
- The costs of strategic procurement activities – eg., spend analysis, transaction analysis, market analysis, planning, developing purchasing policies etc;
- Internal benefits arising from investments in particular inter-organisational relationships; and,
- The contribution of investments in particular inter-organisational relationships to revenues.

There are very few studies that systematically evaluate the actual cost and benefit movements associated with the use of various forms of e-procurement in the public sector and there are even fewer of these published. There are many reports that assert savings and benefits but many such assertions are theoretical or anticipated. An example is to be found in the *Strategy for the Implementation of eProcurement in the Irish Public Sector* in which it appears that certain savings are identified in relation to the use of e-procurement based on the level of savings asserted in other jurisdictions, (Anonymous 2001e).

In a study of e-procurement adoption in Australian jurisdictions respondent officials were asked to identify the anticipated and actual cost and benefit movements on the aspects of procurement addressed by the various of e-procurement initiatives in their respective jurisdictions, (Tonkin 2002). The information sought was based on the conceptual framework outlined above.(de Boer et al. 2002).

The responses of the participating jurisdictions indicate that even major e-procurement initiatives are implemented in the absence of adequate baseline information for assessing their associated cost/ benefit movements. This is an issue in common with most of respondent jurisdictions and it would seem that many e-procurement initiatives are commenced in the belief that there will be certain costs/ benefit movements without there being any evidence to determine whether or not this is in fact the case.

- The response concerning Australian Government e-procurement initiatives included no information about anticipated or actual cost and benefit impacts.
- The New South Wales response could not be readily interpreted, however, it was noted that there was no baseline information from which to assess movements in costs and benefits with respect to the State's flagship e-procurement initiative – a large horizontal market site said to cost about \$AUD40 million, (Denton 2002)
- The Victorian response identified that operational and tactical procurement costs were anticipated to fall and have actually done so in relation to the use of its major e-procurement initiative, EP4C. This is an automation of the purchase to pay cycle through a financial management information system with an associated externally hosted electronic catalogue.
- The Queensland response was detailed and there appears to have been good data against which to make assessments about the cost/ benefit movements of certain of its key initiatives. However, although the movement in costs and/or benefits of

- other initiatives could be anticipated, there is no baseline information available against which to assess the actual impacts.
- While there were anticipated cost/ benefit movements concerning the Western Australian e-procurement initiatives, there was a lack of baseline data against which to assess actual movements.
 - There were some anomalies in the information provided by South Australian on the issue of anticipated cost and benefit movements. What is important, however, is that while costs and benefits were anticipated with respect to each initiative, there was no evidence that there was any baseline information available against which to assess actual changes. In fact, it was expected that the key South Australia initiative would result in management information that would inform procurement strategy development.

In a report on e-procurement in the Victoria, the State's Auditor-General observes that realisation of the perceived benefits of the EC4P initiative has been less than expected, (Cameron 2003). Other observations of the Auditor-General warrant direct quotation:

“Early public statements of the benefits from the introduction of e-procurement were overly optimistic, materially overstating the likely cost savings, and were based on inadequate business cases by participating agencies. In July 2000, the Government announced potential savings of between \$60 million and \$240 million per annum, or conservatively at least \$12 million per annum, from introducing e-procurement across the 8 budget sector departments and Victoria Police. No evidence has been located to substantiate these estimates. In 2002, forecast cost savings were significantly reduced, as were the number of agencies involved. The Project is now expected to break even after 4 years and to provide savings of \$11 million per annum from the 5th year. The business cases prepared by agencies to justify the introduction of e-procurement were likely to have materially overestimated the financial benefits and contained conceptual flaws including treating expected productivity savings as if they were cash.”p4

The anticipated cost reductions associated with EC4P initiative were primarily related to operational purchasing activities in the purchase to pay cycle. However, it is suggested that such transaction cost reductions are often considerably over-stated because of methodological flaws in their assessment. In comparing baseline conditions with conditions under an e-procurement initiative it is important to cost precisely the time taken to perform the actual processing under each condition. Estimates based on percentage reductions in the cost of full time equivalent (FTE) staff associated with the purchase to pay cycle are very common but notoriously inaccurate. This is because the extent of FTEs devoted to the purchase to pay cycle is a function of the actual time undertaking purchase to pay processing, time spent on other duties and down-time. An e-procurement initiative only impacts time spent on purchase to pay processing. The time expended on other duties and on down-time are not necessarily affected by the e-procurement initiative, (Wichers 2002). The extent to which FTEs are involved in other duties impacts considerably on the extent to which productivity savings to be converted to cash in the form of real FTE reductions. This serves to underscore the importance of

having accurate baseline information as a basis for assessing actual cost and benefit movements.

Australian jurisdictions are not the only ones in which e-procurement initiatives are implemented in the absence of sufficient information to allow a realistic assessment of their associated cost and benefit movements. A recent cross jurisdictional study of e-procurement adoption in European jurisdictions presents a similar picture to that in Australia. Information concerning the European jurisdictions was collected through face to face interviews conducted between August 2002 and January 2003 and through a review of relevant literature, (Tonkin 2003). There is little evidence that e-procurement initiatives in certain of these jurisdictions proceed from a systematic analysis that would enable prediction of the actual associated cost and benefit movements, for example:

- It is expected that EURO140 million will be secured from procurement related savings under the BundOnline 2005 initiative, (Reisen 2002). However, it would appear that there is little or no evidence of baseline studies that would enable accurate assessment of actual savings.
- Business cases for participation in the Danish National e-procurement market place, Gatetrade.net have been developed by Danish Government entities after the establishment of the market place and after the budgets of these entities were cut in recognition of the potential savings to be achieved through participation.
- The savings outcomes identified for the Irish Government's *Strategy for the Implementation of eProcurement* would appear to be based of estimates derived from the asserted percentage savings identified in other jurisdictions.

Establishing the actual cost and benefit movements arising from public sector use of e-procurement is fertile ground for research. For example, does e-tendering result in enhanced competition to supply and does the increased competition result in reduced costs or enhanced benefits to the public sector purchaser? Under what conditions will the use of e-tendering result in reduced transaction costs and what is the extent of any such cost reductions and can these be realised? In relation to the use of marketsite models, to what extent does the use of these facilities result in reduced costs for goods and services and/or in reduced transaction costs and under what conditions? In which markets and under what conditions do e-reverse auctions result in outcomes better than those that could be achieved through more traditional procurement means?

What are the policy drivers of e-procurement?

Overview

Notwithstanding the supposed relationship between the application of electronic commerce and the accrual of various benefits, it is thought that there may be a disconnection between business and functional strategy and the use of electronic commerce. While it has been suggested that there may be a direct relationship between e-procurement tools and the procurement processes they support, (Harink and Van Rooijen 2002) it is also argued that these tools have been applied indiscriminately or in an inappropriately uniform manner, (Knudsen 2002). Anecdotal evidence would tend to

suggest that this is indeed the case and that some organisations are adopting e-procurement and then experimenting to discover optimal use. Various rationales could be provided for this phenomenon: for example, a lack of understanding of the implications of the use of various forms of procurement related electronic commerce in supporting business strategy, (Knudsen 2002); or, perhaps an inadequate understanding of how electronic commerce can most effectively support the range of potential supply interventions, (Harland et al. 2001).

The connection between optimal procurement strategy and the use of electronic commerce remains an area in which there is considerable scope for further systematic and preferably comparative research and analysis in the public sector. Yet the adoption of electronic commerce by public sector entities is often driven by public policy considerations that are outside the procurement management frame of reference. The connection between government policy imperatives and the outcomes of the application of electronic commerce for public procurement management and strategy has received only scant attention.

Relatively few references include any scholarly consideration of policy concerning e-procurement, however, it does receive some mention, for example, (Anonymous 2000; Arnold and Essig 2002; Erridge et al. 1998a; Erridge et al. 1998b; Haagsma 1998; Harland et al. 2001; Hefner 1996; Oscar 2001; Smith-Gillespie and Wittig 1999).

Electronic commerce has been conceived of as either supporting or facilitating existing public procurement regulation or facilitating new regulation. (Haagsma 1998). It is therefore been cast as an enabler or facilitator of the procurement policy agenda. This conceptualisation necessarily raises questions about the extent to which public procurement, electronically enabled, is efficacious as a public policy instrument. There are some studies that would tend cast doubt on its efficacy. For example, while it is assumed that opening up public procurement to competition and potentially including international bidders results in lower costs or greater economic efficiency (Arnold and Essig 2002; Cox 1994; Erridge et al. 1998b; Martin et al. 1997), there are some studies that indicate that more bids from a wider market do not necessarily result in the desired outcomes. For example, it has been found in a study of 500 German and US firms that customer enterprise costs are lowered through the use of geographically proximate suppliers, (Cannon and Homburg 2001). Under this circumstance, the opening up to bids from the international arena through electronic publications of opportunities to supply may not be optimal.

It has also been identified that there may be optimal bid numbers – an economic tender quantity - in achieving least cost outcomes through tendering processes – more bids are not necessarily better (Heijboer and de Boer 2001). Yet it has been found that the use of electronic commerce in public procurement – especially in terms of the electronic publication of invitations to offer, (tenders), increases the likelihood of high and unmanageable bid numbers and thereby associated costs in certain markets, (Haagsma 1998).

Whether adoption of electronic commerce in public procurement will support increased trade liberalisation is a moot point, although there is some anecdotal evidence that it may. For instance, as a result of the use of an electronic reverse auction in a public sector energy construction in France, for the first time a contract of this nature was awarded to a non French firm. It was the contention of those involved, that the transparency of the process gave rise to the result, (Van Roy 2001). Until recently the European Procurement Directives have not allowed e-reverse auctions above the relevant threshold.

e-Government and other policy imperatives

During the past five or six years there have been almost universal moves to modernise government and its interactions with its citizens using electronic communications. There has been considerable associated government investment, (Anonymous 2002g). The phenomenon is known as e-government.

There are sometimes indiscriminate targets established for e-government implementation, such as making all government services available online by certain target dates, or having all business conducted with suppliers electronically, (Anonymous 2002a). It seems that the delivery of government services online and the conduct of government to business transactions electronically is considered self evidently beneficial, for example, both the New South Wales and Victoria State Governments indicate in their policy documents that more electronic commerce is best for their respective States, (Anonymous 2001d; Anonymous 2001f). At the basis of this type of assertion are certain assumptions, for example, that government services delivered online are somehow more responsive; that part of being modern and efficient is to conduct public procurement on-line; that governments can facilitate broader uptake of electronic commerce in the community by using it themselves, and, that the more electronically enabled a nation or region, the more economically competitive and thereby able to enjoy greater the economic growth. While these assumptions are reasonable, there is little evidence that they are tested.

Governments are ranked according to their e-government credentials. (Anonymous 2002c) and test the benefits accruing through their participation in the information economy, (Anonymous 2002b). A relatively low international ranking may be a source of great consternation, (Anonymous 2002a).

While there is evidence that participation in the information economy facilitates economic growth, (Anonymous 2002b), there is no apparent evidence that there is a causal link between the e-government agenda and the enhanced uptake of electronic commerce in the economy in general.

There has been some consideration of the public policy issues surrounding e-government and the adoption of e-procurement through the Australian Procurement and Construction Council networks and a number of issues have been identified including: tensions between the policy aspirations of governments and the optimal application of electronic commerce in public sector procurement; government policy perspectives on the adoption of electronic commerce that tend to be "one size fits all" without recognising variations in

procurement profile and optimal strategy between different public sector entities; proceeding with electronic commerce in public sector procurement in the absence of sufficient information for formulating an adequate business case; and, managing the influence of solution providers over government policy makers, (Taylor and Tonkin 2002).

In a comparative study of six Australian and seven European jurisdictions some distinct differences were found concerning the influence of public policy drivers on the adoption of e-procurement, (Tonkin 2003). On the issue of facilitating the achievement of broader policy outcomes through the use of e-procurement only two of the European jurisdictions emphasised that this is to some extent a driver. These were Denmark where the development of the national e-market was thought to be a catalyst for greater use of electronic trading by Danish suppliers and Ireland where one of many objectives for e-procurement is to promote the use of e-commerce in the wider economy. By way of contrast in the Australian jurisdictions, the use of e-procurement to foster e-enablement of SMEs and access by rural and regional suppliers to the government market is often identified as a policy objective. The extent to which the e-Government agenda drives e-procurement adoption was also considered. Among the European jurisdictions the e-Government agenda appears to be a significant driver. In the case of Germany Eink@uf Online (Public Purch@sing Online) sits within the German Government's BundOnline 2005 framework and is largely driven by this agenda. By way of contrast the e-Government agenda appears to hold little influence over the adoption of e-procurement in Australia.

Limited systematic analysis of the efficacy of the adoption of electronic commerce in the public sector in delivering public policy imperatives could be identified and without this, the use of e-procurement as a policy lever must be considered an act of blind faith.

Conclusions

There is evidence to suggest that the public sector undertakes e-procurement initiatives because it is believed that certain cost reductions and benefits including those related to public policy imperatives will arise. However, there are very few examples of where beliefs about the efficacy of e-procurement are tested. The lack of testing means that public sector entities implementing e-procurement are not necessarily learning and therefore adapting. It also means that considerable public resources are applied to potentially high risk projects with uncertain outcomes.

It is time that investments in technology in support of the public procurement function are made on the basis of sound information about the likely financial and policy outcomes. This should not give rise to risk averse inertia. However, it does imply that there is a need for a much better understanding of public sector procurement effort and strategy. This must be the basis for identifying opportunities to improve outcomes, both policy and financial, through the cost effective use of technology. The public sector cannot afford to uncritically follow the latest fads and fashions. It can, however, from a strong base of self knowledge, confidence and with an eye to the future become an innovator in this field.

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