Case Studies on E-procurement Implementations

Italy   New South Wales   New Zealand   Scotland   Western Australia
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1 Overview Report

1.1 Introduction

Information about the potential benefits of e-procurement is plentiful while details on the impacts and consequences of e-procurement implementations are thin on the ground. This gap in available information prompted the Australian Government Information Management Office (AGIMO), now a business group within the Department of Finance and Administration, to commission a review of selected e-procurement implementations and develop case studies to provide a detailed understanding of the current status of public e-procurement.

In 2004, AGIMO engaged SIRCA to review five public sector e-procurement implementations. The governments participating in the review include the national governments of Italy, New Zealand and Scotland, along with the state governments of New South Wales and Western Australia.

The five case studies describe the unique e-procurement activities, background on why decisions were made, how those decisions were implemented and what e-procurement activities are currently being utilised. The key learnings and challenges resulting from these events are listed within each case study.

Many common learnings and challenges were identified from the five implementations. However, the manner in which a specific agency approached each challenge varied depending on the unique political and cultural context.

Overall, the experiences discussed in the five case studies demonstrate that e-procurement can be successful in a variety of socio-technical and institutional environments. It can improve business processes within the public sector and be influential in procurement or whole-of-government reform.

AGIMO recognises that Commonwealth Agencies can learn from these various approaches and experiences. While each implementation was specific to the government involved, the general solutions, systems and key learnings may assist Commonwealth Agencies interested in developing or implementing their own e-procurement programs.

1.2 Objectives

This Overview offers a concise summary of the issues, key learnings and challenges associated with the five e-procurement implementations that participated in the review of e-procurement implementations. This information will be used to shape future direction for e-procurement in the Australian Government.
1.3 Methodology

Information for this report and subsequent case studies was gathered through a variety of methods. Each government agency or department provided background documents and material such as proposals, progress reports and internal records. These documents and material were reviewed prior to each site visit along with additional desk research and publicly available information. During site visits, interviews were conducted with key participants in the e-procurement systems. The data from each site was reviewed and analysed to determine what was accomplished, the issues, key learnings and challenges.

The conceptual framework used to gather data and prepare the case studies is based on three interrelated concepts that are defined below. These terms are used as a conceptual bridge to appreciate the uniqueness of each case.

E-readiness refers to the current use and potential levels of adoption of e-procurement in government, shaped and constrained by technological and institutional environments and events at the local, national and trans-national levels. This concept addresses why particular e-procurement activities have been implemented, incorporating issues such as the:

- procurement environment – structures (e.g., centralised versus decentralised), drivers (whole-of-government or e-government initiatives), and levels of support
- legal environment – national and international jurisdictions
- economic environment – supplier and buyer market forces
- organisational environment – planned levels of adoption and financial considerations such as access costs for buyers and suppliers
- technological environment – existing infrastructure available at varying levels.

E-intensity refers to the uptake of e-procurement, such as the size, growth and specific forms that are actually adopted. This concept addresses what e-procurement activities are currently being undertaken, including:

- business designs – e-catalogues, e-tendering, e-marketplaces, complex (tendering) and simple purchasing
- e-integration – the coordination of buyer and supplier relationships and activities
- security and authentication.

E-impact refers to the ways in which e-procurement has transformed business models and value chains in government agencies. The concept addresses key outcomes from its use, major impediments to further progress and goals and objectives for the future, incorporating issues such as:

- social – effects on employment, skill composition, work organisation, stakeholder satisfaction, learning and building coalitions of change
- e-business performance – annual percentage of procurement using Internet, etc.
- operational performance – faster delivery times, reduced transaction costs, etc.

1.4 Summary of Key Learnings

Public e-procurement is embedded in and shaped by diverse socio-technical and institutional contexts, the details of which are described in each individual case study and highlighted in its key learnings and challenges. The ideas behind these learnings and challenges were critical in shaping those implementations.
The key learnings highlighted below are the combined outcome of the five implementations. While each implementation was unique to a particular government, the ideas and learnings expressed can assist other organisations that are interested in developing or implementing e-procurement.

The challenges within the key learnings can influence the success of the development, implementation and ongoing maintenance of e-procurement.

**Key Learning – E-procurement can be an instrument in public sector reform**

E-procurement has been identified as an instrument in public sector reform. It enables government to monitor the efficiency and effectiveness of procurement and provides more transparency and accountability. However, it is only effective when linked to broader public management objectives and used as part of an overall change management strategy as seen in Italy, Scotland and more recently in Western Australia.

**Key Learning – Policy reform is influential in e-procurement implementations**

The progress available through e-procurement is only realised when the system is used. Process re-engineering is not enough as different beliefs, expectations and practices may exist. Definitive policy and strategic framework can provide clear rules and guidelines to stakeholders that can help transform the socio-technical and socio-political environments.

Typically, an incremental introduction of e-procurement tools can ease the transition to an e-enabled environment. However, policy that mandates common purchasing strategies and methods provides the best results. Overall, an integrated approach between whole-of-government and e-procurement initiatives can create a functionally coherent network of policies and standards; minimise competing priorities and objectives; and promote balanced benefits for all stakeholders.

E-procurement strategies in Scotland and Italy were developed by a centralised agency within a broader policy scope and were integrated as part of an overall change management strategy. As a result, there was a greater potential for innovative change within these governments. This suggests that public governance and innovative change are not conflicting approaches.

In both Australian examples competing priorities moved the focus away from e-procurement to more general procurement and whole-of-government reform. More recent events in Western Australia have e-procurement as an instrument of broader procurement reform within the whole-of-government reform process for more effective government.

**Challenge – Managing competing priorities and policy reform**

Government agencies often have competing priorities and e-procurement is not always one of them. E-procurement has been successful in governments where these priorities along with policy reform have been clearly stated and maintained. The challenge for other organisations is to manage the competing priorities and push for policy reform that requires transparency and accountability in government, cost savings and simplified procedures.

**Key Learning – A solid business case can provide the framework for a successful e-procurement program**

E-procurement initiatives require a large financial commitment and assessing the benefits from the financial investment is a complicated task. As with any large-scale IT project, a well-developed business case is critical to the success of e-procurement. Investment costs can usually be justified by a reduction in transaction costs and related administrative costs. Improvements in the following areas can also be persuasive: transparency and accountability,
efficiencies in work practice, value through strategic sourcing, and contract compliance. The key is to match the justification with the government’s priorities and reform initiatives.

**Key Learning – Effective strategies can improve supplier adoption and deliver value**

Supplier adoption is important to the success of an e-procurement program. The more suppliers in the pipeline, the more inclined buyers will be to use the system. Supplier participation can be influenced by many factors. Firstly, the supplier must be e-ready – capable or interested in communicating electronically and investing the resources to do so. Next, there must be sufficient buyers to make the supplier’s investment financially viable. A lack of buying activity may result in suppliers taking a wait and see position. Finally, the supplier must be supported throughout the adoption process. This was evident in Scotland and Italy where a supplier engagement process was developed, documented and facilitated to ensure supplier’s business and technical requirements were met. The result was a high incident of supplier activity. In contrast, the buyer centric approach adopted in Western Australia meant that suppliers did not understand the benefits of joining the marketplace and therefore were reluctant to join. Identifying and communicating the value and benefits to suppliers will enlist their participation. Fees should not be seen as a deterrent. In the Scottish example, suppliers agreed to pay a fee for cXML connection because they understood the benefits involved.

**Key Learning – Effective strategies can improve buyer adoption and deliver value**

Buyer adoption is another important factor in the success chain. As more buyers use the system, more transactions move through the system and more efficiencies and savings are realised. As with suppliers, the buyer (or the buying organisation) must be e-ready, and this status can vary across agencies within one government. Some issues that can influence e-readiness are the move to decentralise purchasing and finance responsibilities, the typical silo structure of governments, and the use of independent financial management information systems (FMIS) or enterprise resource planning system (ERP) tools. Agencies without significant investment in their own FMIS or ERP tools were more inclined to join their government’s e-procurement system. Buyers also need support throughout the adoption process and this requires an understanding of the different cultures. In Italy and Scotland, the teams devoted significant resources to provide ongoing support to buyers. Scotland also allowed buying agencies to select their preferred suppliers as part of the adoption process. Achieving buy-in from government agencies can be slow if the environment is not ready, as demonstrated in the New Zealand experience. Even in a mandated environment, buyers will only use the system if it satisfies their purchasing needs. The right environment should:

- support government and business priorities
- provide online access for commonly procured goods and services
- integrate with agencies’ existing FMIS or ERP systems
- be easy to use
- communicate benefits to stakeholders.

**Key Learning – Flexibility in process development and support structures can ease transition and promote adoption**

E-procurement is a technical implementation that enables the transformation of organisational structures and workplace practices. Flexibility in the development and enablement of the associated systems and processes allows the diverse requirements of stakeholders and participants to be recognised and supported. This may include tailored training for buyers.
and procurement support staff as well as the ongoing reviews of the associated processes and tools. By staying aware of participants’ needs, support organisations can build, evolve and manage systems and processes that allow buyers to purchase goods and services from preferred suppliers. In the Italian example, a centralised agency has been successfully managing public procurement for five years. This agency supports buyers and suppliers throughout the e-procurement process and adjusts the tools and features to support the needs of those participants.

**Key Learning – An effective communication program can assist with change management**

The adoption and continued use of e-procurement needs to be proactively managed, communicated and fostered. Change management needs to anticipate and manage the psychological, cultural and technological resistance which can arise. This includes:

- taking an incremental and improvised approach
- appreciating the diversity of cultures and systems
- managing the expectation gap.

Change management programs in both Italy and Scotland have been successful in developing e-procurement and increasing its use across government.

**Challenge – Communicating and managing change**

Identifying and communicating the value and benefits that e-procurement brings to all stakeholders and participants can build confidence in the system and promote adoption. Using an effective communications program to promote these benefits can also promote e-procurement across government and support policy reform. Once the system is in place, the next challenge is to improve communication throughout the implementation process and maintain that communication as the relationships grow.

**Key Learning – Collaborative behaviour can promote usage and understanding**

Building and maintaining supplier and buyer relationships requires significant effort, and that effort is worthwhile if the outcome is a stronger, more robust e-procurement program. Scotland’s adoption program promotes this type of collaborative behaviour between support staff, buyers and suppliers. Building multi-national and multi-disciplinary networks can also facilitate and foster the exchange of knowledge and develop practical standards. Support staff in Italy are doing this by sharing experiences and participating in the wider European Union community.

**Key Learning – Servicing e-procurement requires skilled resources**

The role of the procurement professional has evolved from a transactional to a more strategic role that can directly impact the bottom line of any organisation. As an end-to-end business solution, e-procurement requires a multi-functional team with members who can:

- understand public procurement policies and practices
- benchmark and re-engineer business processes
- build and maintain relationships with suppliers, buyers and other stakeholders
- understand the business requirements and the technical capabilities
- coordinate change management
- develop training programs.
By working with private industry, governments can gain access to a larger pool of skilled and technical resources. The private sector also provides access to new or evolving technologies. Innovative arrangements whereby risks and rewards are shared may assist in responding to changing technologies and new opportunities.

**Challenge – Developing the skill base**

Today's purchasing organisations have the challenge of attracting and retaining staff with the necessary skills. Ongoing professional development for procurement personnel is also lacking. All five case studies identified a need for skilled resources and are looking at ways of rectifying the situation. In the case of Italy, the government in conjunction with several universities has developed a post graduate program for procurement professionals.

**Key Learning – Technical integration and managing technical standards are critical to project success**

Developing and implementing an e-procurement system can be difficult and complex. An effective and efficient system incorporates appropriate tools and procedures that support technical, business and work practice requirements. It also integrates with buyer agency systems (i.e., FMIS / ERP) and supplier systems. This integration will ensure all participants have access to the data required to complete the transaction.

In many examples, the diverse technical requirements of different agencies were underestimated, and technical delays eroded the value proposition to those buyers.

The technology used in public e-procurement systems needs to be aligned with industry standards. This can be difficult with the lack of agreed standards in the industry. In the five examples, the lack of standards and evolving classification systems around catalogues, suppliers and cost codes created difficulties in achieving interoperability across and within government.

**Challenge – Ensuring interoperability of systems and standards**

The interoperability of systems and standards is an ongoing challenge facing all e-procurement systems. Managing this integration is difficult without technical standards, specifically in the area of data format. It is important to involve all appropriate stakeholders including public agencies, the software industry, private companies as well as national and international institutions.

**Challenge – Managing authentication and security**

Security and authentication are critical aspects of an e-procurement system. Developing, maintaining and communicating these technical policies and solutions are difficult in the diverse environment of today's public sector.

**Key Learning – E-procurement is not a uniform technology or design**

There are many variations of e-procurement and the term itself is not universally applied. Activities span the realm of sourcing and purchasing from the electronic submission of tenders (e-tendering) and contract management to online browsing (e-catalogues), ordering and payments.

Public e-procurement is strongly shaped and driven by social, cultural and political factors. This can be aggravated by the dominant “silo” structure typical of government. As a result, e-procurement technologies and business designs cannot be applied in a uniform way because different procurement, technological, institutional and temporal contexts influence options and decisions. Some variables include the selection of a “standard” product or service, the integration
Case Studies on E-procurement Implementations

Overview Report

with different agencies’ ERP systems, the maturity of the procurement process, even the “look and feel” of the system.

Across the five examples, e-tendering was often the first tool adopted because it was an easy way to make major gains in efficiency and transparency.

In each example, government priorities were different, and shifts in those priorities impacted the choices made and the progress of each system. Both Scotland and Italy created systems that were successful in terms of productivity and usability. In each case, the design focused on business logic, technical factors and the way buyers and suppliers operate. However, the two systems were very different. Scotland selected a model that used a subscription-based service for buyer agencies. Italy created an e-marketplace as a direct result of the perceived inequitable access to government business by small to medium enterprises (SMEs).

Challenge – Integrating the end-to-end procurement process

In many government organisations, the tools necessary to complete the procurement transactions (e.g., search, requisition and payment) often reside in different departments or agencies. Related policies and procedures may also reside outside the procurement organisation. Therefore, the full integration of the complete end-to-end process and the deployment of usable policies and procedures to support this process remain a key challenge.

Key Learning – Benchmarking and knowledge management can advocate support among stakeholders

Monitoring and evaluating e-procurement is a complicated task. However, increased support for e-procurement is dependent on developing such measures and reporting it to stakeholders. Typically, the measures used to benchmark traditional procurement can also be used for e-procurement. The ongoing management of this data is also important.

Challenge – Benchmarking performance

There is a need to develop measures that can be tied to the strategic framework. This connection will allow for a realistic assessment of costs and benefits over different stages of the project without creating illusions about short term payoffs.

Challenge – Managing information

Data collected from an e-procurement system can be used to reduce organisational spend, manage contracts and improve supplier relationships. These benefits occur when the data is accessible and correct. Harnessing good information is demanding and requires the development of information policies and procedures to ensure this occurs.
1.5 Conclusion

Public sector e-procurement is a complex socio-technical system embedded in multiple layers of government. It has the capacity to become a meaningful agent of transformation in procurement practices through the joint actions of different layers of government and cooperation across diverse agencies.

In addition to inter-agency cooperation, cooperation between government agencies and technology service providers is crucial when implementing systems. Collaboration between buyers, suppliers and support staff is equally important, and users should be approached in a coordinated manner to understand how they may shape the system for their own purposes.

E-procurement is also a strategic decision, and therefore, a good business design is vital.

The five case studies revealed that even modern, technical tools are not sufficient to ensure success. Succinctly, e-procurement is not a technical solution, but an end-to-end business solution. Other factors for success include:

- effective procurement policy and practice
- strategies that enable buyers and suppliers to adopt and use the e-procurement system
- effective communication program that communicates the value of e-procurement to all stakeholders
- well-devised change management program to integrate these diverse parts.

Overall, there are many opportunities for advancement within public procurement. Two common challenges identified in these case studies preclude this progress:

- managing the competing priorities in government and policy reform
- developing the skill base for the new procurement professional.

The modern design of e-procurement is best described as an integrated process that includes different social and temporal contexts. These include the available systems and technologies; integrated procurement policy and practice, and strategic sourcing decisions.

Moving forward, as e-procurement systems mature and expand, focus can expand to include strategic sourcing decisions which can provide real significant gains.
E-procurement in Italy

A Case Study on E-procurement Implementation
Government of Italy
2 E-procurement in Italy

2.1 Introduction

This case study provides a brief summary of e-procurement activities within the Government of Italy (Government). It includes some background on why decisions were made and activities were implemented (e-readiness), what e-procurement activities are currently being utilised (e-intensity), and key learnings and challenges resulting from these activities (e-impact).

The primary driver of e-procurement in Italy was the Program for the Rationalisation of Public Spending (the Rationalisation Program), mandated by the ‘Legge finanziaria’ (Financial Act) in 2000. This Program was designed to generate savings and efficiencies in Italian Public Administrations.

E-procurement promoted the simplification and innovation of procurement procedures and macro level initiatives enabling the efficiency and transparency of government operations through IT enabled innovations.

The goals of the Program and e-procurement were consistent with European Union (EU) directives and various initiatives relating to public procurement and e-procurement electronic exchange of information between public administrations and economic reform.

E-procurement was also consistent with, and drew attention to, broader national strategies of increasing the uptake of electronic commerce and information technology.

The Government e-procurement model comprises of electronic shops, online-auctions and an electronic marketplace and supports large and small suppliers from Italy and across the EU.

The Government understands the unique requirements of e-procurement and the changes it brings to the traditional purchasing environment. It continues to work through the challenges of the system and is looking at providing a complete end-to-end solution for its stakeholders.

2.2 E-readiness

Government Framework

Prior to 2000, the use of e-commerce and IT in the Italian public sector was generally lower compared to France and the United Kingdom. This was interesting since Italy had the highest mobile telephone usage in any industrialised country. Reasons included: a dislike of the written, as opposed to the spoken word; the necessity of mastering English; and, a mistrust of fixed accounting systems.

In 2000, the Financial Act mandated the Rationalisation Program to generate savings and efficiencies in Italian Public Administrations. At the same time, the Italian Anti Trust Authority was focused on strengthening public procurement practices through fairer competition and audit recommendations that improved cost efficiencies in the purchasing of goods and services.
The responsibility for the Rationalisation Program was delegated to Concessionaria Servizi Informatici Pubblici (CONSIP). CONSIP is a private company owned by the Ministro dell’Economia e delle Finance (Ministry for the Economy and Finance – MEF). Established in 1997, CONSIP is a public information services agency and provides consultancy, assistance and IT solutions aimed at the innovation of Public Administration.

In 1999, CONSIP created a second division called the Direzione Acquisti in Rete della PA (Division of Online Purchasing – DARPA). DARPA has become the key agent for public e-procurement. DARPA was assigned the task of developing master conventions for “frame contracts” with suppliers to satisfy the needs of Central and Local Administrations.

DARPA has become the key to e-procurement and is structured into six key areas. Approximately half of the 170 employees are assigned to Purchasers and Sourcing sections which manage relationships with public administration bodies and suppliers, respectively. The size of these two areas demonstrates the importance that DARPA places in assisting public administrations and suppliers in using e-procurement. The remaining employees are responsible for maintaining the system, collecting data from the system, developing e-procurement strategies for marketplace management, project management, evaluation and research and the legal area. These smaller groups of people focus on what is happening now and the future.

In 2000, the Financial Act also mandated the use of common strategies in purchases supported by framework agreements negotiated by CONSIP. Central government departments were required to join the program while local bodies, such as municipalities and schools, were not required, even though frame contracts were used as a term of reference. During this period there was a major “ramp up of resources” to support the program.

Amendments in 2003 detailed statutory requirements for public administrations; subsequent amendments maintained the obligation to purchase goods and services characterised by high quality low labour intensity. Buyers and suppliers were resistant to the changes in procurement practices and the need to use IT, and the program slowed in early 2004.

Currently, public administrations have no legal obligation to buy from the system. However, if they choose not to use the system, they must demonstrate that they can negotiate a better position elsewhere.

**E-procurement Tools**

The e-procurement model in Italy is comprised of electronic shops (e-shops), online auctions and the electronic marketplace (e-marketplace). Primary objectives of developing this model were to:

- reduce costs
- simplify purchasing procedures
- increase transparency.

E-shops were initially built by CONSIP in 2000. Later, a European tender was made for two procurement systems. EDS Italy (located in the south of Italy) was awarded the tender for the portal, e-shops and electronic tenders. IBM Italy (located near Rome) was awarded the tender for the e-marketplace.

Since the savings to public expenditure currently exceed the cost of the e-procurement system, there are no (supplier or buyer) fees required to use the e-procurement platform.
Potential Market

Public expenditure on goods and services in 2003 was €100.619 million, represented in the following areas:

- State 15% (€15.295 million)
- Health 53% (€53.774 million)
- Councils and Provinces 23% (€22.956 million)
- Other entities 9% (€8.594 million).

There are potentially 60,000 e-procurement users within public administrations. The estimated eligible expenditure for the Rationalisation Program is 40%. In 2003 that program covered approximately €16 billion.

2.3 E-intensity

E-procurement is based on a portal model, “Acquisti in Rete della Pubblica Amministrazione” (www.acquistinretepa.it) which consists of the following areas:

- tender publication, supplier qualification
- suppliers area
- client market area
- community services, to advise of news about the program and developments.

Underpinning the portal are two major areas of service:

- e-shops, catalogues and online auction (frame contract system)
- e-marketplace.

A key feature of the model is the differentiation of purchase types. As illustrated in Figure 1, CONSIP has identified a number of different e-procurement scenarios, based on:

- standardisation of the product or service
- price volatility
- regularity of ordering
- size and location of the order.
Acquisti in Rete-della Pubblica Amministrazione

<table>
<thead>
<tr>
<th>Traditional Tenders</th>
<th>Online Auctions</th>
<th>E-marketplace</th>
</tr>
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<tbody>
<tr>
<td>Direct purchase</td>
<td>Direct purchase</td>
<td>Direct purchase or request for quote (RFQ)</td>
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<tr>
<td>Many-to-one approach</td>
<td>Many-to-one approach</td>
<td>Many-to-many approach</td>
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<tr>
<td>Purchase scope</td>
<td></td>
<td>Supplier defined e-catalogue</td>
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<tr>
<td>Large volumes</td>
<td>Automatic technical and economic offer evaluation; Also ASP towards other administrations</td>
<td>Purchase Scope</td>
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<tr>
<td>Standardised</td>
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<td>Low cost</td>
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<tr>
<td>Low price volatility</td>
<td>Purchase scope</td>
<td>Highly fragmented</td>
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<tr>
<td>Slow obsolescence</td>
<td>Specialised</td>
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<tr>
<td>Demand aggregation</td>
<td>High price volatility</td>
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<td></td>
<td>Rapid obsolescence</td>
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</tr>
</tbody>
</table>

Above and Below EU Threshold | Below EU Threshold

Source: CONSIP 7 September 2004

Complex tenders, for categories like telecommunications, insurance services, global service and facility management, have parameters that are not easily standardised, and they are not placed online.

Currently, purchase orders (POs) can be placed on the electronic system while an expansion to include payments is planned for the future.

The systems share the same user database (Oracle Application Server Platform), and the users only have to log in once to navigate through all the functions. From the user’s perspective, the different suites are invisible.

**E-shops and Online Auctions**

Initially, the e-shops were based around the frame contracts, and the in-house development process was considered experimental. When EDS was awarded the tender for the e-shops, it took the existing user database (about 50,000 users), but nothing was used from the original experimental systems.

The e-shop and online auction tools are used for the purchase of goods and services above and below the EU threshold. E-shops are still built according to the frame contract based on a many-to-one approach with multi-vendor product catalogues. E-shops are particularly suitable for large volumes of standardized goods where the volatility of price is not high and the obsolescence factor is low, such as stationery.

Reverse online auctions on the other hand are increasingly being recognised as a platform for purchasing goods and services that are specialised, highly configurable, with high price volatility and rapid obsolescence. For example, PCs were previously purchased and negotiated through traditional tenders. However, the online auction platform was identified as a better medium because of the obsolescent nature of PCs.

**Future enhancements** include electronic payments

**Different purchasing tools are used for different spend categories**

**Reverse auctions are increasingly recognised for specialised purchasing needs**
In addition to its regular tasks, DARPA also acts as an application service provider (ASP) providing the technological platform and the skills for public administrations to conduct online auctions. DARPA sets up the auction, registers suppliers, manages the technical details, and will act as the auctioneer, if required. To promote the adoption of technology in public administrations, DARPA does not charge for this ASP service. Public administrations proceeding independently set base auction prices in the contracts, and suppliers offer lower prices.

In the frame contract area the buyer can place orders online or by fax. The payment step is part of a wider project planned for the next twelve months.

Once public administrations place their order, they are directly responsible for the contract. When issues arise, the administrations contact DARPA for assistance because it has better negotiating power with suppliers. While DARPA cannot exclude suppliers from tenders, regardless reputation, the supplier data is collected and monitored.

**E-marketplace**

Built by IBM, the e-marketplace has been described as a “flea market” where public administrations can purchase directly from supplier catalogues or submit a request for quotation. The catalogues are hosted by DARPA.

E-marketplace is open to all Italian suppliers. The registration of suppliers is completed online and includes standard details such as the size of the organisation and a guarantee of quality. Supplier authentication is based on trust. Once registered, the supplier can choose to supply a single province or the entire country.

Unlike the e-shop, the e-marketplace is based on a single vendor product catalogue where products are found in specified areas. For example, a red pen and a blue pen are described by two different rows – 12 pens with 12 colours use 12 rows. Over a period of six months, the rows have increased from 10,000 to approximately 22,000 with almost 60 suppliers. The goal is for 50,000 rows by the end of this year and over 100,000 by the end of 2005. However, as the number of line items increase, the ability to find goods in the catalogues is less easy.

DARPA gives suppliers a template for product catalogues. The template is then uploaded and examined by DARPA for compliance verification. This time consuming process requires multiple staff. Resources are also required to set up the initial interface with suppliers, add catalogues and encourage suppliers to join the marketplace.

The registration of buyers is completed online, and all buyers must register a digital signature that is required to authenticate orders. Orders can only be placed online.

**Change Management**

CONSIP conducted a major change management program to communicate the value of the new model and provide training to the public administration bodies and suppliers. A large portion of the Italian economy is based on small and medium sized enterprises (SMEs) who exerted pressure for equal access to government business. The SMEs were concerned that in deriving economies of scale through the aggregation of demand, they were being excluded. CONSIP considered ways to tailor the online environment for increased SME participation. In 2004, CONSIP established the e-marketplace which would support smaller purchases and supply to different geographical locations.

An online end-to-end environment is encouraged through DARPA’s change management program. CONSIP conducts regular interviews with and seeks feedback from those public administrations placing fax orders (on e-shop) to assist in developing the online program. Buyer issues include mistrust in the electronic system, and the desire to speak directly to suppliers. In addition to the feedback from public administrations, there is a reporting system from suppliers to gather information about the faxed orders.
The introduction of digital signatures adopted in the e-marketplace has brought about a significant change of behaviour. There are over ten certification authorities involved in the process, and managing digital signatures is a big challenge for CONSIP.

Prior to issuing a certificate and a signature, the certification authority meets the person and confirms their identification. This is a particularly difficult problem with EU tenders. This obstacle has been identified as part of the e-learning lab initiative to manage interoperability between the European platforms.

**Usage**

The use of e-procurement in Government has increased tremendously since its inception. The number of public administrations using e-shops and online auction (the frame contract system) has increased in four years from 648 in 2000, to 41,966 in April 2004. Approximately 200 suppliers in the frame contract system have won at least one tender.

The number of public administrations using e-marketplace in April 2004 is 1042. The number of suppliers is 156, an increase of 22 since June 2004.

A summary of other current and future projections of usage of the model is outlined in Table 1.

<table>
<thead>
<tr>
<th>E-shops</th>
<th>Frame contracts</th>
<th>63 signed; 26 ongoing since 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Categories covered</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>E-shops open at present</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Orders</td>
<td>&gt; 304,000, May 2004</td>
<td></td>
</tr>
<tr>
<td>Average saving on unit costs</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>Authorised users</td>
<td>&gt; 42,000, May 2004</td>
<td></td>
</tr>
<tr>
<td>Covered expenditure value</td>
<td>&gt; €15 billion by end of 2003</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Online auctions</th>
<th>First auction</th>
<th>September 2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>First auction above EU threshold</td>
<td>December 2002</td>
<td></td>
</tr>
<tr>
<td>Auctions performed</td>
<td>13; 33 by end of 2004</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E-marketplace</th>
<th>Categories covered</th>
<th>7; 21 by end of 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchasable items</td>
<td>&gt; 22,000; &gt; 50,000 by end of 2004</td>
<td></td>
</tr>
<tr>
<td>Authorised users</td>
<td>1,042; 1,700 by end of 2004</td>
<td></td>
</tr>
</tbody>
</table>

The average saving on unit costs in e-shop was based on the results of a survey that the MEF and the Institute of Statistics conducted in 2003. Based on the average price of goods and services of public administrations in Italy, the calculated average saving in frame contracts is 19% as compared to prices before CONSIP negotiated contracts. The calculation was done on limited categories and represents an extrapolation from previously collected, internal data.

The first online auction below the EU threshold was considered to be very successful and achieved a 42% price reduction.
2.4 E-impact

E-procurement in the Italian Government appears to have fulfilled its economic justification while achieving additional benefits that include:

- standardisation
- transparency
- fairer competition
- ease of ordering.

The following key learnings and challenges were identified in this review of e-procurement in the Government of Italy.

**Key Learning – E-procurement implementation needs policy reform**

The Government has utilised policy reform to promote the use of e-procurement. Policy reform has been introduced incrementally to mandate common purchasing strategies and the purchasing of certain types of goods and services via the online tools. Overall, this approach has been successful in the Italian public environment.

**Key Learning – Public procurement can benefit from a centralised approach**

In the Italian example, a centralised agent (CONSIP) managing public procurement has proven successful. Together with DARPA, they provide support to buyers and suppliers throughout the procurement process. They also develop and expand the framework around which the e-procurement system is used, to support the needs of their buyers and suppliers.

**Key Learning – Collaborative behaviour can promote usage and understanding**

Building and maintaining supplier and buyer relationships requires significant resources. Sharing experiences and participating in the wider EU community can also solidify those relationships. CONSIP and DARPA have strong change management programs that have been successful in developing the e-procurement system and increasing its use across Government.

**Challenge – Overcoming cultural and political resistance to e-procurement**

In Italy, cultural and political resistance to the changes occurring in public administration impact the use of technology and general work practices. Overcoming this resistance requires consideration of the skills necessary in the new procurement environment. As a way of addressing this issue, CONSIP, in conjunction with several universities, has developed a “MEF-Consip: Master in e-procurement”.

**Challenge – Improving frame contracts to satisfy outcome criteria**

As the use of frame contracts increases, buyers find themselves in difficult situations that traditional frame contracts do not satisfy. In a utility example, the required outcome is a supply of heat at a specific temperature. The supplier determines how to satisfy the outcome, whether by electricity, gas, etc. The frame contract should support the buyer by identifying the specific outcome (i.e., temperature) and the supplier by determining the best method to achieve the outcome (fill the contract). Developing innovative rules that focus on the outcome criteria would satisfy these difficult situations.
Challenge – Managing technical issues in an environment that prefers verbal interaction

Promoting the usage of electronic written communication in an environment that prefers the spoken word can be challenging. Authenticating suppliers online and managing the use of digital signatures often conflicts with the more traditional culture. The same can be said for extending e-procurement to include all aspects of an end-to-end procurement process. Addressing these issues in the change management programs and policy reform may overcome this challenge.

2.5 Conclusion

E-procurement in the Italian Government supports multiple purchasing methods (e-shops, online auctions and e-marketplace) to buy the variety of goods and services required by public administrations. These options even satisfy the needs of SME suppliers, and those coming from the greater EU region.

CONSIP and DARPA provide centralised services to all stakeholders and continue to expand the capability of the e-procurement system. Initially, using the system was compulsory in order to prompt supplier interest. However, as the system matures and develops, CONSIP wants to create an image that is aligned with a flexible service not an obligation.

Understanding the direction of modern procurement and the need for skilled professionals has provided the impetus for CONSIP to work with universities to develop a master’s degree in procurement. It continues to work through the challenges of secure authentication and is looking at providing a more complete end-to-end solution for its stakeholders in the future.
E-procurement in New South Wales

A Case Study on E-procurement Implementation
Government of New South Wales
3 E-procurement in New South Wales

3.1 Introduction

This case study provides a brief summary of e-procurement activities within the Government of New South Wales (Government). It includes some background on why decisions were made and activities were implemented (e-readiness), what e-procurement activities are currently being utilised (e-intensity), and key learnings and challenges resulting from these activities (e-impact).

The NSW Government Procurement Policy released in 1998, sought to achieve the best value for taxpayers’ money by leveraging the Government’s full purchasing power.

The 2001 NSW Government Electronic Procurement Implementation Strategy (2001 Strategy) was developed to support the strategies in the 1998 Procurement policy and provide a framework for the uptake of e-commerce in procurement.

In 2002, the Government Procurement Reform Strategy (Smarter Buying for Government Strategy) was developed to build on the 1998 Government Procurement Policy and the 2001 Strategy. The Smarter Buying for Government Strategy intended to:

- improve ownership and accountability
- achieve best practice
- enhance sector wide capability
- establish a sector wide coordinated approach
- benchmark and measure performance.

Advancing the take up of e-procurement was part of the Smarter Buying for Government Strategy, and the Government committed to deliver an online system by 2003. No tool was specifically identified in the hope that individual agencies would consider their own business needs.

The four main elements of the 2001 Strategy are a Government portal, an e-tendering system, an online project management tool for construction projects and an e-marketplace called smartbuy.

While uptake of smartbuy has been relatively slow, the Government is continuing to build on the four elements and encouraging e-commerce throughout the state.

3.2 E-readiness

Government Framework

The NSW Government Procurement Policy released in December 1998, sought to achieve the best value for taxpayers’ money by leveraging the Government’s full purchasing power. This
included developing procurement strategies in line with broader policy objectives for economic, environmental and workforce development.

The 2001 Strategy supported the strategies in the 1998 Procurement policy and provided a framework for the uptake of e-commerce in procurement. Key objectives of the 2001 Strategy were to:

- achieve better value for money
- reduce costs of doing business for both government and industry
- reduce duplication and improve purchasing efficiency within and between agencies and service providers
- improve strategic information capture and operational data on procurement, e.g. purchasing patterns
- provide greater access for regional and small to medium enterprises (SME).

The scope of e-procurement in Government was defined by the 2001 Strategy. This whole-of-government initiative recognised that:

- Government agencies would make their business decisions on e-procurement
- adopting a consistent and co-ordinated whole-of-government approach would promote industry confidence in dealing with government.

Later, the Government’s attention moved to general procurement reform, and the NSW Government Procurement Council was established to accelerate this reform based on earlier policy and strategy. In March 2002, Smarter Buying for Government was announced comprising eight strategies for accelerating procurement reform with aims to:

- improve ownership and accountability of procurement outcomes
- achieve best practice procurement
- enhance sector wide procurement capability
- establish a sector wide coordinated approach
- benchmark and measuring procurement performance.

The Smarter Buying for Government Strategy does not mandate that a specific e-procurement system should be used by government agencies, rather that government agencies make e-procurement decisions consistent with their business needs.

Advancing the take up of e-procurement is one of the eight strategies within the overall Smarter Buying for Government Strategy. The intended purpose was to move procurement online by 2003 thereby delivering on the goals and targets set out in the 2001 Strategy.

As a result of Government reform in mid 2003, responsibilities for Government procurement have been split between Treasury (procurement policy) and the Department of Commerce (procurement implementation issues).

In July 2004, the Treasury announced a new whole-of-government Procurement Reform Policy that would apply to all government departments, statutory authorities, trusts and other Government entities. E-procurement itself has very low visibility within this reform, and the primary focus relates to simplifying procurement policy, reviewing key stages of the procurement cycle, improving aspects of construction projects and gaining financial support.

**E-procurement Tools**

The four main elements of the 2001 Strategy are represented in Figure 1. The Government portal (www.nsw.gov.au) is a single point of entry for information about government business opportunities. The e-tendering website (www.tenders.nsw.gov.au) provides secure access to

**Potential Market**

According to the Smarter Buying for Government Strategy, the Government injects $17 billion (excluding grants) into the state economy each year. Expenditure of goods and services equates to $10.5 billion while capital assets and maintenance is $6.5 billion.

In 2002, potential benefits after three years of procurement reform would equal $400 million per annum. This included an equal amount of savings from both budget and non-budget dependent agencies. The benefits would be attained through three initiatives:

- Improved procurement practice $160 million
- Increased aggregated buying $110 million
- Increased adoption of e-procurement $130 million

**Figure 1**

2001 NSW Government E-procurement Implementation Strategy

The potential benefits from three years of procurement reform were estimated at $400 million per year

Source: NSW DPWS 2001
3.3 E-intensity

Business Design

Although there are four elements to the 2001 Strategy, the e-marketplace, or smartbuy, has become synonymous with e-procurement in Government.

Smartbuy offers a range of configurable services that provide e-procurement solutions to customers. As described in Figure 2, smartbuy currently comprises four technical components – the Marketplace, the eHub, the Catalogue Content Factory and Procurement Reporting Services.

Figure 2

Technical Elements of the Smartbuy System

The smartbuy system has implemented many steps of the procurement process from searching through to invoicing. Payment functionality is still being implemented, and the system will ultimately support the full procurement cycle. Further IT solutions are being planned as part of the ongoing expansion of the smartbuy services.
The Marketplace

The Internet-based marketplace has been built using Intershop Communications Enfinity Multisite software. This system was developed and implemented by the Department of Commerce in partnership with LogicaCMG. There are four functional areas within the Marketplace:

- Catalogue of goods and services
- Facilities to store and manage trading partner information
- Analysis and reporting services
- Hosted e-procurement solution.

The eHub

Based on a service provided by Mincom Ltd, the eHub facilitates document exchange and allows agencies with different connectivity requirements (ranging from fax through to XML) to exchange documents. Integration between agency enterprise resource planning system (ERP) and the Marketplace has proven difficult and more time consuming than expected. The eHub reduces some of these integration issues.

The Catalogue Content Factory

Based on an in-house developed application (QICS Central) the Catalogue Content Factory manages, validates and transforms catalogue content. This element of the smartbuy system is over ten years old and is currently under review in anticipation of possible upgrades.

Procurement Reporting Services

The service is operational and supports strategic procurement planning by providing facilities for regular, exception and ad hoc reporting of procurement activities. It also permits data mining. Further development is underway to include additional services.

Buyers and Suppliers

The smartbuy system is available to buyers across the whole-of-government including:

- Government agencies
- Government trading enterprises
- Not-for-profit organisations
- Local councils
- Approved users of State Contract Control Board (SCCB) contracts.

Eligible suppliers include those approved on SCCB contracts and other suppliers approved by individual Government agencies.

Usage

The current uptake of smartbuy has been slow since going live in November 2002. By February 2004, spend through the system was reported at $4 million. Eventually, the system is expected to process around 11 million transactions per year worth $4 billion.
Adoption levels and usage as of mid-August 2004 are shown in the following table.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agencies</strong></td>
<td></td>
</tr>
<tr>
<td>Search and browse</td>
<td>180</td>
</tr>
<tr>
<td>Able to purchase</td>
<td>27</td>
</tr>
<tr>
<td>Total registered Agencies</td>
<td>207</td>
</tr>
<tr>
<td>** Suppliers**</td>
<td></td>
</tr>
<tr>
<td>Purchasable suppliers</td>
<td>152</td>
</tr>
<tr>
<td>Total registered suppliers</td>
<td>446</td>
</tr>
<tr>
<td>** Users**</td>
<td></td>
</tr>
<tr>
<td>Registered buyers</td>
<td>2685</td>
</tr>
<tr>
<td>Registered browse only</td>
<td>4867</td>
</tr>
<tr>
<td>Total registered users</td>
<td>7552</td>
</tr>
<tr>
<td>** Contracts and items**</td>
<td></td>
</tr>
<tr>
<td>Purchasable contracts</td>
<td>35</td>
</tr>
<tr>
<td>Total contracts</td>
<td>156</td>
</tr>
<tr>
<td>Total items</td>
<td>99,805</td>
</tr>
<tr>
<td>Total accessories</td>
<td>10,164</td>
</tr>
</tbody>
</table>

### 3.4 E-impact

The strategies and policies defined by Government have set the ground work for the use of e-procurement across the state. While the adoption of the smartbuy system has been relatively slow, the smartbuy team has taken active steps to promote the system. Current steps include developing the technology platform, resolving integration issues and working closely with departments and agencies on buyer enablement.

The following key learnings and challenges were identified in this review of e-procurement in the Government of New South Wales.

**Key Learning – Proactive change management can promote usage**

To ensure continued use and uptake of e-procurement, ongoing training, technical and process change needs to be proactively managed, communicated and fostered by smartbuy staff.

**Challenge – Acquiring and maintaining suitable skilled personnel**

A major challenge is the lack of availability of suitably skilled personnel. This is especially noticeable when recruiting buyers. Preparing buying agencies to adopt the system is a critical stage in the adoption process and requires personnel with a good understanding of both strategic and operational procurement processes and practices.

**Challenge – Promoting use through competent technology**

The implementation of the smartbuy system was relatively straightforward; however integration issues with buyer and supplier systems were more complex than anticipated. These issues slowed the uptake of the system. To rectify this challenge, the smartbuy team have worked on integration to facilitate different levels of document interchange improving the eHub aspect of the system.
Challenge – Communicating benefits to promote buyer engagement

The benefits of adopting the smartbuy system vary between government organisations. Agencies without any pre-existing e-procurement capability participate at relatively low cost, and the associated business case is compelling. The challenge to communicate the benefits to all buying agencies is being addressed in the new smartbuy strategies.

Challenge – Developing effective strategies that deliver supplier value

Addressing the value propositions and promoting tangible solutions to the supplier community is critical and should not be underestimated. Moving forward, improving communication throughout all stages of the adoption and implementation process is a key challenge.

Challenge – Managing the competing priorities in government

Government agencies have many competing priorities and e-procurement is not always a high priority. For example, since the 2003 election, Government departments have undergone significant restructuring. As a result, agencies’ attention has been diverted towards understanding and negotiating roles under the new organisational structures. There have also been broader issues of corporate services and procurement reform. Managing these constant changes with finite resources is a major challenge.

Challenge – Developing and implementing e-procurement metrics

Benchmarking a system such as smartbuy is not straightforward and involves multiple points of evaluation over time. Measuring and evaluating performance criteria is important so the participating agencies can justify implementation costs and demonstrate best practice. Designing and implementing measures that adequately represent performance at different points of time will continue to be a challenge.

3.5 Conclusion

The Government has been successful with its approach to e-commerce by developing strategies and policies that support the use of online tools in the procurement area. This is exemplified by combing the four main elements of the 2001 Strategy: portal, e-tendering, asset.gov and smartbuy.

Smartbuy specifically promotes e-procurement and supports many of the procurement functions. Ongoing expansion of the system will ultimately support the full procurement cycle.

Adoption of smartbuy has been slow with only $4 million of the potential spend moving through the system as of February, 2004. However, system and process improvements have been implemented to support specific supplier and buyer requirements, and these improvements will continue. Remaining challenges relate to staffing and benchmarking; as solutions are identified, these areas will also improve the overall system and further promote its use.

Overall, the Government is committed to procurement reform and e-procurement is recognised as part of the solution.
E-procurement in New Zealand

A Case Study on E-procurement Implementation
Government of New Zealand
4 E-procurement in New Zealand

4.1 Introduction

This case study provides a brief summary of e-procurement activities within the Government of New Zealand (Government). It includes some background on why decisions were made and activities were implemented (e-readiness), what e-procurement activities are currently being utilised (e-intensity), and key learnings and challenges resulting from these activities (e-impact).

In 2000, a report was published outlining the Government’s e-commerce vision and strategy. The report emphasised the need for e-government and e-procurement. Later that year, the Government’s E-procurement Project (Project) was established to improve procurement practices across government and to implement e-procurement.

The Project had three main initiatives:

1. Develop syndicated procurement practices
2. Share best practice procurement processes between agencies
3. Implement systems and technologies for enabling e-procurement across the procurement lifecycle.

The third initiative gained the most attention and visibility. It was also the impetus for the e-procurement system – GoProcure – a transaction hub developed to host online catalogues and coordinate purchase-to-pay transactions.

After a mid project review, in November 2003, a decision was made to terminate the GoProcure pilot project. At this time, the Government had spent half the funds that had been identified to implement the Project.

Going forward the focus of Government is on the other two initiatives of the original Project – developing syndicated procurement practices and sharing best practice procurement processes. The State Services Commission (SSC) has already established a Syndicated Procurement Unit to pursue these initiatives.

4.2 E-readiness

Government Framework

In 2000 the New Zealand Ministry of Economic Development published a report outlining the Government’s e-commerce vision and strategy. The report emphasised the need for Government to lead by example in the area of e-commerce by developing e-government and e-procurement.
In July, the Project was established, and the mandate was given to the SSC e-Government Unit. The aim of the Project was to:

- develop a coordinated approach to improving procurement practices across government
- implement e-procurement in Government agencies for the purchasing of goods and services.

The Project comprised three main initiatives:

1. Developing syndicated procurement practices to enable agencies to
   a. Consolidate their purchasing requirements and to aggregate demand to achieve greater purchasing power, and
   b. Generate savings by reducing purchase prices and tendering costs.
2. Sharing best practice procurement processes through the transfer of knowledge and experiences between agencies.
3. Implementing systems and technologies for enabling e-procurement across the procurement lifecycle from requisitioning to payment of goods.

Of the three initiatives the latter gained the most attention and visibility.

Preliminary pilot studies were conducted and agencies’ experiences of e-procurement were reviewed. Recommendations from these studies and reviews formed the basis of the Government E-procurement Project RFP issued in August 2001.

Objectives for the Project were identified to:

- show government as a leader in e-business and provide impetus for the adoption of e-business in New Zealand
- achieve cost savings for buyers through demand aggregation and the automation of purchasing transactions
- enable efficiencies through internal purchase to pay process improvements
- encourage synergies between government departments and agencies and the sharing of best practice in public procurement.
- simplify the process of dealing with government and reduce costs for suppliers by providing a single interface for supplying to government.

GoProcure

The e-procurement system was branded GoProcure. Best described as a transaction hub, GoProcure was an online procurement system that hosted catalogues and coordinated purchase-to-pay transactions.

The benefits of GoProcure were to:

- achieve process efficiencies in requisitioning and approving, purchasing and accounts payable
- improve buying practice thereby enabling strategic sourcing and improving policy compliance
- enable syndicated procurement.

Originally, agencies had to decide whether to adopt the system; however in late 2002 participation became mandatory for all government agencies.
**Potential Market**

The target users of the GoProcure system were the 40 government departments and their existing key suppliers. A survey conducted by the SSC in 2000, identified spending on non-specialised goods and services by Government departments to be approximately $1.25 billion. Three types of departments were identified and the breakdown of annual spend by department size is shown below.

In 1999/2000 the five large sized departments accounted for $758 million or 61% of the non-specialised spend.

The following table shows the breakdown of spend by department size in 2000.

<table>
<thead>
<tr>
<th>Number of departments</th>
<th>Department size</th>
<th>Spend per annum $millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Large</td>
<td>&gt; $90</td>
</tr>
<tr>
<td>18</td>
<td>Medium</td>
<td>$10 – $50</td>
</tr>
<tr>
<td>17</td>
<td>Small</td>
<td>&lt; $10</td>
</tr>
</tbody>
</table>

Over 100 New Zealand Crown entities were also able to use the e-procurement system. These entities included 20 District Hospital Boards and eight Universities and account for another $3.5 billion in spending on goods and services. The annual spend that would be processed through the e-procurement system was approximately $250 million yielding an estimated cost saving of to $6.5 million per annum.

**4.3 E-intensity**

**Business Design**

The business model underpinning GoProcure was a subscription service where buying agencies would pay a subscription or fee to receive the service. Subscription costs had been quoted of up to $100,000 per annum for five years, although actual charges would vary according to the level of service required. Suppliers would not pay a fee to participate in the system.

The original conceptual design for the system's functionality is shown in Figure 1.
The system requirements were designed to support purchase-to-pay, catalogue management and reporting functions. Interfaces to other systems including financial management information systems (FMISs) and third-party aggregator marketplaces were also provided. All transactions would be between buying agencies and contracted suppliers.

The tender and contract management function was a separate module that would be integrated with the main transaction hub functions.

Key requirements were flexibility and the capability to support buyers and suppliers with different business and connectivity needs.

** Buyers**

A variety of options and functionality were required to support the needs of the different buying agencies within Government.

Agencies with no existing e-procurement capability required a complete range of options from requisitioning through to payment, including support services. These were typically small and medium sized agencies with low transaction volumes.

Agencies with existing e-procurement systems such as Oracle iProcurement or modules provided within existing Enterprise Resource Planning (ERP) systems were more advanced in their e-procurement activities. These agencies would use some or all of GoProcure’s functionality and were expected to have high transaction volumes. However, integrating GoProcure with their existing FMIS and procurement workflows was expected to take considerable effort.

** Suppliers**

Transaction needs varied across different suppliers. Some suppliers were only capable of handling simple fax or email transactions while others supported a more advanced business-to-business e-commerce capability. Catalogue requirements also varied. GoProcure’s functionality was intended to support simple catalogues, e.g. spreadsheets, third party hosted catalogues, and punch-out.
Implementing GoProcure

In late 2002, Cap Gemini New Zealand was hired to develop and implement the GoProcure system while the SSC e-Government Unit maintained responsibility for the day-to-day promotion and project management.

The rollout schedule for the GoProcure system was originally planned as follows:

<table>
<thead>
<tr>
<th>Period</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>November 2002 – January 2003</td>
<td>Operational system built</td>
</tr>
<tr>
<td>February – March 2003</td>
<td>Implementation in the first five agencies</td>
</tr>
<tr>
<td>April – September 2003</td>
<td>First phase operations in the first five agencies</td>
</tr>
<tr>
<td>November 2003 – onwards</td>
<td>Progressive rollout to all government departments and Crown entities</td>
</tr>
</tbody>
</table>


A review was scheduled to follow the pilot phase at which point a decision would be made as to full operational implementation.

The pilot phase used Oracle’s Exchange application to implement the GoProcure Transaction Hub as shown in Figure 2.

Rollout of the program was slower than anticipated and uptake was limited. By June 2003, the system was being tested with two agencies. The New Zealand Police tested the XML capabilities of GoProcure and used it to exchange purchase orders (POs) and invoices online with three major suppliers. The University of Auckland tested GoProcure to access and update online supplier catalogues. Two other departments, the Department of Internal Affairs and the Ministry of Agriculture and Forestry, were also in the process of adopting the system.

Figure 2

GoProcure Transaction Hub

![GoProcure Transaction Hub Diagram](image-url)
In June 2003, a progress review of the GoProcure project was undertaken. The review identified the difficulty of delivering internal requisitioning systems to agencies over the Internet. The project continued with a new focus – provide a centralised transaction hub with functionality for updating catalogues and exchanging transactions between buyers and suppliers. Managing the implementation of internal requisitioning systems and processes was given to the agencies.

In November, after a second progress review of the GoProcure project, the decision was made not to proceed with further implementation. The budget for the pilot phase had been $NZ 2 million. Full implementation would have cost an additional $NZ 5.5 million.

**The Future without GoProcure**

With the conclusion of the GoProcure project, the Government has focused on the other two initiatives of the original New Zealand E-procurement Project. Currently, the SSC is pursuing these initiatives:

- Syndicated procurement
- Knowledge sharing for best practice in procurement

As for the agencies that were using the system, the New Zealand Police have since moved to a point-to-point procurement solution involving communication with individual suppliers through the Internet. Several of the District Health Boards have also signed up to use a private sector (supply-side) procurement hub.

**4.4 E-impact**

The benefits associated with the GoProcure project that were originally proposed were not realised. In fact, only a small number of government agencies and suppliers benefited from using GoProcure in the short time that the system was in use. During that time, three key learnings were identified as being critical to the e-procurement program.

The following key learnings and associate challenges were identified in this review of e-procurement in the Government of New Zealand.

**Key Learning – Solid business case can provide the framework for an e-procurement program**

A well-developed business case is critical to the success of any large-scale IT project like e-procurement.

**Challenge – Justifying the return on investment (ROI)**

For small to medium sized agencies with relatively low transaction volumes the cost savings and process benefits of subscribing to the GoProcure system were hard to justify. A way to overcome this challenge is to explain the value that e-procurement can bring to an agency and justify the ROI in terms relevant to the stakeholders.

**Challenge – Understanding the role of government**

Questions regarding the role of government have been raised during the review of the New Zealand experience. To what extent should Government be spending money on implementing and maintaining an e-procurement transaction hub? The benefits of public and/or private sector management should be discussed. One possible outcome being that a solely private sector managed hub may provide a better business model for future public procurement initiatives.
Key Learning – Securing buyers and suppliers is critical when implementing e-procurement

Achieving buy-in from government agencies proved more difficult than anticipated in New Zealand. Securing buyer commitment and encouraging supplier adoption of a common system lead to problems establishing critical mass. Without buyers, especially those representing a large volume of orders, realising the required transaction volume is difficult and can take time.

Challenge – Promoting procurement process improvement

The implementation costs and effort involved in the GoProcure project were higher than expected for some agencies. Experience showed that these agencies had not reviewed their procurement processes prior to joining the project. As a result, achieving the desired outcomes took significant effort.

Challenge – Persuading experienced agencies to try something new

Agencies with their own e-procurement systems as part of an earlier ERP project found the case for a common e-procurement system less than compelling. These agencies believed that their existing processes were adequate or their existing technology investment was sufficient. A key to managing this challenge may be in identifying the value that the common platform brings to the agency even if that value stems from a whole-of-government initiative.

Challenge – Gaining supplier adoption and readiness when buyer adoption is slow

The limited levels of supplier adoption of the GoProcure system were a reflection of the poor adoption by buying agencies. Because the system was designed as a transaction hub rather than a marketplace, contracted suppliers only joined the system when their respective buyers joined. Identifying and communicating the value of the system to the supplier can overcome this type of challenge.

Key Learning – The technical implementation can impact the success of the project

Developing an operational requisitioning tool within GoProcure was difficult and complex. These problems point to issues in implementing the technology.

Challenge – Identifying data standards

There is still considerable uncertainty and a lack of clear direction regarding standards for data interchange. Until a clear industry standard is identified and supported, this challenge will continue for all participants.
4.5 Conclusion

A common theme identified in the key learnings and challenges was the need to identify value and communicate this value to all stakeholders in a meaningful way such as ROI, process improvement, etc. These challenges could be the reason why a small number of participants benefited from using GoProcure. In the end, the benefits associated with the GoProcure project that were originally proposed were not realised and the project was terminated.

Without access to GoProcure, Government agencies in New Zealand are now looking to find suitable, alternative e-procurement solutions. These agencies understand the value that e-procurement can bring to public procurement, even if the direction and guidance is no longer from a central government body.

The Government of New Zealand is now focusing on the other initiatives from the original Project to develop syndicated procurement practices and share best practice procurement processes between agencies. The State Services Commission has already established a Syndicated Procurement Unit to pursue these initiatives.
E-procurement in Scotland

A Case Study on E-procurement Implementation

Government of Scotland
5 E-procurement in Scotland

5.1 Introduction

This review provides a brief summary of e-procurement activities within the Government of Scotland (Government). It includes some background on why decisions were made and activities were implemented (e-readiness), what e-procurement activities are currently being utilised (e-intensity), and key learnings and challenges resulting from these activities (e-impact).

In 2000, a preliminary review by the Scottish Procurement Directorate in other jurisdictions concluded that no existing business model was completely suitable for use in the Scottish context. It was recognised in a further review that a holistic approach was required for e-procurement in Scotland where procurement process reform and the implementation of new technologies for procurement could take place in a coordinated manner.

From the outset the Scottish Government recognised that e-procurement was an end-to-end business solution, not a technical solution. As such the National eProcurement Scotland programme (the Programme) takes a broad view defining e-procurement as a business service known locally as “little e, big P”.

The Programme aims to establish a common platform and a common approach to e-procurement in the Scottish public sector that will result in efficiencies and cost savings for both buyers and suppliers. The e-procurement system is a fully hosted application service called PECOS™. The system is subscription-based and offers a range of services and tools to all subscribers.

Overall, the system is recognised as a success. The team responsible for the Programme has brought hard and soft savings to the participating buyers and suppliers. Moving forward, the team plans to expand the Programme and PECOS system to include additional features that will provide a complete, online end-to-end procurement solution.

5.2 E-readiness

Public e-procurement in Scotland is shaped by broader public policies on improving Government efficiency and delivering better value for money to taxpayers in the United Kingdom. These include improving procurement processes, developing the skills and status of the procurement profession and exploring e-commerce and technology-enabled options for procurement.
**Government Framework**

Following Devolution in 1999, public procurement in Scotland became the responsibility of the new Scottish Parliament.

In January 2000, the Minister for Finance established the Procurement Supervisory Board (PSB) with representation from Central and Local Government, the Scottish Health Service and the private sector. In reviewing public procurement issues, the PSB recognised the potential cost reduction associated with e-procurement and proposed a strategy that would encompass the entire Scottish public sector.

By the end of the year, the strategy was approved, funded, and named – the National eProcurement Scotland programme (the Programme).

The Programme falls within the portfolio of the Scottish Procurement Directorate that is responsible for shaping public procurement policy and practice in Scotland. The Directorate also plans and coordinates the day-to-day procurement activities of the Scottish Executive.

**National eProcurement Scotland Programme**

E-procurement in Government takes a broad view and is defined as a business service as opposed to a technology solution, known locally as “little e, big P”.

A successful e-procurement system requires a solid understanding of the purchase-to-pay processes. For this reason, the Programme continually reviews procurement cultures and practices across the public sector and changes them as necessary. The skills and experience of the procurement professional are also recognised as key in maintaining the buyer-supplier relationship. The Programme implements services and technologies that improve this relationship. Suppliers also benefit from the system by having a single access point for all sales into the public sector.

Overall, the Programme aims to establish a common platform and a common approach to e-procurement in the Scottish public sector that will result in efficiencies and cost savings for both buyers and suppliers.

The focus of the Programme is to:

- provide a joined-up approach to public procurement in Scotland
- achieve efficiencies through improved procurement processes and deliver cost savings to Government and the Scottish taxpayer
- raise the importance of procurement as a business activity
- improve the supplier experience of dealing with Government
- provide benefits to Government agencies by developing common procurement processes, sharing of procurement knowledge and experiences
- establish collaborative procurement practices, where appropriate.

**Professional Electronic Commerce Online System (PECOS™)**

The Programme was launched in early 2002, and provides a range of services and tools called PECOS. The first order was placed in March 2002.

The standard elements are available to all subscribers and include an assessment tool that provides an implementation plan for the specific buying organisation. Other functions span the complete end-to-end procurement process.
Potential Market

The Programme is available to all organisations involved in public procurement and extends to Central Government, Local Government and the National Health Service (NHS) Scotland as portrayed in Figure 1.

Figure 1

Scope of the eProcurement Scotland Programme

Public procurement expenditure in Scotland is estimated at £5 billion per annum. The Scottish Executive is seeking to achieve a 2–4% savings on procurement spend by using the Programme.

Moving Forward

The importance of the Programme is likely to increase as procurement is one of the five main themes of the Efficient Government Initiative that was announced in July 2004. This Initiative aims to improve efficiency and deliver public sector savings of £500 million by 2007–08 and £1 billion by 2009–10.

The Initiative supports shared services, promotion of best practice and cross-sectoral working across Central Government, Local Government and NHS. It mentions “back-office efficiencies” such as invoicing and payments and has prompted initial discussions about the development of a creditors’ gateway for invoices. A proof of concept activity to explore the various options is scheduled in the next 12 months.

Figure 2 highlights the potential of e-invoicing across the Scottish public sector. The major enterprise resource planning systems (ERP) listed in Figure 2 are the current hubs for the Scottish public sector.
5.3 **E-intensity**

**Business Design**

In Scotland, public e-procurement is a fully hosted and managed service. The business model used was developed by the local team and emphasises the use of common methodologies for buyer-enablement and supplier-adoptions. The team coordinates and supports the service, which is provided by Cap Gemini and hosted on elcom’s PECOS Internet Procurement Manager platform. The service is subscription-based and available to all public sector entities.

The primary purpose of PECOS is to process and track orders raised under existing contracts and anyone with authority to place orders can use the system.

The standard elements available to all subscribers include a Scoping and Readiness Assessment tool that assesses the current status of the buying organisation in terms of readiness for adoption of the service. The assessment includes spend profiling, analysis of supplier base and purchase-to-pay processes, and a review of technical and human resource capabilities. Business case preparation is also provided. The result is an implementation plan specific to the situation and context of each buying organisation.

Electronic tendering (e-tendering) is a core service available to buying agencies and is primarily used for procurement activities prior to the award of contracts. This tool is targeted to the procurement professional with the skills and knowledge in writing requests for tenders (RFTs) and coordinating the tendering process.

An online reverse auction tool is also available as an externally hosted application to Programme subscribers.

PECOS assesses status of buying organisations and determines their e-readiness

E-tendering tool targets staff with experience in managing the RFT process

Source: eProcurement Scotland
The PECOS system also supports additional procurement functions including catalogue management, order cycle management and approval routing. The system is configurable to support the business rules of individual buying organisations. PECOS provides financial settlement, invoicing functions, procurement cards and a range of reporting tools. A complete list of the services and tools is provided in Figure 3.

**Figure 3**

**Elements of the eProcurement Scotl@nd Service**

<table>
<thead>
<tr>
<th>Standard Elements</th>
<th>Functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scoping and readiness; business case preparation</td>
<td></td>
</tr>
<tr>
<td>Hosted application service provision on the PECOS system</td>
<td></td>
</tr>
<tr>
<td>Buyer organisation implementation</td>
<td></td>
</tr>
<tr>
<td>Supplier enablement</td>
<td></td>
</tr>
<tr>
<td>Programme support services</td>
<td></td>
</tr>
<tr>
<td>Requisition-invoice matching</td>
<td></td>
</tr>
<tr>
<td>Embedded Government purchase cards</td>
<td></td>
</tr>
<tr>
<td>E-forms</td>
<td></td>
</tr>
<tr>
<td>Catalogue management tools</td>
<td></td>
</tr>
<tr>
<td>Configurable to agency specific business rules</td>
<td></td>
</tr>
<tr>
<td>Management information</td>
<td></td>
</tr>
<tr>
<td>E-tenders</td>
<td></td>
</tr>
<tr>
<td>Reverse auctions</td>
<td></td>
</tr>
<tr>
<td>Legacy system interfaces</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Optional Elements</th>
<th>Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic sourcing</td>
<td></td>
</tr>
<tr>
<td>Change management</td>
<td></td>
</tr>
<tr>
<td>Legacy system integration</td>
<td></td>
</tr>
<tr>
<td>Business process re-engineering</td>
<td></td>
</tr>
<tr>
<td>Remote hosted service</td>
<td></td>
</tr>
<tr>
<td>Minimal PC requirements</td>
<td></td>
</tr>
<tr>
<td>Standard browser based application</td>
<td></td>
</tr>
</tbody>
</table>

**Fee structure**

Buying organisations pay an annual management fee to use the PECOS system. This payment structure means that an individual organisation is not required to invest in an expensive procurement exercise to source a best-of-breed solution. Basically, the initial investment by the Scottish Executive has brought e-procurement within reach of all Scottish public sector organisations.

Suppliers pay a one-off fee for cXML connections. Most suppliers understand the value that this type of connection brings to the order process and are willing to pay the fee.

**Supplier Enablement**

Supplier adoption and enablement is an important feature and to support this process, the team has developed a range of procedures and supporting documentation. Maintaining the supplier-buyer relationship is the responsibility of the buying organisation. If a supplier is common to several buying organisations, one organisation will act as the sponsor for that supplier’s adoption. The team also maintains a database of suppliers on the system to coordinate this process.

PECOS is required to support all suppliers regardless of size and technical capability. This includes fax transactions and the more sophisticated business to business (B2B) capabilities such as electronic data interchange (EDI) and cXML. The system can also support a variety of catalogue types including those created manually with a spreadsheet, those created by a catalogue management tool and those supporting punch-out to supplier’s web sites.
The value of the B2B capability is that orders are entered into the supplier’s system automatically, removing the risks associated with manual re-keying like manual errors and mis-shipments.

Currently, there are three broad groups of suppliers linked to the PECOS system:

- “advanced options suppliers” use advanced B2B options and connectivity such as cXML or punch out to supplier web site
- “electronic catalogue suppliers” provide electronic catalogues that are hosted on PECOS
- “bulk load suppliers” are connected to the system and capable of transacting, however, they have yet to be fully enabled through the supplier adoption process.

**Buyer Enablement**

Central Government subscribed to the Programme in April 2002. Their service is branded EASEbuy and is available to all core Government departments, Executive Agencies and NDPBs who are eligible to purchase under Scottish Procurement Directorate contracts. An interface between EASEbuy and the Scottish Executive finance system extends the end-to-end functionality of the system thereby accommodating repetitive purchases from central contracts, framework agreements and ad hoc non-catalogue requisitions.

Adoption of EASEbuy has occurred in parallel with the introduction of the Government Procurement Card (Visa GPC). The GPC is used for low value transactions and is improving invoice consolidation and streamlining purchasing processes.

**Usage**

As of June 2004, eight core departments in Central Government are using PECOS. The system is being rolled out to 11 Executive Agencies and 19 NDPBs.

The service is live in seven Local Government authorities and is currently being rolled out to others.

NHS Scotland has signed up en-masse to the Programme. Current operations include five Health Trusts, the Scottish Ambulance Service and Blood Transfusion Service. Full rollout will occur over the next two years.

Adoption levels and usage as of July 2004 are shown below.

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered users</td>
<td>over 40,000</td>
</tr>
<tr>
<td>Registered suppliers</td>
<td>over 6000</td>
</tr>
<tr>
<td>Orders processed, 12 months cumulative to July 2004</td>
<td>60,000</td>
</tr>
<tr>
<td>Spend, 12 months cumulative to July 2004</td>
<td>£62,000,000</td>
</tr>
</tbody>
</table>

Source: eProcurement Scotland

E-tendering is routinely used in Central Government by the Scottish Procurement Directorate. Several local authorities and Health Trusts are piloting the tool.

One successful auction has been run by the Scottish Executive resulting in a £1 million order. This result represented £250,000 savings over the anticipated best price.
5.4 E-impact

The Scottish Government’s approach to e-procurement has included the development of public procurement policy and the implementation of collaborative procurement practices. Combined with the vision and commitment of the project teams, this approach has led to a demonstrably successful e-procurement initiative.

The following key learnings and associated challenges were identified in this review of e-procurement in the Government of Scotland.

Key Learning – E-procurement can reduce procurement costs

A detailed analysis of purchase-to-pay processes and transaction costs has identified cost reductions in a number of areas, including the use of the online auctions. Cost reductions in the table below are indicative of purchasing from a major supplier through an existing agreement or contract.

| Purchase-to-pay process using purchase or single paper invoice through Scottish Executive Accounting System | £10.28 |
| Purchase-to-pay process using purchase or single paper invoice through EASEbuy | £1.28 |
| E-commerce solution combining cXML-based purchase orders and automatic payments using virtual procurement card through EASEbuy | £0.11 |

Source: eProcurement Scotland

Administrative costs have also decreased with the introduction of the Visa GPC. Since its introduction, the number of travel-related invoices has reduced from 16,000 (in 2003–2004) to 52 (in 2004–2005).

Key Learning – Structure of procurement organisations can affect e-procurement

E-procurement is not a technology solution, but an end-to-end business solution that requires a multi-functional team with members who can:

- understand public procurement policies and practices
- benchmark and re-engineer business processes
- coordinate change management
- develop training programmes.

In achieving these tasks, the Scottish team has adopted a very hands-on approach thereby gaining valuable experience in understanding the issues and problems faced by buyers and suppliers.

Challenge – Developing and/or hiring qualified staff

As more organisations join the Programme, the team has expanded and roles have evolved to support the additional workload. Team members now act as an intermediary supplying information and expertise to buyers and suppliers. They also assist in the change management process.

There is a shortage of people with the necessary skills in and knowledge of public e-procurement, and the ongoing recruitment of qualified personnel is a recognised challenge.
Key Learning – Flexibility in the development of systems and processes can enable e-procurement

The PECOS system is flexible enough to accommodate a variety of buyers and suppliers with different business and connectivity needs. By monitoring the service adoption process, the team has developed methods and tools that ease the enablement process for buyers and suppliers. In addition, the team is careful to understand, redesign and measure the costs of purchase-to-pay processes.

Key Learning – E-procurement requires the ongoing review of processes and systems

Implementing e-procurement has reinforced the need for ongoing process and system reviews. For example, the experience with online auctions has demonstrated the importance of carefully selecting the commodity and adequately preparing participants, both suppliers and buyers, for the process. The move to e-invoicing has also initiated discussions to define, implement and support these transactions.

Challenge – Educating participants in online auctions

Now that the team knows more about orchestrating an online auction, it can share this knowledge with the buyers and suppliers. By sharing these details, future auctions can run more smoothly and provide the expected results.

Challenge – Managing system integrations for new features

As new features are developed for PECOS, they must be integrated with other tools and systems that are supported by the Programme. In the area of e-invoicing, the challenge will be to ensure the interoperability of data formats between the public sector and supplier information systems. The Programme has already addressed the formatting in the Visa GPC statements. The next step is to work with other small to medium enterprises (SMEs) who do not accept the Visa GPC format. One possible solution is for SMEs to use a third-party service where they email invoices to an intermediary service provider for re-formatting.

5.5 Conclusion

Basically, the initial investment by the Scottish Executive has brought e-procurement within reach of all Scottish public sector organisations. From the outset the Scottish Government has taken a holistic approach to procurement reform with a close alignment of:

- procurement process benchmarking and re-design
- investigation of payment solutions
- implementation of e-procurement initiatives.

The emphasis has not been on centralising control of procurement but on empowering individual agencies to improve their procurement processes and achieve benefits locally.

The outcome was a subscription-based, hosted e-procurement service that continues to expand as more agencies and suppliers subscribe to the service.

The Scottish team have realised that with e-procurement one size does not fit all. By adopting a hands-on approach, the team has reduced transaction cost for participating agencies, improved the buyer and supplier enablement process and improved the overall procurement process. Progress continues to include e-invoicing and e-payments thereby achieving a complete e-commerce solution in Government.
6 E-procurement in Western Australia

6.1 Introduction

This case study provides a brief summary of e-procurement activities within the Government of Western Australian (Government). It includes some background on why decisions were made and activities were implemented (e-readiness), what e-procurement activities are currently being utilised (e-intensity), and key learnings and challenges resulting from these activities (e-impact).

In 1998, a requirement for more accountability and transparency with government tenders led to the creation of the Government Electronic Information Bulletin Board. This requirement also created the impetus for electronically enabled procurement.

However, more recently attention has turned towards two key related areas:

- enabling better compliance by providing the platform through which agencies can use the appropriate contracts that have been “properly aggregated and hence save money”
- enhancing strategic sourcing by profiling information on buyer and supplier procurement activities through data warehousing capabilities.

Various reforms, initiatives and organisational change over the last six years have advanced the visibility of procurement within the Government. The current procurement reform program serves to:

- identify savings through strategic sourcing while promoting access to small, medium and large suppliers across the state
- deliver quality outcomes by enhancing procurement resources including people, tools and processes.

E-procurement is recognised as a viable solution for procurement reform and is managed within the Government Procurement Division of the Department of Treasury and Finance (DTF). This Division supports the Government Electronic Market (Gem) which is a set of tools providing e-procurement services to all agencies and departments within the Government. In addition to its public website gem.wa.gov.au, Gem currently provides three core functions:

1. Tendering
2. Purchasing
3. Contracting.

This review while discussing the entire Gem system will focus on the purchasing function.

Created in 1999, Gem Tendering is considered a mature product and supports many aspects of online tendering. Gem Purchasing is an online marketplace designed for high volume, low value purchases. The purchasing tool was launched in 2000 and became fully functional in July 2001. The contracting tool is a more recent initiative and is still in its early stages of development.
Used for standardised goods and services, Gem Contracting has standardised the contract development process and aspects of contract management.

Gem does not offer an end-to-end procurement solution. Many steps are manual or not integrated such as invoicing and payments. Also, interfacing with agency back end systems is difficult. Usage of the purchasing tool is not mandatory. Currently, only one agency is significantly using the tool and is responsible for 90% of the online orders.

Moving forward, the Government is continuing to promote e-procurement. Gem is evolving from a whole-of-government perspective. Ongoing initiatives within Gem support procurement reform and corporate services reform. The functional areas were developed independently and interfacing between them is fairly rudimentary. As a result, the whole-of-government reforms focus on improved integration.

6.2 E-readiness

**Government Framework**

Since its inception as an electronic information bulletin board, arising from the Commission on Government Review (1998–1999), the journey for the Western Australian Gem e-procurement system has been a challenging passage.

Gem has received considerable media attention and conjecture. More recently, it has been scrutinised from a broader Government taskforce on government effectiveness as a result of low uptake in its electronic marketplace.

Areas of interest of the task force included: reviewing inefficient processes; standardisation of systems and specifications; and exploring more aggregation of opportunities across the public sector. Reforms commenced in February 2003 and are ongoing with the responsibility for government procurement moving to the Government Procurement Division of the DTF.

An independent review was conducted across government and reported on ways to achieve savings. As a result of this independent review, a plan labelled as Smarter Buying was endorsed by the Government in December 2003. This plan served two purposes; to harvest savings and to deliver better quality procurement outcomes. As a result, two major projects are underway that include “re-badging” of agency procurement specialists as DTF staff (a key component of the reform) and major technological changes.

The poor uptake of Gem Purchasing prompted another review within DTF which concluded in August 2003 during which time no work could be done on the system. The Treasurer was clear about the need for Gem Tendering as it had been meeting all requirements. Gem Contracting was also of value to the Treasury function. He was less clear about the direction of Gem Purchasing. As a result of this review, the use of Gem Purchasing will continue subject to the implementation of the review’s recommendations. Despite the problems with the purchasing tool, there was no viable alternative, and it was seen to have the capacity to “revolutionise Government buying”.

**Government Electronic Market (Gem)**

Gem Tendering was the original module and evolved from the Government Contracting Information Bulletin Board. The online tendering idea triggered interest in the potential for e-marketplace, e-purchasing and e-procurement systems. A proof of concept was developed leading to a pilot and business case in 1999. Owned by the Government, development was outsourced to Computer Associates. The tendering tool meets all DTF requirements and is mandated by the State Supply Commission for tendering by all Government agencies.
Gem Purchasing was launched during the euphoria of the dot.com era creating interest and enthusiasm. The Government’s Online Agenda and other similar initiatives were gaining momentum and supported development of IT enabled tools.

The initiative was kicked off with a buy local initiative and a budget of approximately $3 million. In August 2000, a “new locally led SUN Microsystems consortium” was awarded the contract to supply the technological platform for Gem Purchasing. Gem is based on the SunTone Architecture Methodology. Adacel produced the catalogues and Alpha-West integrated the individual modules. The first live transaction occurred in December 2000. Upgrades occurred and the system was fully functional by July 2001 coinciding with the commencement of the Department of Justice Prison Supply Chain Management System project. Use of Gem Purchasing is not mandated across Government.

Suppliers were motivated to register with Gem Purchasing through an aggressive marketing campaign. However, there was no similar campaign for buyers and hence limited buyer adoption. Gem Purchasing became an instrument of state development by encouraging business with government; and maintaining market space following concerns that business could be lost to the eastern states of Australia. The tool also was perceived as a way to demonstrate the uptake of technology in Government. At the same time reorganisation within Government meant the role of procurement (i.e., the owners of Gem) moved across multiple agencies.

Gem Contracting is a more recent initiative and still in its early stages of development. The contracting tool is also owned by the Government and developed by Computer Associates. Gem Contracting aligns with the Treasury function and use of the tool is effectively mandated within Treasury.

Potential Market
As of June 2003, the Government’s annual total spend on goods and services, facilities management and major capital works, was approximately $5 billion. Goods and services represented $3.4 billion where approximately $1.5 billion of these purchases were below the then public tender threshold of $50,000; 90% were less than $5,000, and 80% were less than $500. Purchases from the whole-of-government Common Use Contracts (CUCs) were worth $840 million.

At that time, the identified target savings for procurement over the subsequent five years was $380 million.

6.3 E-intensity

Business Design
Gem is a “loosely coupled group of modules” consisting of core functions in tendering, purchasing and contracting as well as a public website (gem.wa.gov.au).

Gem Tendering is considered a mature product created to advertise tenders and give early tender advice. Successful upgrades support advice on recent tender awards, downloading of tender documents and drawings, and encrypted, electronic tender lodgement.

Gem Purchasing is an online marketplace designed for high volume, low value purchases such as stationery, food and facilities management. There are no fees for suppliers or buyers to register in or utilise this marketplace.

Gem Contracting is used for standardised goods and services, and is sometimes referred to as Big Gem because of its focus on low volume, high value items. This is in contrast to Gem Purchasing – referred to as Small Gem – which focuses on high volume, low value goods and services. The tool has standardised the contract development process and aspects of contract management. The contract is replicated in a catalogue from which users can view and buy items.
The website provides public information about Gem, news, product information, a full text buyer guide for users who are new to the online environment and access for buyers and suppliers to logon to Gem through the Gem Portal.

As illustrated in Figure 1, Gem supports a whole-of-government perspective comprising a suite of tools automating the contracting process and enabling registered buyers and suppliers to conduct online purchasing. The functional areas were developed independently and interfacing between them is fairly rudimentary. The whole-of-government reforms focus on improved integration, as the silo development has led to different companies being involved, different security methods and different sign-in procedures.

Figure 1

WA GEM Business Design

![Diagram of WA GEM Business Design](image-url)

Source: DTF 17 July 2004
**Supplier Catalogues**

Gem Purchasing offers a variety of catalogue hosting options, but buyers are generally unaware of these options.

DTF hosts the majority of supplier catalogues. Suppliers with DTF hosted catalogues upload a file which is translated into the required format by the Gem Purchasing Team. Some catalogues are categorised as “buyable online” where buyers can use the shopping basket to select items, place them in a shopping basket and create a requisition.

Buyable online catalogues are typically used for contracted commodities such as stationery, lubricants and groceries. Pricing information is stored in the catalogue. To populate the contracted items, DTF provides the supplier with a preformatted MS Excel template. The supplier completes the template and submits it to DTF for loading into a Gem Purchasing test catalogue for quality assurance purposes. The catalogue is then bulk-loaded into Gem. A specially built Database Management Information System manages the content. The spreadsheet template and bulk loading routines were locally developed to support large volume catalogues.

Suppliers with catalogues hosted by a third party service provider either upload a file that is translated into the required format by the service provider or maintain their own catalogues online. The approach varies according to the service provider. Using a third party service provider reduces the level of assurance in catalogue content.

Punch out catalogues are maintained by the supplier typically on the supplier’s website. A small number of suppliers currently offer this level of functionality.

**E-integration**

Buyers interact with Gem Purchasing on three levels outlined in Table 1.

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search for suppliers</td>
<td>Everything in Level 1</td>
<td>Everything in Levels 1 and 2</td>
</tr>
<tr>
<td>Browse supplier catalogues</td>
<td>Add items to shopping basket</td>
<td>Expanded approval hierarchy and/or Agency specific contracts on Gem</td>
</tr>
<tr>
<td>Request information and quotes</td>
<td>Create requisitions for goods and services</td>
<td>Assistance with ensuring key suppliers are present on Gem Financial Management Information System (FMIS) / Enterprise Resource Planning (ERP) integration</td>
</tr>
<tr>
<td>Receive response to Request for Quote / Request for Information</td>
<td>Self approval</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Send purchase order to supplier</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Receipt received goods Reporting</td>
<td></td>
</tr>
</tbody>
</table>

Source: AOT Consulting Pty Ltd, 2003
Within Gem Purchasing suppliers are displayed in the following order:

- mandatory common use contracts
- common use contracts
- mandatory agency specific contracts
- agency specific contracts
- non-contracted suppliers.

Buyers using Gem Purchasing to place requisitions select items and place them into a shopping basket where the content is used to create a requisition. Cost codes are loaded into a table which keeps a duplicate copy of agency cost codes. Currently, most buyers enter the code manually and do not use the online validation system.

The requisition is automatically routed via email to the approver. Buying rules within the system maintain approval levels. The system translates the requisition into a purchase order (PO) that is then emailed to the supplier using either

- automated fax channel; or
- transaction file that complies with Open Buying on the Internet (OBI) / Electronic Data Interchange (EDI) standards.

The supplier opens the email and clicks on a hyperlink to the Gem Purchasing login screen. Once logged into the system, the supplier can view requisitions and POs which are then manually entered into the supplier’s order entry system. Suppliers with systems compatible to OBI / EDI X12 850 can receive POs electronically.

Buyers may also punch out from their own FMIS / ERP systems to the marketplace if their systems support this capability using the OBI standard. Once in Gem, the buyers can browse catalogues and select items that are brought back into the FMIS / ERP system. The shopping basket contents are used to build the requisition. The system translates the requisition into a PO and follows the process described above. A small number of agencies presently support this level of functionality.

The procurement cycle is completed in one of two ways. Either the

- goods are dispatched / service is delivered, and the supplier sends an electronic receipt notice; or
- goods are physically received / service delivery is completed, and the buyer enters a good received notice into Gem Purchasing or FMIS / ERP system.

Gem Purchasing does not currently receive electronic invoices, and the accounts payable and general ledger functions occur outside the Gem Purchasing system. Integration of the purchase and payment areas is being considered.

**Usage**

Compared with the total expenditure on goods and services, activity on Gem Purchasing is relatively small. Without a mandate to use the purchasing tool, buyer activity is mainly attributable to the Department of Justice. This singular uptake resulted from a departmental audit requirement for an improved purchasing system to monitor annual expenditure exceeding $20 million.

The Department of Justice has 340 registered buyers and is responsible for 90% of the orders placed in Gem Purchasing (see Table 2). The remaining users tend to be smaller agencies that do not have any purchasing system capability.
Table 2

Supplier and Buyer Activity

<table>
<thead>
<tr>
<th></th>
<th>June 2002</th>
<th>June 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered buyers</td>
<td>1927</td>
<td>2751</td>
</tr>
<tr>
<td>Registered suppliers</td>
<td>8250</td>
<td>9200</td>
</tr>
<tr>
<td>Hosted catalogues</td>
<td>507</td>
<td>1200</td>
</tr>
<tr>
<td>External catalogues</td>
<td>24</td>
<td>20</td>
</tr>
<tr>
<td>Processed orders</td>
<td>25,000</td>
<td>64,102</td>
</tr>
<tr>
<td>Value of order (SM)</td>
<td>9.3</td>
<td>24.1</td>
</tr>
</tbody>
</table>

Source: AOT Consulting Pty Ltd August 2003 Report

6.4 **E-impact**

Gem Tendering is generally considered successful, and Gem Contracting is relatively new. Gem Purchasing, however, has limited impact based on its usage and perception of usability.

The following key learnings and the challenges associated with those key learnings were identified in this review of e-procurement in the Government of Western Australia.

**Key Learning – Effective strategies can improve user adoption and deliver value**

Achieving buy-in from government agencies proved more difficult than anticipated. Reasons for this slow adoption include: competing priorities, timing, online suitability of commonly procured goods and services, implementing local e-procurement solutions or adopting a wait-and-see position.

Limited levels of supplier adoption were a reflection of the poor buyer adoption. System benefits were not clearly communicated to suppliers. Enlisting a large number of suppliers in the early stages was also identified as a key strategic error. Finally, suppliers view many Gem Purchasing features as operational hindrances, such as needing to login to Gem to retrieve POs. Overall, suppliers believe they derive marginal benefit from being registered in the marketplace. In practice, the only recognisable advantage for suppliers is the visibility to the Government. As a result, many suppliers are taking a wait-and-see position before investing in systems to facilitate efficient business to business (B2B) transactions.

**Challenge – Identifying and communicating the value of Gem Purchasing to buyers**

An effective e-procurement strategy should include the development and promotion of a more compelling business case that identifies the soft and hard benefits for all stakeholders including buyers and suppliers; a communication plan that will promote Gem Purchasing to stakeholders; and an integrated governance structure similar to that being promoted in the current procurement reform project.

**Challenge – Identifying and communicating the value of Gem Purchasing to suppliers**

The DTF is revising its supplier uptake strategy to rationalise the supplier registry and be more responsive to participating suppliers. DTF is also adopting fit-for-purpose procurement tools for different segments of buying across Government. Goods and services suitable for online purchasing will be identified, and suppliers providing these items through Gem Purchasing will
be required to supply a catalogue and trade electronically. DTF believes the revised strategy will encourage supplier adoption and deliver value to stakeholders.

**Challenge – Managing the expectation gap**

Considerable hype and expectations in the earlier stages of the implementation created tensions for both agencies and suppliers. Benefits and opportunities based on functionality were not delivered and expectations were not met. Gem Purchasing, in particular, carries a legacy from the past and a degree of misperception about its viability, functionality and potential role in government procurement.

Identifying and communicating the value and benefits that Gem Purchasing brings to all stakeholders can build confidence in the system and reset expectations.

**Challenge – Implementing effective policy**

Reform and structural changes initially diverted critical resources and focus away from e-procurement. However, the whole-of-government procurement reforms currently being undertaken are expected to provide the governance structure to facilitate an integrated approach in promoting and improving the system.

**Key Learning – E-procurement is reliant on technology, systems integration and technical standards**

An effective and efficient e-procurement system uses online tools and procedures, interfaces with FMIS / ERP systems, promotes buyer adoption and supports / stays up-to-date with industry standards.

**Challenge – Developing a complete end-to-end e-procurement system**

Gem tools currently support a subset of the e-procurement process. The integration of the three core modules along with electronic invoicing and payments are being considered.

**Challenge – Improving interface with agency FMIS / ERP systems**

Interfacing Gem with agency FMIS / ERP systems was difficult during the start up phase. Delays and challenges eroded the value proposition for the agencies.

Ongoing initiatives within Gem can benefit from focussing on the whole-of-government reforms to improve integration across the systems.

**Challenge – Decreasing internal hosting of catalogues**

The Government Procurement Division does not necessarily want to host supplier catalogues in Gem. Originally, internal hosting was intended to encourage buying activity and foster an industry that would eventually host the catalogues. This did not occur, and it appears that Gem will be hosting catalogues for the foreseeable future. The challenge will be to identify other arrangements for catalogue hosting.

**Challenge – Enhancing online catalogue search**

There is the need to enhance web usability for searching online catalogues in Gem. The systems architecture provided through the SunONE framework should accommodate future requirements such as changes in e-marketplace and e-procurement standards.
Challenge – Managing technology without technical standards

While the Government embraced Australian Procurement and Construction Council guidelines in adopting the OBI standard, OBI has lost momentum and several new standards have been identified. Also, the multiple systems to classify and code line items, supplier details, cost codes and login authentication create difficulties in achieving interoperability across and within government. This lack of agreed standards is an ongoing concern.

Key Learning – An effective communication program and adequate resourcing can assist in managing change

The project plan did not adequately consider the complexity of the project. The technical resources were faced with a steep learning curve which led to implementation delays and client dissatisfaction. The budget for technical resources and infrastructure did not support adequate system testing. And the benefits and opportunities promoted to users were not met. As a result, Gem Purchasing does not support all the features originally identified.

Challenge – Developing a plan for success

To ensure future upgrades are successful, an approved business case and a detailed project plan can identify the resources required. The timeline can be flexible to support changes in priorities and direction commonplace in a public environment. Metrics can be identified that measure the progress of the implementation and improvements in the procurement cycle.

Challenge – Identifying and training procurement professionals in new skills

In a decentralised purchasing environment, the focus of procurement professionals has moved from the daily transactions to more strategic functions.

As part of the procurement reform process, procurement staff previously located in client agencies were reassigned to DTF. In their new roles, they are responsible for strategic sourcing and profiling procurement activity through the online data. Training staff in these new skills is a critical step that has yet to be resolved.

Challenge – Identifying and communicating the value of Gem Purchasing to Government

To ensure ongoing support for Gem Purchasing, the Government Procurement Division needs to understand and communicate the value of the tool. A thorough communications program can identify the business benefits associated with using the tool, the value-add the tool brings to the Government and the training available to use the tool. The communications program can also promote e-procurement and support the Government policy for procurement reform.
6.5 Conclusion

Electronically enabled procurement has been a part of the Western Australia Government for many years. Gem Tendering is generally considered successful, and Gem Contracting is relatively new. Gem Purchasing, however, has had limited impact based on its usage and perception of usability.

The Government has been an early adopter of e-procurement in the public sector. Since its inception, Gem has been a testing ground for many issues and standards, such as OBI, hosting supplier catalogues and the contracted development of individual modules. The legacy of these choices form some of the challenges identified in this review.

Work continues with procurement and whole-of-government reforms to satisfy the changing purchasing needs of the Government as it moves to offer a more complete B2B procurement system with Gem as the key.
Case Studies on E-procurement Implementations

Italy   New South Wales   New Zealand   Scotland   Western Australia