



BUSINESS INFORMATION SYSTEMS

The University of Sydney

Faculty of Economics and Business

Report on the findings of the 2005-2006 Australian National e-Procurement Survey



NeRPA

National e-Procurement Research Project Australia

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Executive Summary

The National e-Procurement Project Australia (NeRPA) was initiated in 2003 in response to ongoing interest among the business and academic communities about the current state of electronic procurement (e-Procurement) in Australian industries and organisations. This report highlights the key findings from the 2005-2006 Australian National e-Procurement Survey.

Key findings from the 2005-2006 survey include:

Increased reach and scope of e-Procurement implementations

Compared with the 2004 survey, e-Procurement implementations have broadened in reach and deepened in scope. More organisations have implemented systems that span the whole enterprise and encompass a greater range of e-Procurement functions and activities. For example, the inclusion of invoicing and payments in the top five e-Procurement activities is consistent with the move towards more fully operational systems and the development of greater e-commerce capabilities.

The strategic positioning of e-Procurement

E-Procurement has gained a more strategic position in organisations. 74% of respondents who have implemented e-Procurement rated it as strategically important. 87% of those respondents have implemented an e-Procurement strategy in their organisation. The majority (61%) have an e-Procurement strategy that is integrated with their supply chain management strategy. This finding supports the earlier observation that e-Procurement has increased in scope, spanning the whole of enterprise and is more integrated with other functions.

Procurement information management

62% of respondents indicated that inter-organisational information management has improved significantly. This is consistent with the increased integration and range of e-Procurement activities.

However, coordination of inter-organisational information remains a major challenge. This may be a reason for organisations reporting difficulties in assessing e-Procurement costs and benefits. Further, very few respondents reported they had implemented e-Procurement evaluation methods, which may indicate that procurement information is not yet available or is inaccessible. This requires further investigation.

Integration and alignment

Software and catalogue integration and the alignment of organisational culture with e-Procurement present significant challenges to organisations who are currently procuring online. These integration and alignment challenges are consistent with, and may have arisen from the increased reach and scope of e-Procurement implementations across the enterprise.

Staff development and training

A number of the organisations who have implemented e-Procurement identified a reduction in employee overhead as a marginal benefit. However they also indicated that staff training and development needs have significantly increased. Further, insufficiently skilled staff was identified in the top five factors inhibiting e-Procurement adoption. This is consistent with the heightened strategic importance of e-Procurement which may require different skill sets.

Introduction

National e-Procurement Research Project Australia (NeRPA)

The National e-Procurement Research Project Australia (NeRPA), established in 2003, seeks to assist Australian organisations to plan for, to implement and to assess the impact of IT-enabled innovations in procurement.

The objectives of the project are to:

- establish the **readiness, intensity and impact** of e-Procurement systems, strategies and processes in Australian organisations
- identify **patterns of adoption** by industry sector, and company size
- establish **adoption profiles** of e-Procurement by type of activity, product and technology
- identify **drivers and inhibitors** of the adoption and implementation of e-Procurement strategies and processes, and
- **benchmark** the Australian findings with similar studies internationally

A key element of the project is a national survey of e-Procurement adoption and implementation. The aim of the 2005-2006 Australian National e-Procurement Survey is to build on the findings of the 2004 survey and establish the nature, extent and adoption profile of e-Procurement strategies and processes within Australian organisations. It seeks to identify e-Procurement adoption patterns by activities, product types and technologies.

The report presents the key results and findings of the 2005-2006 survey. 139 members of the Chartered Institute of Purchasing & Supply Australia (CIPSA) completed the online survey on behalf of their organisations in late 2005 early 2006. These organisations span several industries across the public and private sectors, including government agencies, manufacturing, mining, health services, and education. Respondents include managers with responsibility for purchasing, e-Procurement, and supply management.

The findings are presented in three sections relating to concepts of readiness, intensity and impact. Where available comparisons are made with the findings from the 2004 survey (shown in brackets).

2005-2006 Survey Findings

Readiness

Readiness refers to the current use and potential levels of adoption of e-Procurement by organisations. This concept addresses which particular e-Procurement activities have been implemented and planned levels of future activity.

e-Procurement adoption

Respondents were asked about their current level of adoption and future intentions to adopt e-Procurement. The findings are set out in Table 1.

Level of adoption	Percent of Total Survey Respondents
Already procuring online	41%
Intend to procure online within the next 1-2 years	43%
No intention to procure online	16%

Table 1: Levels of e-Procurement adoption

41% of respondents already procure online, a further 43% expect to initiate online procurement within the next one to two years, 16% have no plans to adopt e-Procurement.

Medium to large size organisations constitute the majority of those who have adopted, or intend to adopt e-Procurement in the next 1-2 years.

No-intention to adopt e-Procurement

The most commonly reported reasons for organisations who have no current plans to implement e-Procurement are the high costs of implementation; the size of the organisation (some organisations believed they were too small to benefit from e-Procurement); lack of management support and the complexity surrounding the nature and diversity of products and services to be procured.

Reach and scope of implementation

Of those who have already adopted an e-Procurement initiative, the reach and scope of implementation is set out in Table 2.

Implementation Stage	Percent*
Experimented and not gone any further	4% (9%)
Partially implemented in one division	9% (24%)
Partially implemented in more than one division	9% (14%)
Partially implemented across the organisation	31% (23%)
Fully operational in one division	0% (1%)
Fully operational in more than one division	18% (8%)
Fully operational across the organisation	29% (21%)
*2004 survey results are shown in brackets.	

Table 2: Scope of e-Procurement implementation

Compared with the 2004 survey, e-Procurement implementations have broadened in reach and deepened in scope. That is, more organisations have fully operational systems that span the whole enterprise.

Strategic importance of e-Procurement

Respondents who have implemented e-Procurement were asked to rate the strategic importance of e-Procurement in their organisation. The findings are set out in Table 3.

Strategic importance of e-Procurement	Percent
Extremely important	24
Important	50
Neither important nor unimportant	17
Unimportant	3
Extremely unimportant	6

Table 3: Strategic importance of e-Procurement

74% of organisations that are already procuring online rated e-Procurement strategically important to extremely important. This finding is consistent with other studies that point to the increasingly strategic role of e-Procurement.

Type of e-Procurement/supply chain strategy

Respondents were asked to describe the e-Procurement/supply chain management (SCM) strategy implemented in their organisation. The findings are set out in Table 4.

Type of e-Procurement strategy	Percent
e-Procurement Strategy is part of our SCM Strategy	61
separate e-Procurement and SCM strategies	15
e-Procurement Strategy only	11
SCM Strategy only	2
neither	11

Table 4: Type of e-Procurement strategy

87% of respondents have implemented an e-Procurement strategy in their organisation. The majority (61%) have an e-Procurement strategy that is integrated with their supply chain management strategy. This finding supports the earlier observation that e-Procurement has increased in scope, spanning the whole enterprise and is more integrated with other functions.

Factors driving the adoption of e-Procurement initiatives

Both those organisations that already procure online and those who intend to procure online in the next 1-2 years were asked to identify the source of drivers of e-Procurement. The findings are set out in Table 5 (implemented) and Table 6 (intend to implement).

Source of drivers	Percent
Driven by management	85%
Driven by customers	61%
Driven by suppliers	54%
Driven by competitors	44%
Driven by government requirements	33%

Table 5: Source of drivers of e-Procurement (implemented)

Source of drivers	Percent
Driven by management	67%
Driven by customers	48%
Driven by suppliers	39%
Driven by competitors	30%
Driven by government requirements	20%

Table 6: Source of drivers of e-Procurement (intend to implement)

Management and customers were identified as the main source of drivers of e-Procurement for both organisations who already procure online and those who intend to in the future

The two groups were also asked to identify the types of factors driving the adoption of e-Procurement in their organisation. The findings are set out in Table 7 (implemented) & Table 8 (intend to implement).

Factors driving adoption*
1. Reduce purchasing cost (2)
2. Improve productivity (-)
3. Improve efficiency (1)
4. Improve effectiveness (3)
=5 Improve internal & external customer service (-)
=5 Standardise purchasing processes across the organisation (4)
*2004 survey results are shown in brackets.

Table 7: Top 5 factors driving the adoption of e-Procurement (implemented)

Drivers of adoption
=1. Improve efficiency =1. Reduce purchasing cost
3. Standardise purchasing processes across the organisation
4. Reduce administrative costs
5. Improve effectiveness

Table 8: Top 5 factors driving the adoption of e-Procurement (intend to implement)

For both groups the types of factors driving adoption of e-Procurement continue to emphasise productivity gains and cost savings.

Factors inhibiting the adoption of e-Procurement initiatives

Tables 9 & 10 set out the top five inhibitors that are creating major hurdles for adopting and/or implementing e-Procurement.

Inhibitors to adoption*
1. Lack of supplier readiness (-)
2. Systems integration issues (4)
3. Unable to justify costs/benefits (-)
=4. Auditability risks (-) =4. Implementation costs (3) =4. Inadequate technological infrastructure to support e-Procurement (-) =4. Insufficient skilled staff (-) =4. Lack of management support (-) =4. Lack of supplier interest/support (-)
*2004 survey results are shown in brackets.

Table 9: Top 5 inhibitors of e-Procurement adoption (implemented)

Inhibitors to adoption*
=1. Inadequate technological infrastructure to support e-Procurement (-) =1. Systems integration issues (4) =1. Unable to justify costs/benefits (-)
=4. High implementation costs (3) =4. Lack of supplier readiness (1)
*2004 survey results are shown in brackets.

Table 10: Top 5 inhibitors of e-Procurement adoption (intend to implement)

A similar set of inhibitors were identified by both groups, however the lack of supplier readiness was of greater significance to those organisations who are already procuring online.

Intensity

Intensity reflects the actual e-Procurement activities and usage by organisations who are already procuring online.

Activities

Respondents were asked to identify the e-Procurement activities used in their organisations. The top five activities are set out in Table 11.

e-Procurement activities*
1. Online ordering (1)
2. Purchase approvals (2)
3. Payment (-)
4. Order tracking (3)
5. Invoicing (-)
*2004 survey results are shown in brackets.

Table 11: Top 5 e-Procurement activities

Activities associated with the placing, approval and tracking of orders remain in the top 5 most common e-Procurement activities. What is noticeable from the 2005-2006 findings is the inclusion of invoicing and payments activities consistent with the move towards more fully operational systems (set out in Table 2) and the development of e-commerce capabilities.

Products

Respondents were asked to identify the goods and services most commonly procured online. The top five products procured are set out in Table 12.

Products purchased*
1. Office supplies (4)
2. Computer related items (hardware & software) (5)
3. Maintenance and repair products (MRO) (2)
4. Products and services relating to inbound logistics and product distribution (i.e. inbound shipment handling and distribution, warehousing, etc.) (1)
5. Facilities management (-)
*2004 survey results are shown in brackets.

Table 12: Top 5 products purchased using e-Procurement

In 2005-2006 four of the top five products purchased online were found to be consistent with those reported in 2004 although the order of importance has changed. Facilities management is included in the top five for the first time in 2005-2006.

Enabling technologies

Respondents were asked what e-Procurement technologies/functions had been implemented in their organisation. The top five technologies are set out in Table 13.

Enabling technologies
1. Online ordering systems (1)
2. Electronic payment (2)
3. Electronic catalogues (3)
4. E-tendering (-)
5. Order tracking systems (4)

Table 13: Top 5 technology applications used for e-Procurement

The most commonly used technology applications in 2005-2006 are the same reported in 2004 with the addition of e-tendering.

Impact

Impact refers to the ways (if any) in which e-Procurement has transformed business models and supply chains. The concept addresses key outcomes from its use, major benefits obtained and challenges to further progress.

Benefits of e-Procurement initiatives

Respondents were asked to rate the benefits of e-Procurement implementations to their organisation. Interestingly, in the 2005-2006 survey none of the respondents who had implemented e-Procurement reported major or significant benefits. The moderate benefits that were realised are set out in Table 14.

Benefits of e-Procurement
1. Improved supply chain integration
=2 Reduced employee overhead
=2 Improved supplier sourcing

Table 14: Top 2 benefits of e-Procurement initiatives

These findings may be a consequence of *timing, availability of information and/or inadequate evaluation practices*. For example, it may be too soon after implementation of e-Procurement for organisations to reasonably be able to identify benefits. Further performance information may be unavailable or inaccessible because of the limited time since implementation, or a lack of maturity in existing evaluation practices. The latter may provide some explanation as to the low response to the survey question relating to evaluation methods that organisations have adopted.

Challenges to e-Procurement initiatives

E-Procurement implementations are also subject to challenges that can affect the further adoption or levels of diffusion. Respondents were asked to identify the major challenges to e-Procurement implementation. The top five challenges are set out in Table 15.

Challenges
1. Software integration issues (-)
=2. Difficulties with catalogue integration (4)
=2. Difficulty aligning organisational culture with e-Procurement (-)
=2. Coordinating inter-organisational information (2)
=5. Assessing cost/benefits (5)
=5. Supplier readiness (1)

Table 15: Top 5 challenges to e-Procurement initiatives

Issues relating to software and catalogue integration now rank as two major challenges facing organisations who are currently procuring online. These integration challenges are consistent with the increased reach of e-Procurement implementation across the enterprise. Further, implementations are now deeper in terms of functionality thereby impacting a greater range of business processes and associated procurement practices across organisational boundaries. Changes relating to the greater breadth and depth of e-Procurement implementations is also creating challenges in aligning organisational culture with new e-Procurement practices.

Transformations resulting from e-Procurement initiatives

Transformations to business processes, work practices and supply-chain arrangements may occur as a consequence of the adoption of e-Procurement. Respondents were asked to rate the impact of e-Procurement being implemented in their organisation. The findings are presented below.

Staff costs: 60% of respondents indicated that staff costs have increased with 33% reporting no change. This finding is interesting in light of the previously noted benefit (Table 14), which indicates a moderate decrease in employee overhead. It appears that this is not the case for the majority of implementing organisations. Increases in staff costs may also be a consequence of the changing role of the procurement professional and the more strategic positioning of procurement within the organisation.

Staff development & training needs: 60% of respondents indicated that staff development and training needs have increased with 33% reporting no change. As above this increase in staff development and training needs is potentially a consequence of the changing role of the procurement professional and the requirement for practitioners with enhanced business analysis skills for strategic sourcing, supplier analysis etc.

Levels of outsourcing: 69% of respondents indicated that there had been no change in the levels of outsourcing with 29% reporting an increase.

Purchasing procedures: 69% of respondents indicated that purchasing procedures have become more efficient. This supports the earlier finding relating to e-Procurement activities. The focus at this stage for the majority of companies has been on implementing and automating the purchasing activities themselves.

Strategic positioning of procurement: 69% of respondents indicated that procurement has become a more strategic activity within their organisation

Changes to technological infrastructure: 57% of respondents indicated that the technological infrastructure has changed significantly to accommodate e-Procurement activities.

Inter-organisational information management: 62% of respondents indicated that inter-organisational information management (IIM) has improved significantly. This remains an area for further investigation as although IIM has improved respondents also noted that challenges still remain with coordinating inter-organisational information.

Conclusion and Future Work

The results of the 2005-2006 survey have shown that e-Procurement implementations have broadened in reach and deepened in scope compared to the 2004 findings. This change has resulted in greater adoption of invoicing and payment activities consistent with the move towards more fully operational systems and the development of greater e-commerce capabilities. This increase in reach and scope has made the challenges associated with software and catalogue integration and the alignment of organisational culture with procuring online more visible.

Interestingly in the 2005-2006 survey none of the respondents who had implemented e-Procurement reported major or significant benefits. Moderate benefits were realised with respect to improved supply chain integration, reduced employee overhead and improved supplier sourcing. It may be too soon after implementation for organisations to be reasonably able to identify benefits. Further, performance information may as yet be unavailable or inaccessible.

As e-Procurement has become a more strategic activity within organisations the role of the procurement professional appears to be changing. This is seen in the greater requirement for staff development and training to enhance business analysis skills in areas such as strategic sourcing and supplier analysis.

The findings of the 2005-2006 survey indicated that whilst inter-organisational information management has improved significantly its coordination remains a major challenge for organisations. This may be a reason for organisations reporting difficulties in assessing e-Procurement costs and benefits. The availability and accessibility of procurement information is critical in the monitoring and evaluation of procurement activities and as an input to strategic decisions surrounding procurement. This has been identified as a critical area requiring further investigation through in-depth case studies of organisational practices.

About the Information Policy & Practice Research Group (IPPRG)

The Information Policy and Practice Research Group at The University of Sydney is a critical and evaluative research programme to investigate the theoretical and practical implications of changes in the information landscapes of organisations both public and private. The focus of our work is information itself and the need for effective strategies, policies and practices that assist in the governance of information over its entire lifecycle.

Our objectives are to:

- assist organisations manage complex information landscapes more effectively;
- establish a community of inquiry involving representatives from relevant academic and professional groups;
- investigate the interwoven social and technical dimensions of information policy, management, design and assurance; and
- contribute to the redefinition of theoretical imperatives and the advancement of theory about information policy and practice.

Further details about our research projects and activities can be found on our web site <http://ipprg.econ.usyd.edu.au/>

If you are interested in becoming part of our community of practice, or in participating in any of our research activities please contact:

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