NeRPA

National eProcurement Research Project Australia

Report on the Findings of the 2004 Australian National eProcurement Survey

University of Sydney · UNIVERSITY OF TECHNOLOGY SYDNEY · MONASH University · SIRCA

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- Australian Institute of Purchasing and Procurement Management (AIPMM)

- Institute for Information and Communication Technologies, University of Technology, Sydney

We encourage those who have participated, as well as other AIPMM members who have yet to participate, to join in upcoming studies. The involvement of a greater number of participants will improve the richness of the results, leading to a more complete portrayal of the current state and future direction of eProcurement evolution in Australian organisations.

For further information about the project please contact:

Associate Professor Sue Williams
School of Business
Faculty of Economics and Business
University of Sydney
Economics and Business Building H69
Sydney NSW 2006 AUSTRALIA

Tel: +61 2 9036 5355
Fax: +61 2 9351 6638
Email: s.williams@econ.usyd.edu.au

Website: www.econ.usyd.edu.au/nerpa

NeRPA Research Team Members

PROJECT LEADER

Sue Williams is Associate Professor of Business Information Systems in the School of Business, University of Sydney. Her research is in the areas of business information design, information management and information policy and practice.

PROJECT MEMBERS

Steve Elliot is Professor and Head of Business Information Systems at The University of Sydney. His research is in strategic management of technology-enabled business innovation.

Kim Langfield-Smith is Professor of Management Accounting at the Department of Accounting and Finance, Monash University. Her research is in the area of control systems design and implementation, and performance measurement.

Flavia Morello is a PhD Candidate at the School of Business, University of Sydney. Her research is in the areas of enterprise information management and inter-organisational systems.

Gabriel Custodio is a PhD Candidate at the School of Business, University of Sydney. His research focus is in technology enabled innovations in the supply chain and the strategic use of eProcurement systems.

Catherine Hardy is a Lecturer in Business Information Systems at the School of Business, University of Sydney. Her research is in the areas of strategic planning for IT enabled innovation, IT assurance and risk management and information policy and practice.

Executive Summary

The National eProcurement Project Australia (NeRPA) was initiated in response to ongoing interest among the business and academic communities about the current state of electronic procurement (eProcurement) in Australian industries and organisations. This report highlights the key findings from the 2004 Australian National eProcurement Survey conducted earlier this year with the vital cooperation and support of the Australian Institute of Purchasing and Materials Management (AIPMM) and its members.

Key findings from the 2004 survey include:

Incremental approach to adoption

51% of survey respondents have adopted eProcurement initiatives and are currently procuring online; a further 37% expect to do so over the next two years. 12% of survey respondents indicated they had no intention to adopt online procurement in the near future.

21% of organisations adopting eProcurement have fully implemented the initiative across the whole organisation. The majority of adopters have taken a more cautious approach, with 23% of respondents only partially implementing eProcurement across the whole organisation and 38% partially implementing eProcurement in one or more divisions.

Internally driven to improve efficiency

The 2004 survey findings indicate that for adopting organisations the main driver was the organisations' own internal management with the aim of improving operating efficiency, reducing purchasing costs, improving effectiveness in all aspects of operations and standardising purchasing processes.

Business designs for eProcurement

Solutions currently being implemented focus on the procurement of indirect goods rather than direct materials. Most activities support online purchase approvals and the order tracking process suggesting that eProcurement is currently viewed in operational rather than strategic terms.

Challenges to adoption

The highest challenges to adoption are posed by the functional and technical readiness of trading partners, the lack of clarity in inter-organisational communications standards, and the perception of high implementation costs.

Transformations resulting from eProcurement initiatives

Survey respondents report that adopting eProcurement has led to changes in purchasing procedures and strategies, information management practices, a need for new kinds of staff skills and changes to technology infrastructure.

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National eProcurement Research Project Australia (N*e*RPA)

The National eProcurement Research Project Australia (N*e*RPA) seeks to assist Australian organisations to plan for, to implement and to assess the impact of emerging Internet enabled electronic business (e-business) initiatives in procurement and supply chain management.

This nationwide project addresses a National Research Priority, is sponsored jointly by the Australian Research Council (ARC) and industry participants and conducted by internationally recognised researchers from the University of Sydney, University of Technology Sydney, and Monash University.

The objectives of the project are to:

– establish the **readiness, intensity and impact** of eProcurement strategies and processes on Australian organisations

– identify **patterns of adoption** by industry sector, and company size

– establish **adoption profiles** of eProcurement by type of activity, product and technology

– identify **drivers and inhibitors** of the adoption and implementation of eProcurement strategies and processes, and

– **benchmark** the Australian findings with similar studies **internationally**

A key element of the project is a national survey of eProcurement adoption and implementation.

Introduction

2004 Australian National eProcurement Survey

The aim of the 2004 Australian National eProcurement Survey is to establish the nature, extent and adoption profile of eProcurement strategies and processes of Australian organisations.

This survey will be conducted annually for three years, to monitor trends and developments over time. It will identify eProcurement adoption patterns by sector, company size, eProcurement activities, product types and technologies, and track the on-going impact of eProcurement initiatives on specific industries and on the broader Australian economy.

The findings of the 2004 survey will enable organisations to locate their activities in comparison with reported developments in Australia, and internationally, and to monitor trends in the adoption and implementation of eProcurement strategies and processes.

The following report presents a description of the results of the 2004 survey. Members of the AIPMM, on behalf of their organisations, completed the online survey and respondents include managers who have responsibilities for purchasing, eProcurement, and supply management. These organisations span several industries across the public and private sectors, including government agencies, manufacturing, mining, health services, and education.

2004 Survey Findings

Readiness

Readiness refers to the current use and potential levels of adoption of eProcurement by organisations. This concept addresses which particular eProcurement activities have been implemented and planned levels of future activity. It takes into account the socio-technical and organisational contexts of the adopting organisation and the influence of external factors.

eProcurement adoption

The current level of adoption and future intention to adopt eProcurement among respondent organisations is illustrated in Figure 1 below.
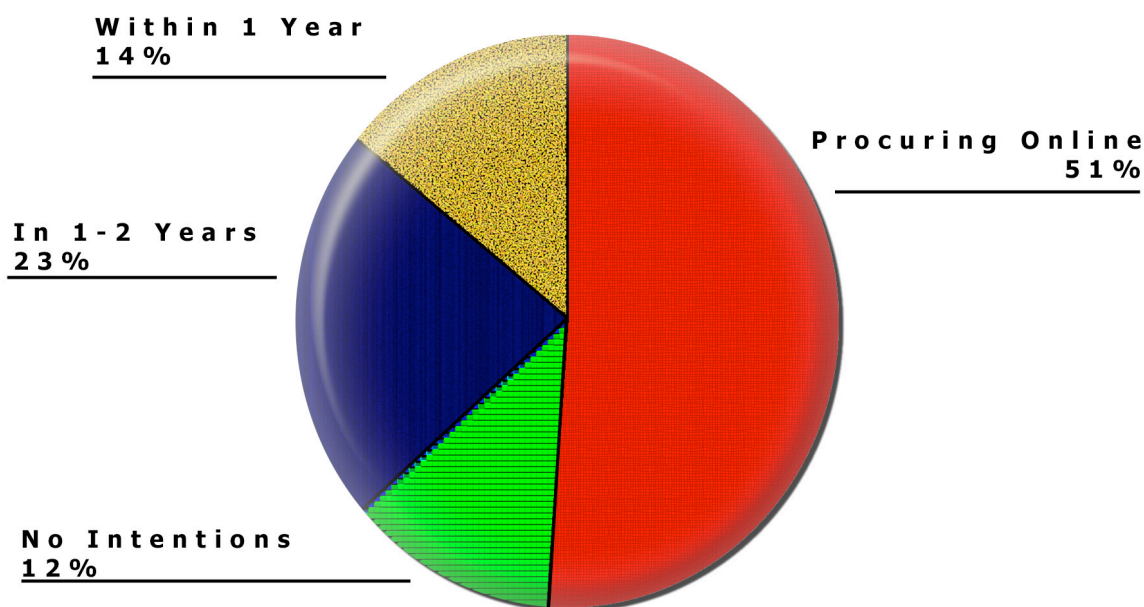
Figure 1: Levels of eProcurement adoption

More than half of the respondents (51%) already procure online, while another 37% expect to do so over the next two years. The remaining respondents (12%) have no intentions to adopt eProcurement at this point.

A further breakdown of results reveals that more than half of the respondents who have adopted eProcurement are medium or large organisations, whereas most of the organisations that have no intention to adopt are small organisations.

2004 Survey Findings

The adoption profile of survey respondents can be further broken down into implementation stages. Of the 51% who have adopted an eProcurement initiative, the state of implementation is as follows.

Implementation Stage	Percent of Total Implementations
Experimented and not gone any further	9%
Partially implemented in one division	24%
Partially implemented in more than one division	14%
Partially implemented across the organisation	23%
Fully operational in one division	1%
Fully operational in more than one division	8%
Fully operational across the organisation	21%

Table 1: Stages of eProcurement implementation

There is a high percentage of partial implementations. Overall, the results appear to signify a cautious incremental approach towards adoption of eProcurement solutions among the participating organisations. This may indicate, among other reasons, the presence of adjustments or realignment efforts between internal operating elements, perhaps as part of the process to raise the organisation's readiness for further implementations. Major adopters of eProcurement initiatives are in government, manufacturing, mining, and in the food, beverage, and tobacco industries.

Factors driving the adoption of eProcurement initiatives

Various driving forces both inside and outside organisations influence adoption of eProcurement initiatives. For organisations that have adopted eProcurement the main driver is the organisation's internal management. In summary, management's motivation to adopt is to achieve the operational outcomes listed in Table 2.

Drivers of adoption
Improve operating efficiency
Reduce purchasing cost
Improve effectiveness in all aspects of operations
Standardise purchasing processes

Table 2: Top 4 management objectives in adopting eProcurement

2004 Survey Findings

Factors inhibiting the adoption of eProcurement initiatives

Inhibiting factors or "inhibitors" are major hurdles that can prevent organisations from successfully adopting and using eProcurement mechanisms for their purchasing operations. These factors (see Table 3) require careful attention and effective resolution prior to and during the implementation of any eProcurement initiatives.

Inhibitors to adoption
Lack of supplier readiness
Lack of clear standards
High implementation cost
Systems integration issues
Security issues

Table 3: Top 5 inhibitors to eProcurement adoption

2004 Survey Findings

Intensity

Intensity reflects the scope and range of eProcurement usage by organisations and is best described by the activities, products, and technologies involved in the online purchasing process carried out by participating organisations.

Activities

The most common eProcurement activities are shown in Table 4.

eProcurement activities
Online ordering
Purchase approvals
Order tracking
Tendering (request for quote/tender)
Supplier sourcing

Table 4: Top 5 eProcurement activities

Products

The products most commonly ordered online are shown in Table 5.

Products purchased
Products and services relating to inbound logistics and product distribution (i.e. inbound shipment handling and distribution, warehousing, etc.)
Maintenance and repair products (MRO)
Products and services for outbound logistics/distribution (i.e. outbound product transport/distribution, packaging, etc.)
Office supplies
Computer related items (hardware & software)

Table 5: Top 5 products purchased using eProcurement

2004 Survey Findings

Enabling technologies

The most common technology applications used in online procurement activities are shown in Table 6.

Enabling technologies
Online ordering systems
Electronic payment
Electronic catalogues
Order tracking systems
NOTE: Electronic auctions and consortia markets were the least common technology application ranked by the survey participants

Table 6: Top 4 technology applications used for eProcurement

Intensity: Summary of findings

The adoption characteristics of the majority of the respondent organisations can be described as follows.

While online ordering is the major online activity conducted by the survey respondents, the majority of the orders were focused on products or services that support inbound logistics/product distribution, maintenance and repairs, and outbound logistics/product distribution. This indicates that the major focus is on reducing or eliminating operational interruptions, improving efficiency and reducing costs relating to the movement of products and materials in and out of the organisations.

The high use of eProcurement to order office supplies and computer related items further indicates that organisations place a high emphasis on effective operational resource management, supporting the drive to reduce costs through improvements in purchasing and operational efficiency.

Ordering is supported by online purchase approvals and order tracking activities, which indicates that these organisations may have distributed the buying activity throughout the organisation. In addition, the fairly high involvement in tendering and supplier sourcing may indicate that organisations are using the web to search for cost efficient supply sources, to replace or supplement existing supplier relationships.

Technologies or tools utilised by the majority of respondents reflect automation of the search, ordering, and settlement phases of the purchasing transaction. In addition, there is a widespread use of both 3rd party software (e.g. purchasing modules in existing Enterprise Resource Planning (ERP) systems) and internally developed and installed eProcurement solutions.

Interestingly, while market exchanges and electronic auctions are generally considered to be major activities of eProcurement, the respondents ranked these lowest among the technologies used. This may signify a preference towards stability in supply sourcing as most exchanges and electronic auctions are geared towards price-driven spot purchasing, which often cannot guarantee availability and quality. Or perhaps price-driven spot purchasing is still at the early stages of adoption among Australian organisations, possibly due to a limited number of operators and item availability to support consortia and auction purchasing.

2004 Survey Findings

Impact

Impact refers to the ways in which eProcurement has transformed business models and supply chains. The concept addresses key outcomes from its use, major impediments to further progress and goals and objectives for the future.

Benefits of eProcurement initiatives

The perceived benefits or value of eProcurement relate to improvements in efficiencies and effectiveness across a range of areas. The most common benefits described by the 2004 survey participants are shown in Table 7 below.

Benefits of eProcurement
Overall productivity
Compliance and standardisation
Overall operational efficiency
Shorter purchase cycle time
Supply chain integration

Table 7: Top 5 benefits of eProcurement initiatives

The observed improvements in overall productivity, compliance and standardisation, and overall operational efficiency categories, indicate that improvements are not only realised in functions and processes that are directly related to procurement, but can be more widespread, affecting vital operational elements throughout the organisation.

Challenges to eProcurement initiatives

eProcurement implementations are also subject to challenges that can affect the adoption or levels of diffusion of eProcurement initiatives. The major challenges to eProcurement implementation are as follows:

Challenges
Supplier readiness
Inter-organisational information management
Technical complexities and control issues
Catalogue integration
Assessment of cost and benefits

Table 8: Top 5 challenges to eProcurement initiatives

Lack of supplier readiness is identified as the most common challenge, followed by complex inter-organisational information management, and issues of control and technical complexity. Senior management support ranked the lowest among the challenges, reinforcing our finding that management is the main driver of adoption.

2004 Survey Findings

Transformations resulting from eProcurement initiatives

Transformations to business processes, work practices and supply-chain arrangements occur as a consequence of the adoption of eProcurement initiatives. The major transformations identified are shown in Table 9.

Transformations
Purchasing procedures
Purchasing strategies
Inter-organisational information management
Staff skill development

Table 9: Top 4 transformations resulting from eProcurement initiatives

Organisational structure, outsourcing levels, and staffing costs underwent the least amount of transformation.

Summary

The results of this survey have shown that organisations adopting eProcurement initiatives are spread across a broad range of industries in the public and private sectors. In the 2004 survey the majority of respondent organisations are already procuring online or are planning to do so in the next year. The main driver of adoption is the organisation's internal management. A small number of respondents currently have no intention of implementing eProcurement. This may be due to the lower information intensity required by the industries they are in, the relative size and position of their organisation within their respective industries, and/or a low level of readiness among suppliers and customers within these particular segments or industries.

Further analysis revealed numerous partial implementations across organisations, with the number of full implementations across the organisation being very low. This pattern seems to indicate a slow adoption uptake, which could be the result of low competitive pressures and lack of internal readiness. Suppliers and customers in some industries may also be lagging behind in technology capability, leading organisations to take an incremental approach.

The majority of the respondents are using 3rd party software or internally developed solutions to automate the search, ordering, and settlement processes in purchasing items related to indirect goods rather than direct materials. The utilisation of specific eProcurement technologies and the focus on specific products being ordered online seems to point to the respondents' particular orientation towards high levels of control and stability in their supply sources and transactions.

Most of the activities that are supported by online purchase approvals and order tracking processes indicate the automation of the sourcing, order generation, and tracking phases of procurement. This can be viewed as utilisation of the operational, rather than the strategic context of eProcurement.

Respondents report numerous benefits, including increased overall productivity, increased compliance and standardisation, increased overall operational efficiency, shorter purchase cycle time, and supply chain integration. The major challenges faced by organisations are: the lack of supplier readiness; issues with inter-organisational information management; technical complexities and control issues; problems with catalogue integration; and cost-benefit assessment. Transformations resulting from eProcurement include revision of purchasing procedures, reformulation of purchasing strategies, changes to inter-organisational information management processes, and revisions in staff training/skill development policies and procedures.