I-SOURCE

Summary of Academic Research into the Adoption

of E-Sourcing Tools / Techniques Within the UK

Procurement Community

Early adopters were starting to use E Sourcing tools (Electronic Tenders and Auctions) about 10 years ago. In 2004 the Innovation in Procurement Research Group at the Bristol Business School / University of the West of England in partnership with the Chartered Institute of Purchasing & Supply carried out a research into the after effect of using E Auctions on the Buyer-Supplier relationship. This research was called I-Adapt. Five years on we undertook this new investigation to ascertain the extent to which these E Sourcing tools have been adopted within the Procurement Community.

This research looked to identify not only the extent to which these E Sourcing tools have been adopted in both the public and private sector but also the key enablers that support adoption and the key inhibitors that prevent it.

Our approach

We conducted a literature review where we concluded that whilst numerous E Sourcing and Procurement related consultancy and technology suppliers have produced a range of papers. These have been mainly looking at where and how these tools can be used. These have been primarily used to support the new business that has been built around 'Strategic Sourcing' over the last 10 or so years. We could find little evidence of similar independent academic research looking into the extent of adoption of E Sourcing tools. In addition there was academic research on innovation, however little of it was linked to purchasing and supply or E Sourcing.

We constructed an on line questionnaire to gather the appropriate data. Our target respondents were from large and medium sized Public and Private sector organisations. Respondents were expected to be senior procurement professionals ranging from Heads of Procurement to Sourcing Initiative leaders. We piloted our questionnaire with 10 organisations and made minor modifications following this pilot before launching the full survey request.

We established definitions of E Sourcing tools in order to ensure respondents all had the same understanding of this key terminology (Figure 1).

Links to Innovation Theory

Within this research project we looked to understand what key innovation factors became evident when organisations either deployed or had difficulty deploying E Sourcing Tools. We established a list of typical innovation success factors that we used as a 'checklist' when analysing the data gathered through our questionnaire. These included;-

Identifying a clear need for change

- Responsiveness to change
- Taking a strategic approach
- Supportive culture
- Top management commitment
- Effective learning process
- Systematic approach
- Internal knowledge
- Collective & collaborative learning
- Effective external linkages

- Developing / extending supporting organisation
- Effective implementation mechanisms and structures
- Integrated approach
- Corporate governance
- Smooth flow of knowledge from external sources
- Leadership
- Measurement Criteria
- Ability to sustain innovation
- Links with stakeholders

We also developed a list of typical resistance to innovation factors again to be used as a 'checklist' during our data analysis. These included;-

- Fear of the unknown
- Lack of information
- Misinformation
- Historical factors
- Threat to core skills and competence
- Threat to power base
- No perceived benefits
- Low trust organisational climate
- Poor relationships
- Fear of failure
- Reluctance to experiment

We achieved 95 respondents from 350 e-mail requests. The split by sector was 33% Private sector - 67% Public sector. The public sector was a mix of health, local & central government. The private sector respondents showed a high incidence of large multinationals. The mean response time 6.4 minutes and 95% of respondents reported they had no problems whatsoever completing the questionnaire.

Figure 1. Key Definitions

Electronic Tenders provide the ability for suppliers to submit their responses, using an internet browser, to a series of questions on line with the potential to select pre defined answers from a drop down list. These answers are then part or fully auto scored for the buying organisation by the software using a predetermined weighting and scoring regime. Buyers may also manually score selected parts of the tender responses.

Electronic Auctions often called 'buyers' or 'reverse' auctions, are where suppliers can submit bids, using an internet browser, for goods and/or services specified by the buyer. The buyer may be able to see their bidding status in terms of rank and/or price and can respond with lower bids until the auction closes.

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Results and Analysis

Table 1. *What is your job title?*

Answer	Job Title	%
1	CPO / Director	15
2	Head of Procurement / Purchasing Manager	52
3	Sourcing Lead / Category Manager	3
4	Senior Buyer / Buyer	5
5	Purchasing Systems Lead / Specialist	9
6	Other	15
	Total	100

The level / quality of the respondents has met / exceeded our expectations and we believe provides a sound basis on which we can consider their responses (Table 1).

We found no significant association between business sector and number of buyers (Table 2). It appears that size of spend (Table 3) is the primary driver with regards to the size of the buying team

Table 2. *How Many Buyers / Commodity Specialists do you have in your Organisation?*

Answer	Range	%
1	0-5	25%
2	6-10	30%
3	10-20	15%
4	More than 20	30%
	Total	100

Table 3. *What is your organisation's typical annual external spend value?*

Answer	Range	%
1	£0-£50M	24%
2	From £50M up to £250M	36%
3	From £250M up to £500M	21%
4	Above £500M	19%

We found no significant association between business sector (namely public versus private sector) and annual spend. As an illustration, large central government departments who responded had similar spend profiles to large corporate bodies. We estimate that the total organisations surveyed spend over a cumulative £100 billion plus per annum.

Of those that are using E Sourcing tools, **93% said they were using E Tenders** and **65% were using E Auctions**. A 61% use of E Sourcing tools shows that these tools have achieved a reasonable penetration level within the organizations surveyed. However the split of usage confirmed that we have sufficient respondents in each group to provide data to l help us understand their respective enablers and inhibitors.

Table 4. *Are you currently using any E Sourcing Tools?*

61% responded that they were using E Sourcing tools
39% responded that they were not using E Sourcing tools

The following set of results and analysis looks at the organizations who are using E Sourcing tools

This shows that 92% of respondents have a length of maturity in excess of 1 year with 45% over 3 years in respect of E Auction usage. A similar pattern is emerging but not quite so advanced with E Tenders. This is important in respect of the maturity of responses we received in particular when looking at the inhibitors stopping them increasing the usage of these tools.

Table 5. *How long have you been using E-Sourcing Tools in your organisation?*

	Duration	E-Tender users	E-Auction users
1	Less than 1 year	20%	8%
2	1 to 3 years	43%	47%
3	More than three years	37%	45%

Table 6. *What percentage of your spend with suppliers is allocated using E-Sourcing Tools?*

	Question	E-Tenders	E-Auctions
1	Less than 3%	17%	39%
2	From 3% up to but not including 10%	23%	46%
3	From 10% up to but not including 25%	22%	11%
4	From 26% up to but not including 50%	17%	2%
5	From 51% up to but not including 75%	10%	2%
6	75% or more	12%	0%

Here we start to see strong evidence that although 61% of organisations are using E Sourcing tools, 62 % of these are only using them for 25% or less for E Tenders and 96% for E Auctions. This indicates there are some overall inhibitors in respect of both tools. As to E Auctions, there are some additional factors which specifically inhibit the increased use of E Auctions.

There is clear evidence that for at least 50% of the E Tender user organisations the majority of their buyers are actively using E Sourcing tools. This suggests, it not only has a reasonable penetration amongst organisations but also amongst the buyers of participating organisations. This drops to less than 20% in respect of E Auctions which suggests they have a more specialist role as per the analysis of Question 6 above.

Table 7. *What percentage of your buyers are actively using E-Sourcing Tools?*

	Question	E-Tenders	E-Auctions
1	Less than 25%	39%	59%
2	From 26% up to but not including 50%	8%	22%
3	From 51% up to but not including 75%	20%	11%
4	75% or more	33%	8%

Table 8. *How are your E Sourcing tools delivered?*

83% externally hosted
17% internally hosted

This was an expected response given that our literature review suggested the primary interest in E Sourcing tools was coming from technology suppliers who generally offer externally hosted environments. It also is widely recognised that such suppliers have been at the forefront of encouraging the use of these tools over the last 10 years with leading ERP suppliers being laggards in this area.
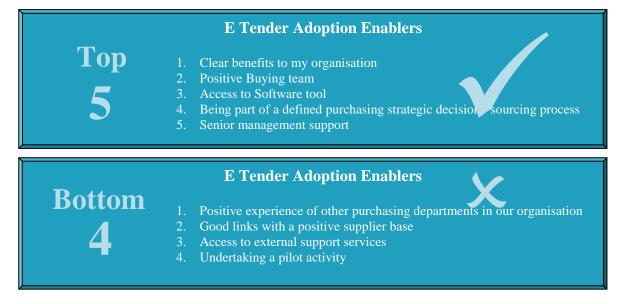
There is here a clear evidence that having previous experience, and therefore using this to effect change in their new organisation, has generally *not* been a strong innovation factor in respect of E Sourcing tools. The majority of change agents have not had experience of making this change elsewhere.

Table 9. *Have you used E-Sourcing Tools in a previous organisation?*

	Option	E-Tenders	E-Auctions
1	Yes	23%	40%
2	No	77%	60%

E Tender: Strong and Weak Enablers

Top 5

E Tender Adoption Enablers

1. Clear benefits to my organisation
2. Positive Buying team
3. Access to Software tool
4. Being part of a defined purchasing strategic decision / sourcing process
5. Senior management support

✓

Bottom 4

E Tender Adoption Enablers

1. Positive experience of other purchasing departments in our organisation
2. Good links with a positive supplier base
3. Access to external support services
4. Undertaking a pilot activity

✗

Those enablers that are considered the most important for E Tender Adoption indicate the importance of internal stakeholders. This ranges from those at senior management, and the supporting role that they play in channelling the necessary resource, to the buying team itself and the software tool they use. Meanwhile external sources, whether that be the organisation's supply base, support services or even other purchasing departments, are not seen as having contributed. This underlines the challenge faced by those external actors that wish to influence purchasing. This may also suggest (i) the lack of extra-organisational relationships and (ii) the lack of awareness about the importance of these links

E Auction: Strong and Weak Enablers

Top 5

E Auction Adoption Enablers

1. Clear benefits to my organisation
2. Being part of a defined purchasing strategic decision / sourcing process
3. Access to Software tool
4. Senior management support
5. Developed sound success criteria and measurement techniques

✓

Bottom 4

E Auction Adoption Enablers

1. Positive experience of other purchasing departments in our organisation
2. Good links with a positive supplier base
3. No security concerns
4. Buyer(s) skilled in E-Auctions

✗

A similar story is provided by the enablers of the adoption of E Auctions. There is still a focus on benefits to the organisation, underlying the importance of the bottom line. Perhaps surprisingly there was little concern about security or the skills needed by the buyer to run E Auctions indicating that buyers have confidence in the robustness of the software as well as its ease of use. This may also suggest that a strong reliance on IT may explain the little concern to the need for good links with their supplier base.

E Sourcing Tools: Most and Least Significant Inhibitors

Most Significant

E Sourcing Tools Inhibitors

1. Software tool not integrated with purchasing process
2. Prohibitive cost of access to Software tool
3. Current supplier relationships / attitude do not support using these tools
4. No buyer(s) skilled in E Sourcing Tools
5. Prohibitive cost of access to external purchasing services
6. Buying team resistant to using tools of which they have no experience or information.

These results indicate resistance to further adoption from both internal and external stakeholders. Our findings show that by far the strongest inhibitors are the first two which suggests that use and integration of the software, would need to be addressed before further adoption should be attempted.

Least Significant

E Sourcing Tools Inhibitors

1. We have heard mainly negative comments about E-Sourcing Tools
2. Will affect the strength / balance of our supplier relationships
3. No clear benefits to my organisation
4. Concerns over network security
5. Past procurement innovations have failed to return on their investment

These results suggest that there are few concerns regarding the risk of further adoption of E Sourcing tools which can be associated with the organisational culture and strategy. Personal experience relating to the benefits of using these tools outweigh word of mouth concerns from both internal and external stakeholders. There is a strong evidence here that despite the inhibitors discussed in Table 13, the vast majority of organisations are planning to try to overcome these and expand their usage of E Sourcing tools.

Table 13. *What are your future plans regarding E-Sourcing Tools?*			
Option		**E-Tenders**	**E-Auctions**
1	**a) Stay at current adoption levels**	19%	22%
2	**b) Continue to expand the use**	81%	78%
3	**c) Discontinue usage**	0	0

This shows that the vast majority of surveyed organisations currently using E Sourcing tools plan to increase their adoption over time. It is highly significant that no organisations have indicated that they will cease using E Sourcing tools which strongly suggests that despite adoption challenges these tools are seen to be adding value within a procurement organisation.

The next set of results and analysis looks at the organizations that are not using E Sourcing tools

Table 14. *Have you used E Sourcing Tools in a previous organisation?*		
Option	**E-Tenders**	**E-Auctions**
Yes	35%	48%
No	65%	52%

The numbers with previous experience raise questions as to why they have yet to repeat this in their new organisation. The inhibitors in Table 15 below offer some hints, particularly responses 2, 3 & 4.

Table 15. *The most significant inhibitors to using E Sourcing tools*
1. Software tool not integrated with purchasing process 2. Prohibitive cost of access to Software tool 3. No buyer(s) skilled in E Sourcing Tools 4. Lack of senior Management support 5. No clear benefits to my organisation 6. Current supplier relationships / attitude do not support using these tools

Indications here are that those that have yet to use E Sourcing tools also have concerns regarding the integration of the software into their day-day process. They also seem to struggle with the initial dedication of resources such as time and money and whether this innovation would have an adequate return on investment in the medium to long term. It is interesting to contrast with the current users inhibitors where lack of senior management support and no benefits case were considered unimportant inhibitors.

Table 16. *The least significant inhibitors to using E Sourcing tools*
1. Procurement team see these tools as a threat to their own buying skills / competence 2. We have heard mainly negative comments about E-Sourcing Tools 3. Concerns over network security 4. Past Procurement innovations have failed to return on their investment 5. A fear that these tools may fail 6. Will affect the strength / balance of our supplier relationships

Similarly to those that have used E Sourcing tools in the past, the least significant indicators point to few concerns over the effect on network security, the competence of the tools themselves or the adverse effect of their use on their own skills or the relationships with suppliers.

There is an inclination to use both E Tenders and E Auctions in the future among, if not a majority of practitioners then, a significant minority. It is again interesting that despite all the inhibitors, almost half plan to use E Tenders within the next 12 months.

Table 17. *Do you plan to adopt E Sourcing tools in the future?*		
Option	**E-Tenders**	**E-Auctions**
In the next 12 months	43%	13%
In the next 24 months	29%	39%
In the next 3 - 5 years	11%	6%
Not in the foreseeable future	17%	42%

Our first key finding suggests that there is <u>no discernable difference between our Public and Private sector</u> findings. This may well be due to the ongoing development of Public Sector purchasing teams and in certain cases where targeted funding and support has been provided. In the Private Sector it is not surprising that large organisations have shown an appetite to use E Sourcing tools to help them in their constant drive for savings / efficiencies in their procurement activities. With most user organisations having at least 1-3 years experience, and E Tenders being the most frequent tool used, our evidence suggests that this <u>technology has become established over the last 10 years as a tool in the buyers toolbox</u> and for many organisations has lost its 'new' status. E Auctions retain a specialist feel both in terms of their usage and also the level of buyers with user experience.

Of the key enablers, "having clear benefits to my organisation" and "a positive buying team" along with "being part of a defined purchasing strategic decision / sourcing process" stand out as clear messages to the non-users who listed these are inhibitors. This suggests that non users may be able to draw on the help and experience of peers to assist them turning suspected inhibitors into enablers. It is also clear that as the majority of usage covers 25% or less of an organisations spend, the two key inhibitors ("software tool not integrated with purchasing process" and "the prohibitive cost of access to software tool") need to be addressed to enable usage to expand significantly.

One of the main outcomes from our analysis on the enablers and inhibitors of E Sourcing tools has been the <u>lack of influence of external stakeholders</u>. This points to the drive to adopt these tools coming from Innovators within the Procurement team itself. There is also an indication of a dividing line between those that have used such tools and those who have not. Buyers with experience have a confidence in the potential benefits and do not see risks in terms of security, difficulties in requiring the requisite skill sets or in the concerns of external stakeholders. Non-users have yet to be sufficiently convinced and still weigh short term costs more heavily than long term benefits.

When looking for the most prevalent Innovation success factors we identified the following factors:

- • Identifying a clear need for change
- • Top management commitment
- • Systematic approach
- • Internal and external customer orientation
- • Integrated approach

When looking for the most prevalent innovation failure factors we identified the following factors:

- • Lack of information
- • No perceived benefits
- • Reluctance to experiment

Of these, the "reluctance to experiment" and "lack of information" seem to carry the most weight as those organisations not using E Sourcing tools have cited reasons such as "no business benefit" and "lack of management support" which have not been seen as failure factors to those who have adopted E Sourcing tools.

To Conclude

E Sourcing tools seem to have reached a stage where they are accepted as an aid to the procurement process in more than half of public and private sector organisations we surveyed. Whilst there is still a way to go to achieve a wider and deeper adoption within the current user community they have passed the 'are they here to stay?' question a while back. There does seem a significant integration challenge to be addressed by the suppliers of the enabling software to support this wider adoption. It does however show there is a desire and capability to innovate within the majority of medium to large procurement organisations which provides encouragement for the health of the profession going forward.

For more information on this research, please visit: http://www.innovationinprocurement.com