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Summary of Academic Research into the adoption of E Sourcing tools/techniques within the UK Procurement community

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Interim report March 10th 2010

Introduction

Early adopters were starting to use E Sourcing tools (Electronic Tenders and Auctions) about 10 years ago. In 2004 the Innovation in Procurement Research team at the Bristol Business School / University of the West of England in partnership with the Chartered Institute of Purchasing & Supply carried out research into the after effect of using E Auctions on the Buyer-Supplier relationship called I-Adapt. Five years on from this research 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 an initial literature review where we concluded that whilst numerous E Sourcing and Procurement related consultancy and technology suppliers have produced a range of papers mainly looking at where / how these tools can be used primarily to support the new business that has been built around 'Strategic Sourcing' over the last 10 or so years we could find no evidence of similar independent academic research. In addition there was an abundance of academic research on Innovation, however little of it was linked to Purchasing and Supply and none to 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 that we used to ensure respondents all had the same understanding of this key terminology. These definitions were as follows;-

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.

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 we had 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 questionnaire.

Results and Analysis of the data collected through our Questionnaire

1.What is your job title?		
<i>Answer</i>	<i>Job Title</i>	<i>%</i>
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 (Please State)	15%
	Total	100%

Analysis

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.

2. How Many Buyers / Commodity Specialists do you have in your Organisation?		
<i>#</i>	<i>Answer</i>	<i>%</i>
1	0-5	25%
2	6-10	30%
3	10-20	15%
4	More than 20	30%
	Total	100

Analysis

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

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

#	<i>Answer</i>	%
1	£0-£50M	24%
2	From £50M up to £250M	36%
3	From £250M up to £500M	21%
4	Above £500M	19%

Analysis

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

4. Are you currently using any E Sourcing Tools?

61% responded that they were using E Sourcing tools

Of this 61% -

93% said they were using E Tenders and 65% were using E Auctions

39% responded that they were not using E Sourcing tools

Analysis

61% using E Sourcing tools shows that E Sourcing 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 that will help us understand their respective enablers and inhibitors.

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

5. How long have you been using E-Sourcing Tools in your organisation?			
	<i>Duration</i>	<i>E-Tender users</i>	<i>E-Auction users</i>
1	Less than 1 year	20%	8%
2	1 to 3 years	43%	47%
3	More than three years	37%	45%

Analysis

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.

6. What percentage of your spend with suppliers is allocated using E-Sourcing Tools?			
	<i>Question</i>	<i>E-Tenders</i>	<i>E-Auctions</i>
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%

Analysis

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 and in respect of E Auctions there are some additional factors which specifically inhibit the increased use of E Auctions.

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

	<i>Question</i>	<i>E-Tenders</i>	<i>E-Auctions</i>
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%

Analysis

Here 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 as backed up by the response to Question 6 above.

8. How are your E Sourcing tools delivered?

83% externally hosted

17% internally hosted

Analysis

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.

9. Have you used E-Sourcing Tools in a previous organisation?			
	<i>Option</i>	<i>E-Tenders</i>	<i>E-Auctions</i>
1	Yes	23%	40%
2	No	77%	60%

Analysis

Clear evidence here 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.

10. The Enablers considered most important for your E Tender Adoption

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

11. Enablers with mid importance for E Tender Adoption

1. Buyer(s) skilled in E-Tenders
2. A recognised 'champion / facilitator' was identified within the team
3. Developed sound success criteria and measurement techniques.
4. No security concerns

12. Enablers with least importance for E Tender Adoption

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

Analysis

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 that 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

13. Enablers considered most important for E Auction Adoption

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

14. Enablers with mid importance for E Auction Adoption

1. Positive Buying team
2. Access to external support services
3. A recognised 'champion / facilitator' was identified within our team
4. Undertaking a pilot activity

15. Enablers with least importance for E Auction Adoption

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

Analysis

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

16. The most significant inhibitors to extending the use of E Sourcing tools

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 showed that by far the strongest inhibitors were the first two which suggests that use and integration of the software, would need to be addressed before further adoption should be attempted.

17. The least significant inhibitors to extending the use of E Sourcing tools

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

Analysis

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.

18. What are your future plans regarding E-Sourcing Tools?

<i>Option</i>		<i>E-Tenders</i>	<i>E-Auctions</i>
1	a) Stay at current adoption levels	19%	22%
2	b) Continue to expand the use	81%	78%
3	c) Discontinue usage	0	0

Analysis

Strong evidence here that despite the inhibitors discussed in 16 above, the vast majority of organisations are planning to try to overcome these and expand their usage of E Sourcing tools.

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

19. Have you used E Sourcing Tools in a previous organisation?

<i>Option</i>	<i>E-Tenders</i>	<i>E-Auctions</i>
Yes	35%	48%
No	65%	52%

Analysis

The numbers with previous experience raise questions as to why they have yet to repeat this in their new organisation. The inhibitors in 20 below offer some clues, particularly responses 2,3&4.

20. 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

Analysis

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.

21. 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

Analysis

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.

22. Do you plan to adopt E Sourcing tools in the future?

<i>Option</i>	<i>E-Tenders</i>	<i>E-Auctions</i>
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%

Analysis

Balance remains between E Auctions and E Tenders. Interesting, that again despite the inhibitors almost half plan to use E Tenders within the next 12 months.

Research Summary

Our first key finding was that there was no discernable difference between the Public and Private sector findings. This may well be due to the ongoing development of Public Sector Purchasing teams and in certain cases where targeted funding 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 technology has become established over the last 10 years as a tool in the buyers toolbox 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 the analysis on the enablers and inhibitors of E Sourcing tools has been the lack of influence of external stakeholders. This is in terms of those factors that enable use of the E Sourcing tools and those factors that inhibit their use. It 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

- 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

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

Of these the reluctance to experiment and lack of information seems 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. Whilst there is still a way to go to achieve a wider adoption and also a 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.