

e-Business Adviser Handbook

Version 2 – November 2002

A handbook for business advisers assisting small and medium sized enterprise entering or improving e-Business.

Issued by the USHER project. <http://www.usherproject.org.uk>

Section – 2.7 – e-Procurement

2.7. e-PROCUREMENT

2.7.1. Introduction

What is e-procurement? E-procurement is the buying and selling of goods and services (business to business) in a digital environment by means of software applications that are “web” or “internet” based. An e-procurement network provides a secure market place, sales platform and transaction tracking system to buyers and sellers.

From a buying organisation’s perspective, the key differences between e-procurement models in the market today lie in where the buying application software and electronic catalogue(s) reside.

Buying application software allows an organisation to carry out purchasing processes. Depending on the sophistication of the software, it allows buyers to perform some or all of the following functions: access supplier information, including catalogues; generate requisitions; obtain approvals in accordance with the business rules of the organisation; send purchase orders to suppliers; receive invoices; and process payment.

Three basic architecture models have evolved over a number of years and can be broadly described as buyer-centric, seller-centric and e-marketplace. These electronic procurement models take a 'hub and spokes' approach (the hub being the organisation at the centre of the system, while the buyers and/or suppliers who interact with the system are at the ends of the spokes).

These models have particular advantages and disadvantages from the perspective of buyers and sellers, but they generally involve ‘closed’ systems, limiting the flexibility of those on the periphery. There is therefore an emerging trend towards a more open trading environment, based on open standards, which is intended to overcome the limitations of these closed systems.

The model that is best for your organisation depends on its specific requirements. Some of the questions you will need to ask are:

How much control do you want over the buyer application software you use? If you want to ensure the software meets your specific needs you may need to buy the software, customizing it, as required.

Who should manage the electronic catalogue(s) you buy from? Suppliers, your organisation, or a third party (the e-marketplace provider)?

2.7.2. Buyer-centric e-Procurement model

In a buyer-centric or buyer-managed purchasing model, the buying organisation implements software to support its procurement processes, obtains catalogue data from its contracted suppliers, and aggregates the catalogue data into a single internal catalogue for the use of its purchasing officers. In terms of a hub and spokes model, the buyer is at the hub with suppliers connected at the end of the spokes, as illustrated in the next figure.

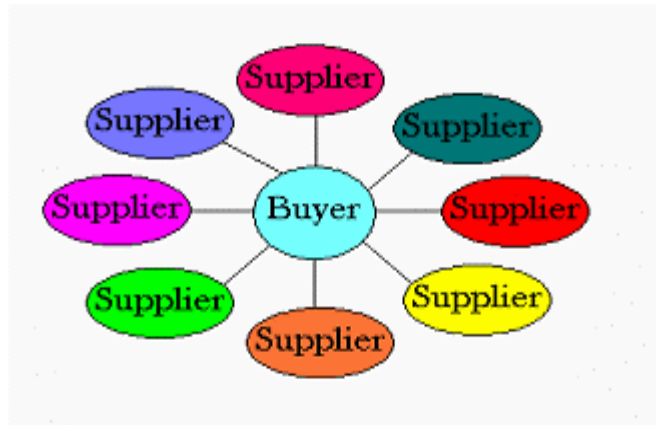


Figure 2.7.1.

Advantages

1. The main benefits to the buying organisation are that tight control can be maintained over the procurement software, catalogue (and other procurement) data and processes.
2. The solutions can be highly customised to meet the buying organisation's needs.
3. These systems also make it much easier for procurement solutions to be fully integrated into the buying organisation's financial management system so that the whole procurement process can be easily automated from beginning to end.
4. They tend to offer the most procurement functionality to buyers.
5. They lead to fast and easy product search and selection.
6. They give buyers access to multiple suppliers' offerings and can usually do price comparisons.
7. For suppliers the costs of participating in these systems are generally low, there are no transaction fees and most require little investment from suppliers to participate.

Disadvantages

1. This model generally results in a closed purchasing environment, allowing suppliers to trade only with the central buying organisation. Suppliers need to use other arrangements to trade electronically with other buyers.
2. There will be higher system maintenance costs in these solutions for the buyer, but generally catalogue maintenance (updating items, prices and availability) can still be done by sellers, with the updated data provided to the buyer.
3. Issues can arise as to the currency of data, stock availability etc, when suppliers do not have direct control over items listed in the buyer's catalogue.
4. These solutions can also require fairly high up-front investment for the buying organisation.
5. Because this model will generally not allow suppliers to trade universally, suppliers wishing to move to on-line trading may need to accommodate a number of different systems used by their customers, increasing costs and complicating content management.

2.7.3. Seller-centric e-Procurement model

In a seller-centric procurement model the seller is at the centre of the hub, with buying organisations connected at the spokes, as illustrated below. Buyers use the supplier's

system, accessible over the Internet, to browse the supplier's catalogue and place orders. This space in the marketplace has been largely the domain of business-to-consumer selling, although increasingly business-to-business trading is occurring on these sites.

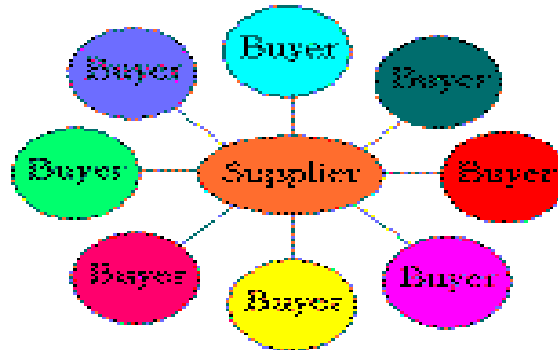


Figure 2.7.2.

Advantages

1. For the buyer these solutions generally offer the lowest investment cost.
2. Some sites are being aggregated into virtual e-malls to reduce the need to search many different sites, but buyers still need to know where to find the site.
3. For suppliers these solutions may be optimal in terms of control, cost, maintenance and functionality, but their customers need to know where to find them so their use may be limited.

Disadvantages

1. Suppliers' sites provide only limited support for the buyer's purchasing process, typically only the ability to browse catalogues and place orders.
2. Buyers lose control over catalogue data.
3. Support for pre-arranged contracts may be limited.
4. Buyers must access each supplying organisation's system individually, and only one supplier's catalogue can be accessed at a time.
5. Buyers must learn to use multiple supplier systems and manage multiple access right details (e.g. user-name and password).
6. Buyers must know where to find the site.
7. Integration into financial management systems at the buyer's end may be very difficult.

2.7.4. e-Marketplace or third party-managed e-Procurement model

The third model is the e-marketplace model, in which the 'system', provided by a third party, is at the hub, with buying and selling organisations trading with each other through the common marketplace, as illustrated below. The marketplace hosts supplier catalogues, and provides electronic transaction capabilities of varying sophistication to buyers and suppliers.

Advantages

1. E-marketplaces allow extended trading between many organisations - both buyers and sellers.
2. They can be particularly useful for organisations that are large purchasers as well as sellers.
3. These solutions are usually least expensive, in terms of overall initial costs, from the combined perspective of buyers and sellers.

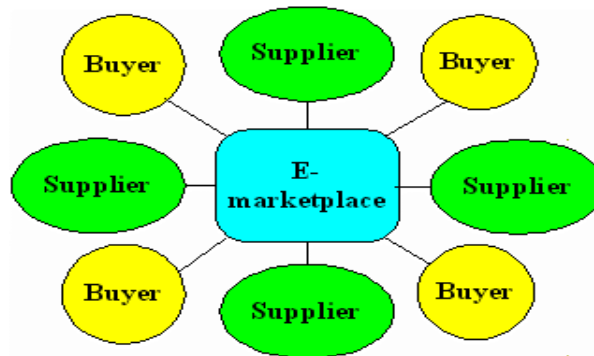


Figure 2.7.3.

Disadvantages

1. E-marketplaces may provide only limited ability for buyers and sellers to determine business rules.
2. These solutions have the highest on-going costs (subscriptions, maintenance and/or transaction fees).
3. Although they allow extended trading, you must be a subscriber to the e-marketplace to access buyers and suppliers linked to the e-marketplace.

2.7.5. Developing an open trading environment

As noted, the three models described above have some disadvantages due to the fact that they generally involve closed communities. They are also based on one dominant player (the hub), which establishes the trading rules for the system, and this limits other participants' flexibility. However, these limitations can be overcome in an open trading environment which allow buyers and sellers to establish systems that meet their requirements, without imposing these on their trading partners.

Under an Open Trading model, buyers implement software that allows them to establish and maintain local internal catalogues (should they wish to do so), but also to access e-marketplaces and supplier's stand-alone catalogues. Suppliers are free to choose whether to host their own catalogues or use marketplaces. These arrangements benefit buyers by offering them flexibility in accessing supplier catalogues, regardless of where the catalogues are hosted. These arrangements benefit suppliers, who are able to make their catalogues visible to the widest possible market, regardless of the e-procurement arrangements individual buyers have implemented. The figure below illustrates some buyers and suppliers transacting between themselves, but also through a marketplace with other buyers and suppliers.

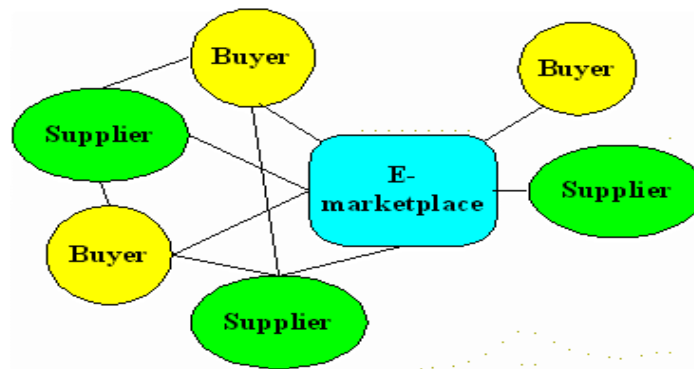


Figure 2.7.4.

Open trading arrangements of this kind, however, require the systems of buyers, suppliers, and e-marketplaces to be able to ‘talk’ to each other. For this to happen, the systems must be based on common, open standards. An open trading environment therefore requires a commitment to open standards on the part of buyers, suppliers, and e-marketplace providers.

Two of the most prominent of these standards are the OBI (Open Buying on the Internet) Standard and XML (Extensible Markup Language). The OBI architecture is based on the premise that process owners should be responsible for maintaining information associated with their business processes. More information about the OBI architecture is available from <http://www.openbuy.org/library/white-paper.html>. XML facilitates the exchange of structured information (e.g. procurement documents) over the Internet. More information about XML is available from <http://www.xml.org>.

2.7.6. Usage among SMEs

We have discussed the different forms of e-procurement and their pros and cons, but how does it work in practice, i.e. what is the usage rate of e-procurement among SMEs? An indication of these developments follows.

For most SMEs, the first step towards e-procurement is using the internet to identify suppliers and get product information. Suppliers find it easier to keep product information up-to-date in online catalogues than printed ones. A benchmarking study of UK’s Department of Trade and Industry (DTI) in 2000 revealed that 56 per cent of Britain’s SMEs were using the internet to identify suppliers, Germany and the US at 54 per cent, Sweden at 52 per cent and France at 30 per cent.

The second step in choosing a supplier is whether they allow orders to be placed online. According to the DTI study, the numbers of SMEs placing orders online vary from 46 percent in Sweden and US, 41 per cent in the UK, 40 per cent in Germany and 15 per cent in France.

From online ordering the next step is online payment. This is more complex than the other steps because it is the first stage in the evolution to e-procurement that actually requires some change to business processes. The difficulty is reflected in the lower numbers of SMEs that have reached this level: 17 per cent in the US, 24 per cent in the UK, 27 per cent in Germany, 26 per cent in Sweden and 5 per cent in France.

Surprisingly the number of SMEs that make online payments is higher than the number that can accept online invoices, apart from in the US: 29 per cent in the US, 14 per cent in the UK, 7 per cent in Germany and Sweden, 5 per cent in France.

A growing number of SMEs are becoming aware of the benefits e-procurement could bring to their business. The majority of SMEs uses e-procurement in its early form: online product catalogue. This requires little investment and presents a good opportunity to get familiar with e-procurement and definitely offers a good basis to further develop e-procurement.

References

- Bayles, D.L. (2000). E-Commerce Logistics & Fulfillment: Delivering the Goods. Publ. Prentice Hall. ISBN 0130303283.
- Neef, D. (2001). E-Procurement: From Strategy to Implementation. Pbl. Financial Times Prentice Hall. ISBN 0130914118.
- Reynolds, J. (2001). Logistics & Fulfillment for E-Business: A Practical Guide to Mastering Back Office Functions for Online Commerce. Publ. CMP Books. ISBN 158200741.
- Hitech Dimensions Inc. (2002). E-Business Systems and Architecture for E-procurement and E-sourcing. Publ. Hitech Dimensions Inc. ISBN 0971320403.
- MacPherson, Kim (2001). Metadata: Database Marketing 101: Part 1, clickz.com, URL: http://www.clickz.com/em_mkt/em_mkt/print.php/838351
- Allen, Cliff (2000). Metadata: Online Event Marketing Strategies, clickz.com, URL: http://www.clickz.com/mkt/precis_mkt/print.php/832431
- Kania, Deborah (1999). Metadata: The Start of Beautiful Relationship, clickz.com, URL: http://www.clickz.com/mkt/precis_mkt/print.php/813981
- Blankenhorn, Dana (2001). Datameta: Branding, Direct Marketing, and You, clickz.com, URL: http://www.clickz.com/ebiz/ebiz_report/print.php/842411
- Weil, Debbie (2001). Metadata: Old Meets New: Direct Marketing Days are Here Again, clickz.com, URL: http://www.clickz.com/em_mkt/b2b_em_mkt/print.php/842461
- Ushborne, Nick (1999). Metadata: New Rules of the Game – Part I, clickz.com, URL: http://www.clickz.com/mkt/direct_mkt/print.php/812601
- NOIE (2000). Metadata: Checklist for developing an E-procurement strategy, NOIE, URL: <http://www.govonline.gov.au/projects/eprocurement/checklist/method.htm>
- Pastore, Michael (2001). Metadata: The Future of E-Procurement? We'll wait and see, internetnews.com, URL: http://www.internetnews.com/asp-news/article/0,,3411_873291,00.html
- Moozakis, Chuck (2001). Metadata: E-Procurement gets Priority, internetweek.com, URL: <http://www.internetwk.com/story/INW20011128S0003>
- Hicks, Matt (2002). Metadata: Inside e-procurement, eweek.com, URL: http://www.eweek.com/print_article/0,3668,a=20792,00.asp
- Ericson, Jim (2002). Metadata: Managing e-procurement, line56.com, URL: <http://www.line56.com/articles/print/default.asp?newsid=3323>
- Verespej, Michael A. (2002). Metadata: Getting started in e-procurement, iwvaluechain.com, URL: <http://www.iwvaluechain.com/features/articles.asp?articleid=1215>