

10 Electronic Commerce in the Procurement of Indirect Goods

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10.1 Challenge in Indirect / MRO Procurement

10.1.1 Introduction

This article looks at a rather new and innovative class of Business Networking applications, referred to as desktop purchasing systems (DPSs). In recent years the face of many businesses has been changed radically by business process redesign and/or through the introduction of integrated standard software, referred to as ERP systems (cf. Chap. 2.3.1), e.g. SAP R/3, Oracle Applications or Baan IV. BPR projects essentially deal with the interface to external customers and rarely encompass the organization's procurement function.

Organizational design efforts in the area of procurement traditionally place a stronger emphasis on technology. In conjunction with the introduction of ERP or MRP II systems, many companies are in the process of redesigning the relationship with business partners on the supply side - in part driven by the need to modernize their systems in time for the next millennium. In this context they have largely concentrated on the area of direct procurement, i.e. on purchasing material for production. The result has been close partnerships with these suppliers, where the company's production planning and/or materials management systems frequently initiate procurement orders automatically with direct transmission to suppliers via EDI links.

The situation is quite different when it comes to the procurement of indirect/MRO products and services (maintenance, repair and operations), i.e. services which are not incorporated in the end product or are directly resold. In recent years, businesses have left the relationship with the suppliers of indirect/MRO services and the associated procurement processes within their organizations virtually unchanged [cf. Killen & Associates 1997]. It is precisely this area which harbors great potential for improvement through the use of modern information technology and, in particular, Internet technologies.

Nowadays, businesses frequently use their ERP systems to deal with the procurement of indirect/MRO services. These systems offer such a wealth of functionality that it is virtually impossible for staff who are not constantly using the system to handle it. For this reason, many companies are setting up the role of requisitioner in the indirect sector. A purchase requisition is an as yet unapproved purchasing order initiated by an employee. The requisitioner is responsible for a given number of employees and enters the purchase requisitions into the appropriate legacy or ERP system for his or her colleagues. In most companies typically secretaries, clerks, young technicians and laboratory assistants are requesting on behalf of their colleagues.

The advantages of this process are (a) that the requisitioner is practiced in using the system and (b) that the company needs a correspondingly lower number of user licenses for the ERP system. However, the disadvantages are (a) that the process is time-, work- and coordination-intensive and (b) that a detailed evaluation of procurement expenditure per employee is not possible or only possible if additional data are entered.

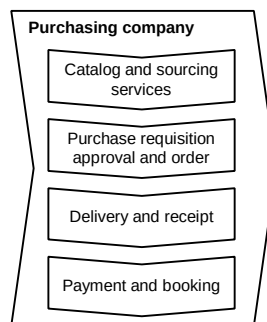


Figure 10-1: Core Process for Procurement

From the analysis of the procurement processes for indirect/MRO services in several corporations operating in different sectors we derived a generic core process [cf. Dolmetsch et al. 1999]. The core process for procurement was shown to consist of five process elements. Figure 10-1 represents the core process.

10.1.2 Current Procurement Scenarios

The problems involved in the procurement of indirect/MRO services can be illustrated with the aid of three typical scenarios.

Scenario 1: Decentralized Procurement Without Coordination

An employee in a large corporation needs a mobile phone in order to be able call customers when he is on a business trip. He inquires with the central procurement department and is told that the corporation does not have a preferred supplier for mobile phones. At the weekend he then sets off on his own initiative and collects offers from various suppliers. On Monday he asks his supervisor which one he should purchase. The supervisor, who bought a mobile phone himself only two months before, tells the employee to buy the same one. The employee buys the phone, fills out an expense form and presents the invoice to the accounting department. The data contained in the expense form has to be entered into the corporation's ERP system manually. At the moment, the expense forms for mobile phones, digital organizers, pagers and similar devices are piling up on the clerks'

desks. This process doesn't help the purchasing department in collecting information about the actual needs and spending of the organization.

Scenario 2: Centralized Bureaucratic Procurement

In many companies, procurement activities are completely centralized so that volume contracts can be concluded with suppliers. If an employee needs a new notebook he will have to find out about the company's IT standards. The next step will be to ask the responsible procurement department which suppliers they have contracts with. As the relevant product catalog in the procurement department is already three months old, the employee requests new product catalogs from the contract partners. With the aid of these catalogs he decides on a particular model of the notebook, but is not sure whether the required configuration is technically possible. He sends the supplier a short query and asks them to send him a quotation direct. After receiving the quotation by fax, he checks it briefly and then sends it to the IT department by internal post along with the completed purchase requisition form as they are responsible for the technical approval of the purchase requisition. Once the employee's supervisor has granted his approval, the procurement department receives the requisition. They then check whether the price shown is in line with the agreed conditions. If everything is correct, the procurement clerk will then enter the requisition into the ERP system, post the order onto the existing frame contract, print out the order and send it to the supplier. Figure 10-2 shows the a drastically simplified as-is procurement process of a large industrial corporation.

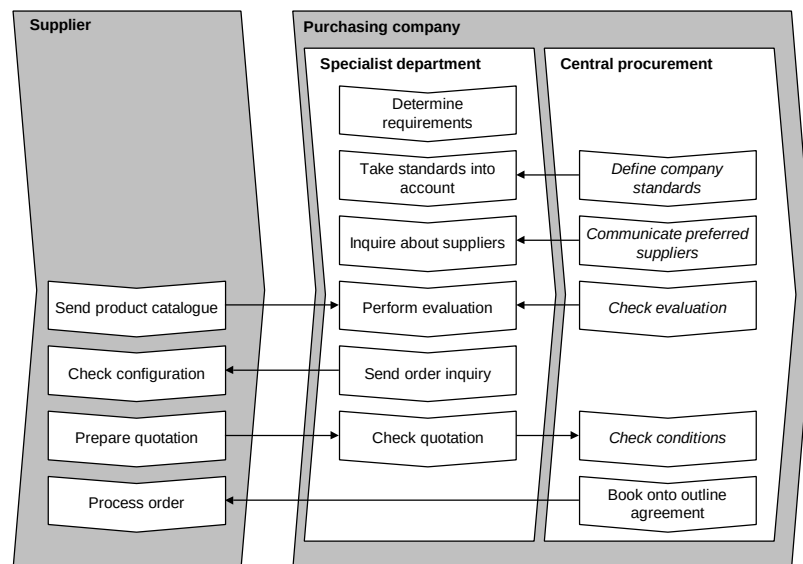


Figure 10-2: Excerpt of a Centralized Procurement Scenario

Scenario 3: Mixed Model

An employee needs a new paper punch, only to find that there is none left in the departments central stationery store. In addition to the possibility of borrowing a colleague's punch, the employee is faced with two options in this situation: one would be to go the stationer's round the corner, buy a punch and then submit a completed expense form to the accounting department in order to be reimbursed for the cost. The alternative would be to complete a purchase requisition form and pass it on to the procurement department. In this case, however, the employee will normally have to wait at least two weeks for the requisition to be processed and the item to be delivered. Table 10-1 summarizes the strength and weaknesses of the three scenarios.

	Scenario 1	Scenario 2	Scenario 3
Strengths	• High flexibility • Low cycle time • Low bureaucracy	• Potential for standardization • Potential for applying economies of scale	• High flexibility
Weaknesses	• Lack of standardization • Lack of applying economies of scale	• High cycle time • High bureaucracy • Low flexibility	• Lack of standardization • Lack of applying economies of scale

Table 10-1: Strengths and Weaknesses of Procurement Scenarios

10.1.3 Relevance of Indirect / MRO Procurement

Industrial corporations state that some 80% of all purchasing transactions relate to the procurement of indirect/MRO products and services (cf. [Intersearch 1998], [Netscape 1998]). Over 50% of savings related to the procurement of indirect/MRO products and services directly affect the bottom line (cf. [Killen & Associates 1997, 9], [AMR 1997, 4], [SAP 1998b, 3]). In view of this situation and the fact that, according to the results of a study, a purchasing transaction can often cost over USD 100, depending on actual order value [Intel 1998, 4], businesses have recognized Internet-based procurement to be an attractive area of inter-Business Networking [cf. Gebauer et al. 1998].

On the supply side, the range of available procurement solutions for the indirect sector is becoming increasingly confusing. DPSs are a category of application which have recently attracted a lot of attention. To date there have been very few

productive implementations. In view of the high ROI for such projects, interest is growing rapidly amongst businesses and public authorities.

10.2 Vendors of Desktop Purchasing Systems

Many of the problems described above are attributable to a failure to provide employees with simple access to the latest information from suppliers and existing contracts. The DPS described below consolidate product and supplier information in multi-supplier product catalogs (referred to below as MSC) and at the same time incorporate access to the relevant data in the legacy and ERP systems. If a business is to support procurement processes with the DPS functionality efficiently, it will require suitable content and catalog management on the one hand, and integration with the relevant internal and supplier applications on the other.

In addition to a whole series of start-up companies, such as Ariba, Commerce One, Rightworks, Trade Ex or Netscape, ERP software manufacturers, such as SAP and Oracle, have launched their own solutions for desktop purchasing.

The DPSs now available on the market all have similar functionalities. The vendors develop additional features to meet pilot customers needs. Suite to the early stage of the market new releases are launched every couple of months. For this reason, it is not very meaningful to compare the systems on the basis of their functions. The principal differences between systems can be noted in (a) the strategy in respect of content and catalog management and (b) in system architecture with regard to integration with a company's internal information systems, the suppliers' systems and other Business Networking applications.

Based on the number of implementation projects, the market is at present largely dominated by three vendors. These three suppliers are looked at in greater detail below.

10.2.1 Ariba Operating Resources Management System

Founded in 1996, Ariba Technologies from Sunnyvale in California offers a system with a very user-friendly front end. The Ariba Buyer includes a high-performance search engine and an easy-to-use, graphical workflow component. For the integration with legacy and ERP systems, Ariba offers so-called adapters which are created as reusable interface solutions. Suppliers are expected to produce their product catalogs in Ariba's CIF-format (catalog interchange format). CIF is a simple comma separated value file suppliers convert their product catalog to (cf. [Ariba 1998a], [Ariba 1998b]). Ariba underlines the capability to depict services as well as physical goods in the product catalog.

In March 1999 Ariba announced the Ariba Marketplace. The Ariba Marketplace complements the ORMS software as a commerce network linking buyers and suppliers over the Internet.

10.2.2 Commerce One BuySite / MarketSite

Commerce One, headquartered in Walnut Creek, California, was founded in 1994. The company started off as a supplier of CD-ROM product catalogs before turning its attention to the buyer side in 1996. Before the cooperation with SAPMarkets, the DPS of Commerce One was called BuySite, and the new joint solution will be called Enterprise Buyer. BuySite is based on Microsoft commerce servers. Commerce One claims to have a component architecture, which permits the realization of individual solutions. Some companies, for example, prefer to use the already configured workflow component of their ERP system, rather than the BuySite workflow. Some employees then will continue to work directly with the ERP system, others will use the browser-based front end of BuySite.

The company has recently corrected its own product strategy again by increasingly placing the emphasis on what it has to offer in the area of catalog and content services as well as document mapping and routing using MarketSite.net. This eMarket will soon be renamed to MarketSet, a new solution provided by Commerce One and SAPMarkets. MarketSite.net is the core of the Commerce One strategy, which distinguishes this vendor from the growing number of competitors in the DPS software market. Like the Ariba Marketplace, the Commerce One MarketSite.net is a commerce portal, offering content management and routing services. In addition, MarketSite.net offers competitive buying. In order to compare products and services from different suppliers Commerce One rationalizes the product descriptions in the supplier catalogs. Besides that Commerce One recently introduced The Global Trading Web. This platform acts as a meta network which connects regionally or industry specific Commerce One eMarkets with each other.

10.2.3 iPlanet BuyerXpert / ECXpert

iPlanet eCommerce Solutions is a Sun-Netscape Alliance and was established in March 1999 by America Online, Inc. and Sun Microsystems, Inc. The company is headquartered in Mountain View, California. The procurement solution BuyerXpert was developed by Netscape and is now part of the CommerceXpert solution which also includes the components ECXpert, SellerXpert, PublishingXpert and MerchantXpert [cf. iPlanet 2000]. BuyerXpert builds on the ECXpert component which provides the basic functionality as well as the transaction management and security. Netscape products use open standards, such as CORBA for the applica-

tion architecture and EDIINT as communication protocol. Netscape is also involved in the development of the OBI standard [cf. OBI 1998]. The company was one of the first vendors implementing the OBI standard into its products.

At this point we should mention the solutions of Aspect Development, Harbinger and TPN Register from GEIS and Thomas Register which also offer comparable functionality. Similar to Commerce One, these companies also act as content providers and maintain a comprehensive MSC containing the products of a multitude of catalogs from different suppliers. These content services are complementary to the functionality of the DPS and relieve businesses of many manual tasks related to content management.

10.3 Overview of System Components and Functionality

DPSs represent first and foremost a solution for the procurement of indirect/MRO products and services. These systems provide the user with access to a MSC containing previously negotiated products. The user interfaces of legacy or ERP systems contain deeply structured menu trees which are usually designed for power users. DPS support irregular use of infrequently requisitioning employees by the easy-to-use browser-based user interfaces.

All systems described above are based on a private MSC stored on the Intranet of the purchasing company. The user interfaces of these systems are in HTML and Java, and offer roughly comparable functionality.

The functionality of these systems supports the creation of purchasing requisitions and the approval workflow, as well as the tracking of authorization, order generating process, electronic ordering at the supplier's end and the financial booking of the purchased products and services.

Companies typically employ DPS for low-cost operating goods and services, such as spare parts or stationery, which are frequently ordered by a multitude of employees. At the moment, the field of application for such systems is thus limited to previously negotiated products and services which cannot be dynamically configured. All systems concentrate on catalog-based procurement. In the future, a XML based common business language could help to cover a wider range of different purchasing processes with DPS, such as auctioning and tendering.

The level of integration between DPS and ERP is different in every company and sometimes within one corporation between commodity groups. Purchasing card orders, direct orders and purchasing orders can be distinguished. The first two types of orders are directly send out to the supplier without generating a purchasing order in the company's ERP systems.

From the point of view of the existing ERP/legacy systems we distinguish between two different implementation strategies: the outside-in strategy, where the

DPS has its own transaction functionality - Ariba in particular pursues this strategy - and the inside-out strategy, where transactions continue to be handled in the ERP/legacy system [cf. Hantusch et al. 1997, 91-92] while the DPS is primarily responsible for the browser based user interface and the product catalog. The inside-out strategy requires real-time integration of the DPS via the appropriate APIs.

Figure 10-3 shows the functional and system components of a DPS in the form of a conceptional overview. In a concrete project the components depicted can be distributed amongst organization units of the customer, the suppliers or an intermediate catalog provider.

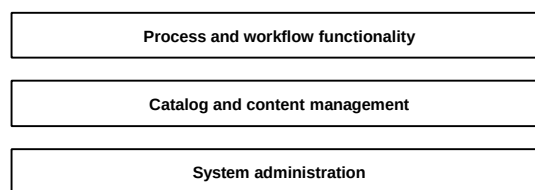


Figure 10-3: Components of Desktop Purchasing Systems

A critical success factor for the acceptance of a DPS is the immediacy and completeness of the product information in the company's private MSC. Ideally, complete, up-to-date data records for negotiated or relevant products of all suppliers will be stored in the private MSC. The user in the company does not have to request and scan the catalogs of various suppliers but can simply look through the company-specific (private) MSC. For this purpose, the data from the various suppliers will have to be consolidated in one catalog, suitably organized and stored in a metastructure. The metastructure is a hierarchy of product categories and groups which is derived from the requirements of the various purchaser groups within the company.

The system components shown in Figure 10-3 are dealt with in detail below. The main components are process and workflow functionality, content and catalog management, system administration, and integration with ERP/legacy systems.

10.4 Process and Workflow Functionality

10.4.1 Catalog and Sourcing Services

We structure the functionality according the core processes for procurement (see Figure 10-1). Among the functions of catalog and sourcing services are product

configuration, product search, sourcing, availability check, and tenders and auctions.

Product configuration. At present, none of the systems investigated offers the rule-based configuration of complex products and dynamic price allocation. For this reason the pilot customers define a series of pre-configured products which they store in the MSC in accordance with the non-configurable products. In the area of computer hardware products this procedure accommodates companies' standardization efforts. This predefined, restricted selection means that employees can only select and purchase products which comply with the standard. Some vendors are planning to offer interfaces to optional configuration components of third party manufacturers.

Product search. All manufacturers offer convenient search engines for browsing in the MSC. The systems support (a) searching according to key words, (b) searching according to attributes and (c) browsing through the classification hierarchy.

Sourcing. If a product is offered by various suppliers, the order of the items found will show the prioritization in accordance with the company's procurement principles. The order can equally well be defined by the lowest price or by a preference for particular suppliers. If a company maintains its own warehouse, this can be assigned the role of an external supplier in the MSC and given a high priority.

Availability check. For availability checks real time integration with companies logistics systems is required. The DPS accesses the data via API from the database by calling up the relevant transactions in the productive ERP/legacy system.

Tenders and auctions. DPSs primarily address the purchasers of office and industrial equipment. Complex negotiation mechanisms acting on several attributes (such as product functionality, price and terms of sale), as used in particular by professional buyers in the direct sector, are not covered by the function scope of today's DPSs.

At the moment, none of the DPSs supports the posting of RFQs (request for quotations).

10.4.2 Purchase Requisition and Order Placement

Purchase requisition. The purchaser selects products and/or services from the MSC and makes up an electronic shopping basket from which an electronic purchase requisition can be generated. Frequently ordered items can be bookmarked and shopping baskets can be saved. This allows companies to store a shopping basket for a complete workplace for a new employee, for example. With most of the systems, a purchase requisition for this purpose can contain items from various suppliers.

Authorization workflow. Depending on the purchaser's user profile and the respective item ordered, the purchase requisition goes through an authorization workflow before the company sends it to the supplier as an order. The system informs the respective authorizing bodies by e-mail. In the case of DPSs, we identify different types of authorization workflows: (a) one authorization workflow per order, (b) one authorization workflow per purchase requisition and (c) one authorization workflow per item ordered. The systems investigated have varying levels of user friendliness in their workflow components.

Creating and sending orders. Once the purchase requisition has been authorized, the DPS automatically generates the order for each supplier and books these in the ERP/legacy system. The company sends the orders from the ERP/legacy system or from the DPS itself by e-mail, fax or EDI. In the case of a purchasing card or direct order the DPS sends the order out to the supplier directly. The whole process is closed later on by booking the back coming invoices directly onto the corresponding general ledger accounts.

Today it is not possible to hold back orders and bundle them in order to achieve a greater order volume per transaction.

10.4.3 Delivery and Receipt

Delivery of 'soft goods'. Unlike the delivery of *soft goods*, such as software or electronic documents, it is not possible to handle the delivery of physical products and in some cases services entirely in the DPS. *Soft goods* do not need to be physically delivered, in fact the supplier can transfer these directly to the customer's DPS. Many software manufacturers already offer downloads via the WWW.

Receipt of goods and services. The receipt of an ordered good or service must be recorded in the DPS. There are two alternatives for goods receipt: delivery to the purchaser's/user's desktop or a central delivery (possibly with intermediate storage). DPSs support both alternatives. Companies have to investigate for each commodity group whether goods receipt makes sense at all regarding the absolute product price. Sometimes the caused process costs are higher than the product value.

The DPS does not show an ordering transaction as delivered until receipt has been confirmed. Tracking and reporting functionality allow the individual user or the central procurement department to check the current status of an order and the progress of a business transaction at any time.

10.4.4 Payment and Booking

Payment. In most cases, DPSs support the use of procurement cards. Pilot users investigated continue to use existing payment mechanisms with their suppliers after the introduction of a DPS. System manufacturers consider other electronic methods of payment, such as electronic cash, checks or smart cards, as belonging more to the business-to-consumer sector and therefore do not support them.

Financial booking. When initiating a purchase requisition for goods or services, the purchaser has to book the item onto cost centers and possibly activate it as asset. All the systems investigated allow the user to state a cost center for each individual item. Some manufacturers also provide the possibility of distributing the costs for an individual item amongst various cost centers.

10.4.5 Process Management

Tracking. The tracking functionality of DPSs gives the users an overview of both the authorization status of a purchase requisition or an order. Some manufacturers are planning to integrate the tracking of information in forthcoming releases, which is commonly offered by transport intermediaries. The tracking functionality also increases the transparency of procurement processes for the users. In comparison with paper form-based ordering processes, this additional transparency increases the purchaser's trust in the procurement processes.

Reporting. DPSs offer detailed reporting functionality. Companies can define procurement performance indicators per employee, per product or per product group and/or per supplier. In the past, the introduction of the role of dedicated requesters and processes frequently based on paper forms meant that companies had little management information and therefore little possibility of gauging procurement patterns or volumes or of assessing individual suppliers.

10.5 Content Management

In the case of content management, a company agrees on uniform data formats and records, as well as rules and mechanisms for replication within the framework of catalog updates with its suppliers. Here we focus on the classification, aggregation and personalization aspects of content management.

10.5.1 Content Classification

The aim of a classification scheme is to provide a system of categorizing product groups and products for MSCs which is independent of the supplier. Classification schemes are important for the maintenance and updating of MSCs and facilitate structured searching within an MSC. Unlike the DPSs investigated, ERP systems nowadays usually only allow flat classification hierarchies. SAP R/3, for example, only allows two categorization levels. The most important and frequently used classification schemes are as follows:

- The *standard product and services code* (SPSC) from Dun & Bradstreet [cf. Dun & Bradstreet 1998]. SPSC merged in 1998 with UN's CCS (common coding system), and is now called UN/SPSC.
- The *Thomas Register* scheme¹.
- The *NIGM* (National Institute of Government Purchase) which is a very detailed classification scheme especially used in public organizations.

At the present time, all the system suppliers investigated use the UN/SPSC standard. In addition to classifying the products, it is equally important for a business to determine the classification of each product category plus the attributes of a product data record. Here, we distinguish between character data and multimedia data, such as product photographs or PDF files for detailed function description. All the systems investigated allow the definition of specific data records for each product category.

10.5.2 Content Aggregation

A corporate customer needs the catalog data of different suppliers in order to be able to consolidate them in its private MSC. At the same time, the supplier will normally have various customers requiring different product data records in different data formats. This results in an n:m relationship. The effort involved can be reduced by the use of a content provider and the resulting n:1:m relationship. A content provider is an intermediary who has specialized in the aggregation and management of MSCs.

¹ [cf. <http://www.thomasregister.com>].

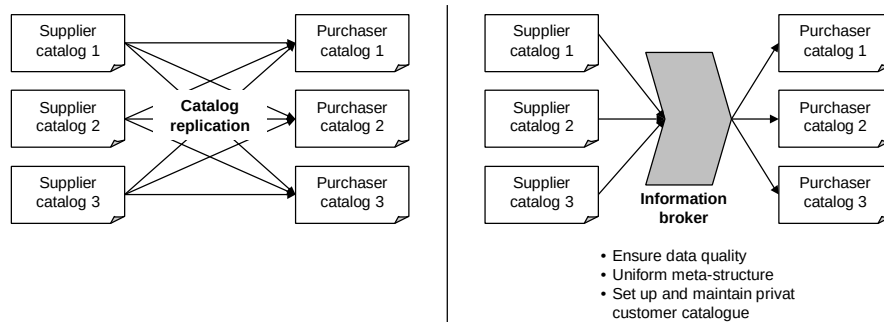


Figure 10-4: Role of Information Broker in Content Aggregation and Replication
[Aberdeen Group 1998, 4]

Up to now, no generally valid standards have emerged for the exchange of catalog data. For this purpose Ariba has developed and disclosed the CIF standard which is based on UN/SPSC [cf. Ariba 1998b]. The suppliers of Ariba customers use the CIF standard to code their catalog data. However, CIF is not a generally valid standard at the present time.

For this reason, all manufacturers offer their customers additional assistance with the adoption and integration of suppliers. Chevron, one of Ariba's first customers, also uses Harbinger as content provider. Harbinger is responsible for correcting, standardizing and formatting the catalog data of important Chevron's suppliers. Similar services are offered by Commerce One's MarketSite.net and TPN Register, a joint venture of Thomas Register and GEIS.

Commerce One is the only content provider which claims to offer its customers the possibility of calling up current prices and inventory levels in the appropriate supplier's system direct and in real time via the ECN.

10.5.3 Content Personalization

We distinguish between personalized corporate catalogs and user views of a personalized company catalog. Both Commerce One and Harbinger offer buy-side content management for *personalized corporate catalogs* MSCs. For the purposes of replication they take into account the metastructure of the catalog on the buy-side, the data fields of the product data records plus the prices for the specific company. The content provider stores different individual customer prices for each individual product.

MarketSite.net from Commerce One also performs automatic price degression. As soon as the market price drops below the individually negotiated customer price,

MarketSite.net updates the customer's MSC. This is an advantage in particular with high-tech products which are prone to pronounced price depression.

All the systems investigated allow companies to define special views of the MSC at employee or user group level. Depending on the individual user profile, the employee only has access to special products or product groups up to a defined maximum price after logging into the system. The company can define additional rules at will.

10.6 System Administration

Nowadays, all DPSs offer an administration component which accesses data on user profiles, supplier profiles and procurement rules. Depending on these data (a) a purchase requisition passes through an authorization workflow until it becomes an order, (b) the DPS gives the user access to a particular view of the MSC, (c) the user can only order products and services up to a defined maximum budget limit per time unit and (d) the system prioritizes suppliers.

In many companies, the relevant profile data are already stored in other systems. The DPS can either access the data of a given ERP/legacy system in real time or store the data in the DPS. In view of the fact that user profiles in particular are frequently used in various other systems, it is also appropriate to use directory services. At present, directory services are based on the technical standards X.500 or LDAP. Most DPS manufacturers are planning LDAP APIs for their systems.

10.7 Integration with Legacy / ERP Systems

In order to avoid the multiple input of data, the DPS has to be linked up with the internal information system of the purchasing company as well as with the information systems of the supplier. We distinguish between (a) asynchronous exchange of electronic documents, e.g. via industry-specific EDI formats and/or ALE-IDOCs in the case of SAP R/3 and (b) synchronous (real-time) exchange of and access to data via APIs (via the *application layer*).

Integration With the Internal Information System

A real-time access to data in the ERP/legacy system requires disclosed APIs. A lot of legacy systems, in particular the older ones, do not support access to system functionality via APIs. If this is the case, a company is forced to implement a message-based asynchronous integration. All DPS manufacturers claim to be able to realize a real-time link-up of the principal ERP systems from SAP, Oracle and Baan via APIs.

As the leading manufacturer of business management standard software, SAP AG has for some time now been pursuing the concept of BAPIs. BAPIs are APIs which facilitate the access to important data which have been semantically defined on the basis of the reference model and remain unchanged throughout several releases of the software [cf. Hantusch et al 1997, 113]. DPS manufacturers use BAPIs to extract the relevant data from the SAP R/3 system and write them back.

Integration With the Supplier's Information System

Real-time integration with supplier's system is mostly unnecessary for MRO goods. Today's Internet infrastructure does not offer the reliability of real-time integration. For this reason, the exchange of data with the supplier is usually asynchronous and message-based. Companies currently use EDI, e-mail and fax for sending documents.

10.8 Potential Savings of Desktop Purchasing Systems

However, savings potential is always present in the following three areas:

- *Procurement process.* The process is automated, faster and ties up fewer human resources for coordination. In some cases there is no need any more to maintain material masters for indirect goods in company's ERP systems.
- *More favorable prices.* DPSs make it possible on the one hand to bundle order volume by canalizing requisitions through the DPS as the company's intranet based purchasing portal and thus negotiate more favorable prices with the suppliers. On the other hand, these systems allow employees to compare products and prices and to purchase from the best supplier.
- *Inventory levels.* The complete procurement process is shorter and more transparent by status checks. Overall inventory levels can be reduced as a result. In some cases logistics can be outsourced to the supplier completely.

Unlike the introduction of ERP systems, there is frequently no room on the company's agenda of strategic IT projects for the realization of Business Networking applications and thus the implementation of DPSs. This aspect is taken into account in the project procedure in that a company is not expected to change over its processes from one day to the next with a 'big bang' introduction. It is much more customary to start off with a limited pilot which is then extended once a suitable level of acceptance is achieved.

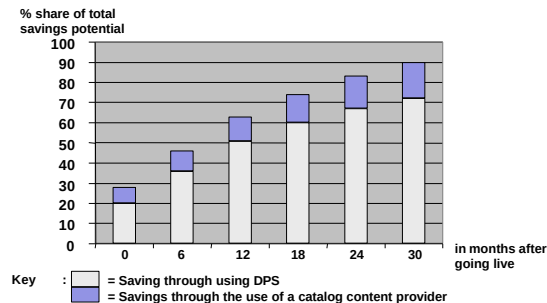


Figure 10-5: Savings Potential Realized²

What applies here for the changeover of processes is equally valid for the adoption of suppliers. When introducing the DPS, a company will normally start off with a product catalog covering its 3 to 10 preferred suppliers and later incorporate other suppliers and product categories. Figure 10-5 shows the typical progression of savings realized by companies.

Depending on the level of acceptance for the system and thus the progression of the curve shown in Figure 10-5, vendors speak of achieving a break-even between incurred project costs and realized savings after approximately 1 to 2.5 years.

“By Ariba's own estimates, its software can save between 5% and 15% in procurement costs depending on the suppliers used and the items purchased.” [Malik 1999]. Companies who already went productive with DPSs in 1998 include VISA, Mastercard, Chevron, Pacific Gas & Electric, Country Los Angeles and Cisco.

Typically large, global corporations are implementing DPS. As described before DPS are integrated with buyer's back end systems, thus the benefit of integration also is with the buyer. We experienced that suppliers have a large interest to participate in DPS projects. They see the opportunity to have their products on virtually every employee's desktop. Frequently updates of the product range and prices are possible without the prohibitive high costs for distributing paper catalogues every couple of weeks.

“Ariba is on target to becoming a de facto industry standard.”, writes [Malik 1999]. The vendors of DPS set widely accepted process and document standards for the procurement of indirect material. Once the companies know how to save money on their indirect purchase, they will leverage the standards to sell and purchase more complex goods and services. DPS thus have the potential to become a ‘killer-application’ of the new economy (cf. Chap. 2.3.4).

² Assumption: adoption rate of around 20% p.a. for suppliers and users within the company.

