

Developing a Catalog Management Infrastructure

Jonathan W. Friedman

B2B eMarkets are a terrific idea. When well conceived and properly implemented, they can improve supply chain efficiency; increase visibility into supply and demand; and even support new opportunities for inter-enterprise collaboration.

So why have many eMarkets folded? And why have others had such a hard time reaching a critical mass of transactions? In response, most fingers point to a combination of seller reluctance, unsound fundamentals, insufficient funding, and poor governance. But very few will identify one of the most daunting problems: making product data available in an electronic catalog format. Admittedly, this sounds like a simple data conversion exercise, but that's hardly the reality. In fact, AMR Research estimates that less than 20 percent of *Fortune 500* companies' product catalog data has been made suitable for use in an eMarketplace.¹ This Research Note examines the catalog management challenge, and discusses *how* companies can develop and execute a winning catalog management strategy.

Catalog Management's Evolution

Catalog management began with the advent of indirect eProcurement. Application developers such as Ariba said, "Put all your contracts for basic, non-strategic purchases (e.g., office supplies) into our application and your internal customers (employees) will buy through it." The result was higher levels of contract compliance and process efficiencies, but very little insight into how to populate the catalog with correct and consistent product data, maintain the data within the catalog, or disseminate the data across systems. To address this problem, vendors such as Aspect (now i2 Infinite Content), TPN (now owned by GE GX), and Requisite developed "content

factories"—services that convert data from an original source (e.g., a paper catalog) to an Internet-compatible format.

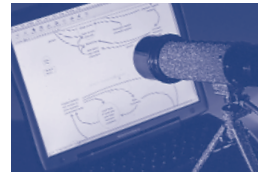
Content factories were valuable up to a point. However, the product data needs of most suppliers now encompass direct-material strategic procurement, which often requires very specific data fields and rich content, such as diagrams and quality certifications. In addition, most suppliers now are asked to provide product data to multiple systems, such as private marketplaces and industry consortia. Last, most sellers are charged with providing catalog information to dozens, if not hundreds, of buying organizations and eMarkets. As the number of venues increases, the more complicated it becomes to get the right content to the right customer with the right pricing. At a minimum, developing a comprehensive eCatalog strategy now requires companies to:

- Link eCatalogs to a system of record, so that the catalogs' contents reflect current and legitimate offerings. Many eCatalogs also will need to draw pictures, diagrams, and implementation data from a variety of sources.
- Integrate eCatalog information with their ERP systems, so that transaction processes such as ordering, fulfillment, and tracking can be automated across internal departments and between the supplier and buyer.
- Transmit stored product content to customers using common platforms, such as Ariba or Commerce One.

CONTENT MANAGEMENT VERSUS CATALOG MANAGEMENT

The terms "content management" and "catalog management" are often confused. Content Management refers to the generation, maintenance, and presentation of information that appears on a Web page. News feeds, eMail, text, promotions, pictures, and downloads all are examples of content.

Catalog management is a subset of content management, and applies specifically to Web-situated product data associated with a transaction. For example, when someone shops at Amazon.com, they see advertisements, promotions and up-sell/cross-sell information, none of which is catalog information. However, information about a specific book—e.g., pictures, descriptions, and price—is catalog content.



- Provide different views of the same content (e.g., price, delivery terms) for different customers and different customer locations.
- Enable non-technical personnel to update catalog content easily and systematically (e.g., for pricing changes and product additions).
- Maintain a record of what content has been delivered to what customer on what date.

To help reach these strategic goals, many companies have come up with algorithms to sort through the decision (Figure 1). But regardless of whether a catalog service provider (CSP) is involved, addressing the challenge requires a well-planned response to two fundamental questions: "What will be my 'system of record' for catalog content and pricing?" and "How will I efficiently create and distribute my catalog?"

The System of Record

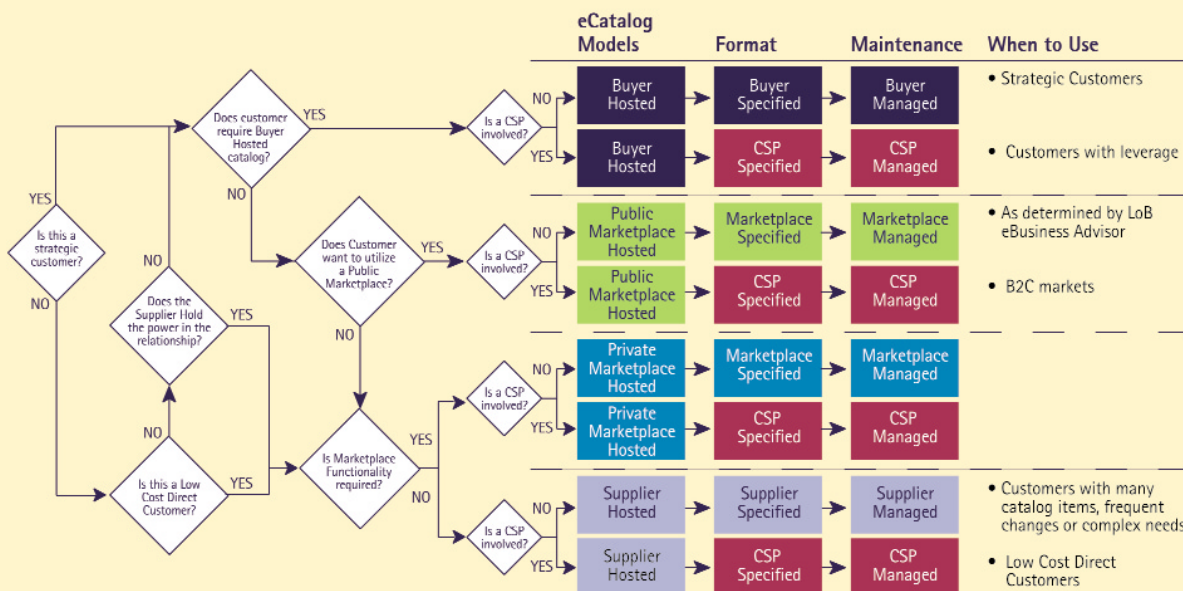
To support automated processes and provide accurate information on offerings, all core catalog data (products, prices, etc.) must be derived from, and synchronized with, the system of record, which usually is the ERP system. Without this basic linkage, the seller cannot respond automatically to a buyer's orders, and orders based on incorrect information will generate exceptions only if they were entered manually. In SAP R/3,

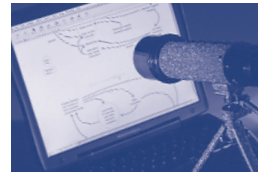
for example, there is a material type "FERT" (Finished Good) that denotes "we sell this part; it is the part that comes off the end of the assembly line." However, certain versions of SAP R/3 may not have a spot in the database for pictures, and the information in its data tables is virtually impossible to connect to a customer's browser. An eCatalog contains the core product and supplemental data in a form that can be accessed easily by customers using a Web interface.

In addition to relatively static product information, up-to-date pricing and available-to-promise information often is provided through links back to the ERP and supply chain planning systems. However, to avoid keeping potential customers waiting for a price check, integrators sometimes create a replica of all the ERP pricing logic on the sell-side platform, and only kick off the interface to the ERP system when the order is in its final stages and the customer has decided to buy.

In the future, this sort of ham-fisted workaround will be replaced. ERP will remain the system of record for material master information as it relates to production, because MRP systems require bills of materials, routing and factory-capacity information, and because financial and cost accounting people need to know how much it costs to make a particular finished good. However, pricing information will be maintained on the eCommer- ce platform, with changes to pricing and other customer-facing content made through a Web browser. All trends point in this direction. In fact, we already are seeing greater functionality from sell-side vendors' pricing engines, as well as roadmaps

Figure 1: A decision tree can help eSellers select the optimal eCatalog model, and potentially optimize their deployment of a catalog service provider (CSP).





that include product configurators and dynamic pricing.

Even with predicted advancements, the above scenario is quite integration-intensive. ERP systems still must receive sales orders, and they still are the link to accounting and distribution. Moreover, ERP systems must be connected with e-commerce platforms, which are the right tools to provide customers with the latest order status, including distribution information. Part of this integration hassle has been circumvented by the recent introduction of ERP-based eSales applications, such as SAP's Internet Sales, PeopleSoft's eStore, and Oracle's Exchange Marketplace. There also are many sell-side commerce platforms running alongside ERP systems (e.g., Broadvision, Blue Martini, Click Commerce, ATG), but SAP, Seibel, JD Edwards, and others are now competing in this space by leveraging their installed base and their ability to low-ball sell-side vendors.

Efficient Catalog Distribution

In chemistry, there is a term for the substance that dictates the extent of a chemical interaction: the *limiting reagent*. In an eCommerce implementation, catalog content is the "limiting reagent." It determines how much value can be gained from the interaction of two or more businesses. A major challenge in catalog distribution stems from the fact that suppliers provide the catalog content, while the buying organization generally champions the eProcurement implementation. At issue is the latter's propensity to make erroneous assumptions about catalog content, such as how complex the data can be and how much time is needed to produce an electronic catalog.

Faulty assumptions and expectations routinely impede eCommerce projects. For example, a large garment manufacturer put its Ariba implementation on hold because of difficulties acquiring suppliers' catalog data. After six months, the company had implemented less than 20 percent of its vendors' catalogs. In this case, and many others, the problem was not that suppliers were unwilling to produce the catalogs; they simply lacked the technical or process expertise to support their catalogs' efficient dissemination.

The most pressing need, therefore, is to transform the sell-side vendor's system-of-record catalog, along with associated supplemental information, into a form that is readily accessible by customers across a range of venues. For example, a chemical manufacturer might need to provide its catalog to a large paint company's eProcurement application in Ariba's catalog format

(.CIF). However, that manufacturer also might need to post its catalog on a chemical industry eMarket using Commerce One's catalog format (.CUP). In addition, the company probably will need to use an industry vertical format such as the chemical industry's ChemXML to make updates to that catalog. *And* they still need to publish a traditional paper version.

In order to provide customers with the information they need to make buying decisions, sellers must master three basic steps:

- **Creating the eCatalog:** rationalizing and normalizing data, and scanning descriptions and pictures. This is the "content factory"—a human-based process that typically occurs once.
- **Making the Data Accessible:** developing and applying search tools based on a search field, parameters, or a categories structure. Every vendor has this functionality, although not every vendor does it well.
- **Managing Data:** designing organizational structures, data-importing utilities, and data-exporting utilities for circulation to multiple parties. This is the upkeep of the catalog—the most critical area and the one that speaks to system-of-record and distribution issues.

Recently, this functionality has been embedded in a class of software known as a "catalog service provider" (CSP). Currently, the CSP market has yet to shake out, which means widely divergent capabilities exist among players such as Requisite, GE GXS, Saqqara, i2 Infinite Content, CommerceOne, Vignette and POET. Moreover, many players are struggling with multilingual catalogs and how to allow business users to update the catalog in a "self-service" fashion. The standard arrangement is for the CSP to create and host a central catalog repository to which changes can be made, and from which updated versions of the catalog can be delivered to the various systems with actual purchasing functionality (Figure 2). Most companies will want to make their catalog of offerings available through their own sell-side applications, some eMarkets and the buy-side applications of strategic customers. A central repository greatly simplifies the task of updating the many "instances" of such a catalog.

What Next?

Developing an eCatalog infrastructure is the first and most important hurdle that companies must clear before they can

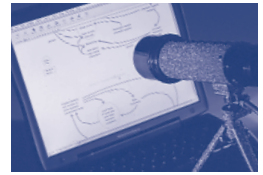
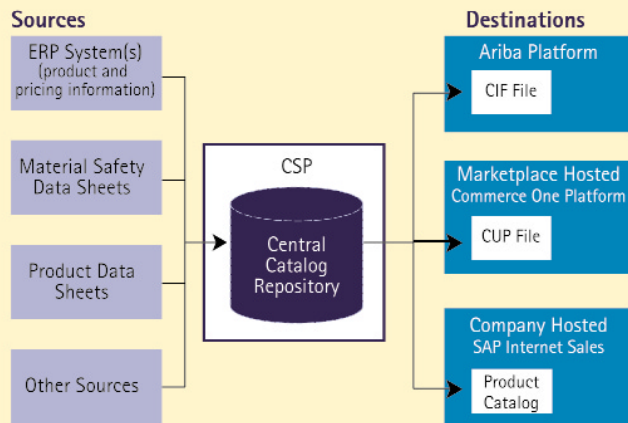


Figure 2: The central catalog repository—a component of catalog service provider software—acts as an information hub. The eOrder management functionality is contained in other applications.



effectively sell over the Web. In addition to this upfront task, they also must deliver up-to-date catalog information to customers on a timely basis. Deciding where and how to store catalog data, and how to distribute it, depends on a number of factors, including the relationship between the seller and buyer, and the catalog's desired functionality. Many companies will opt to use a CSP to help them manage their eCatalog programs. However, the wise seller will assess CSP candidates based not only on their functional and technical capabilities, but also on their momentum and market viability. After all, catalog service providers—like eMarkets—are not immune to the technology sector's fickle ebbs and flows.

Note:

1. AMR Research (2000), as cited in Tim Wilson, "Tools Tackle Catalog Content," *InternetWeek* 23 January 2001, <http://www.internetweek.com/newslead01/lead012301.htm>.

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