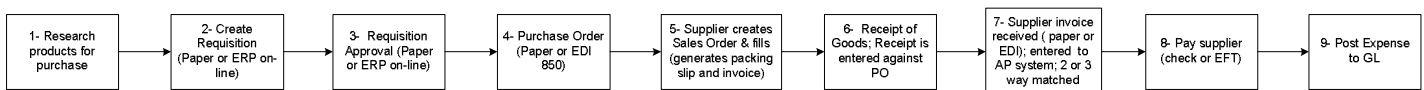


Procurement Model Analysis

Author, Timothy M. Ameredes

There are 3 basic procurement models; all have their pros and cons. Keep in mind that different variations can be derived from the basic models.

Traditional Purchasing



Traditional purchasing encompasses a 9-step process from product research to posting the expense in the general ledger. It usually involves a central procurement department, accounts payable and a central receiving department.

Process Description

1. Research Products- requisitioner reviews catalogs, solicits a phone, letterhead or web quote.
2. Create Requisition- whether paper or on-line, a requisition is created to procure goods from a supplier. Paper requisitions are compiled from a catalog listing, web or phone quotes. For ERP, on-line requisitions, items are typically selected from an *ERP catalog or typed directly on requisition from a catalog listing, web or phone quotes and account numbers are assigned to each requisition line.
3. Requisition Approval- depending on approval/spending limits set by the organization, the requisition is routed to an approver. In the paper process it is visually evaluated, signed and forwarded to the purchasing department. In the on-line process, the approver is notified within the ERP system or email and the on-line requisition is reviewed and approved. In either case the approver has the option to reject, change account numbers, quantities, etc.
4. Purchase Order- a purchase order is then generated upon approval. In the paper process, generation of a PO usually entails re-entry in to an accounting or ERP Purchasing module, and then faxed to a supplier. In the ERP process, the requisition can auto-generate a PO for faxing and which can have a 1-day delay dependant on system setup options. If your organization utilizes Electronic Data Interchange (EDI), the PO can also be sent as an EDI 850 PO document. In Government organizations, there is a budget encumbrance process that occurs during this process.
5. Supplier Creates Sales order & Fills- Faxed POs will have to be re-entered into the supplier's sales order system or supplier will convert a sales quote to a sales order. EDI POs will be uploaded directly into the supplier's order system. If the goods are in stock, the supplier will pick items for shipment, produce a packing slip and then ship the items. Simultaneously, a paper AR invoice is generated and mailed for the shipped items. If EDI is utilized, the invoice is sent as an EDI 810 Invoice. Sometimes suppliers will send an EDI 856 Advanced Shipping Notice, dependent on contract terms.
6. Receipt of Goods- Organizational audit controls will define whether receipts need to occur centrally or at the desktop. Centrally means that your organization has a central receiving dock where deliveries and records of receipted goods are systematically tracked. This can be accomplished by a manual tracking system, specialized receiving software or in the PO module of an ERP system. "At the desktop" means deliveries and record of receipted goods (ERP included) occurs at the desktop. This is also a part of the process where buying

organizations with EDI might use an EDI 856 Advanced Shipping Notice to act as the receipt process and only spend resources on tracking disputed shipments. Most ERP software has receipt tolerance limits that can be set to control overshipments by quantity and dollar amount. Some organizations tag assets during this step.

7. Supplier Invoice Received- the supplier invoice is received either on paper or electronically in the form of an EDI 810 Invoice. In the paper process, the invoice is re-entered into an Accounts Payable module. If you are receiving EDI Invoices through an ERP-EDI gateway, the invoice is loaded directly to your Accounts Payable module. Matching is executed at some point during the AP process, dependent on your accounting system or ERP package. Internal audit requirements will usually require a 2 or 3 way match. A 2-way match compares invoice lines to PO lines by matching the invoiced PO number, item numbers and open quantities for that item. A 3-way match compares invoice lines to PO lines by matching invoiced PO number, item numbers, open quantities for that item and checks for a receipt against the same PO line item. In either matching process, supplier invoices with matching or price change discrepancies are suspended from processing for review by Accounts Payable personnel.
8. Pay Supplier- all invoices that have had all invoice lines successfully matched are approved for payment and a check or EFT payment is sent to the supplier on the next payment cycle. In Government organizations, this is where the budget encumbrance is relieved.
9. Post Expense to GL- the transaction's life cycle expires as an *expense* in the General Ledger.

*ERP catalogs require catalog data synchronization/updates from the supplier.

Advantages of Traditional Procurement

If utilizing ERP on-line requisitions, catalogs, price lists, approval, purchase order generation and EDI then your organization is not doing to bad from a process, scalability perspective and has made a substantial investment.

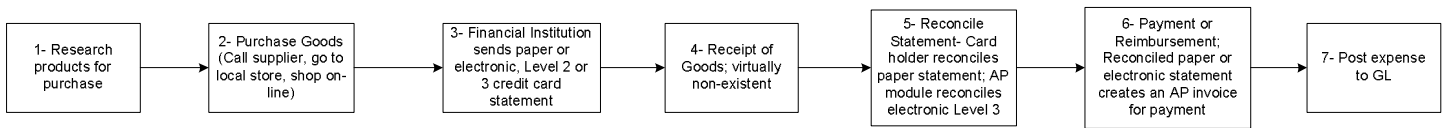
Supplier rebates can be negotiated if volume purchase agreements are in place.

Disadvantages of Traditional Procurement

The reality is most organizations can't afford to be this automated. ERP systems and EDI VANS have a high cost of entry and maintenance. ERP implementations begin around \$10 million dollars and can go as high as \$200 Million Dollars. Then add VAN setup and maintenance costs on top of that. However, the internet is bringing the EDI per transaction cost, but there are benefits to using a separate private network. There is also an ongoing resource cost to maintaining ERP systems at this level. ERP catalog and price list maintenance is a duplicate effort of contract pricing, terms and catalogs the supplier is already maintaining. Out of sync ERP contract price lists can create a high probability orders for discontinued or out of stock items.

If using the combined paper and accounting package, then there is a high process cost associated to create a purchase order. Most industry analysts estimate that a PO can cost \$75-\$150 to produce. Not to mention the high cost the supplier will incur for having to re-enter your faxed or mailed purchase order. The same data could be re-entered 4 times between your organization and the supplier (requisition, PO, supplier sales order, supplier invoice entry to AP). There is also a high probability for data entry errors, out of stock items, etc. resulting in a higher rate of returns that equates to additional cost for buyer and supplier. Finally, since this process is a mix of paper and automated processes, any data entry point can be a bottleneck or "black hole" for an order. Adding anywhere from 30-120 days to complete the entire cycle.

Credit/Procurement Card Purchasing



The use of credit cards for procuring goods for a corporation grew out of the unresponsiveness of traditional purchase processes. Credit cards allow an organization to immediately respond to changing business needs, but have a high audit and reporting cost associated with them. Suppliers usually like it because they get paid faster so they are not floating as much cash in the process.

Process Description

1. Research Products- requisitioner reviews catalogs, solicits a phone, letterhead or web quote.
2. Purchase Goods or Service- Goods are purchased by calling supplier, going to local store, shopping on the web. Receipts of sale, packing slips or web order confirmations are kept for reconciliation.
3. Receipt of Goods- This function usually occurs via a disjointed process for credit card orders. It superficially exists when products purchased with a credit card are delivered to a central receiving area, but receivers usually do not have an electronic system to log receipts which can create time delays.
4. Financial Institution Sends Statement- to the individual who holds the card. A Level 2 summary statement is assumed since it is the standard, no cost statement. A Level 3 statement can be obtained from the financial institution for a price. Level 3 detailed statement provides transaction detail. Reconciliation woes can be reduced with a direct electronic feed to your AP module, regardless of statement level. Many organizations cannot afford Level 3 statements or support direct feeds.
5. Reconcile Statement- the cardholder reconciles the Level 2 statement by matching receipts and/or packing slips and/or supplier invoices to general transaction lines on the statement that simply reference the supplier – sometimes an order number is included. If a Level 3 electronic statement is utilized, the reconciliation process validates incoming transactions for the AP module. If Level 3 paper statements are utilized, then the manual reconciliation is simplified, but is still labor intensive.
6. Payment/Reimbursement- the cardholder submits statement and attached paperwork to the accounting department. Paperwork is reviewed, dependent on the company, an AP invoice is created in the ERP system and check is generated to pay the financial institution or reimbursement to the cardholder. The reconciled back up is filed in a drawer. If Level 3 electronic process, AP module processes all valid transactions for payment.
7. Post Expense to GL- The transaction's life cycle expires as an expense in the General Ledger

Advantages of Credit/Procurement Cards

Organizations can respond immediately to any situation that requires a purchase of goods or service. So credit cards with high dollar limits are good for disaster recovery situations, travel and low dollar, low volume purchases. With Level 3 reporting, an organization has better control in credit card payment and reporting functions and it scales well.

Rebates from financial institutions for credit card use can be negotiated if enough dollar volume is purchased through cards. Also buying products via the Internet is quick and easy.

Disadvantages of Credit/Procurement Cards

There are many drawbacks and hidden costs to this approach. First, an individual cardholder must spend time to reconcile the credit card statement. Every piece of paper that is required to meet purchase policy can be lost and adds time to the process to recover. Secondly, it promotes rogue buying, not driving volume to your contracted suppliers. Thirdly, it takes additional resources in accounting to review, request or approve documentation through payment. Finally and most importantly, with paper or level 2 electronic statements your organization has lost all reporting detail for anything purchased on a credit card. Why? When the accounting department does approve payment, they make a vague AP invoice to a financial institution or cardholder and the supporting paperwork gets filed in a drawer. How accurate will expense analysis be or how much time will it take to compile reports from paper? Furthermore, only a few people can compile it...the ones who have access the filed documents. How will the rest of the organization compile expenditure reports dependant on the credit card data? Why buy an accounting or ERP system if your not going to fully utilize it? Just questions to think about.

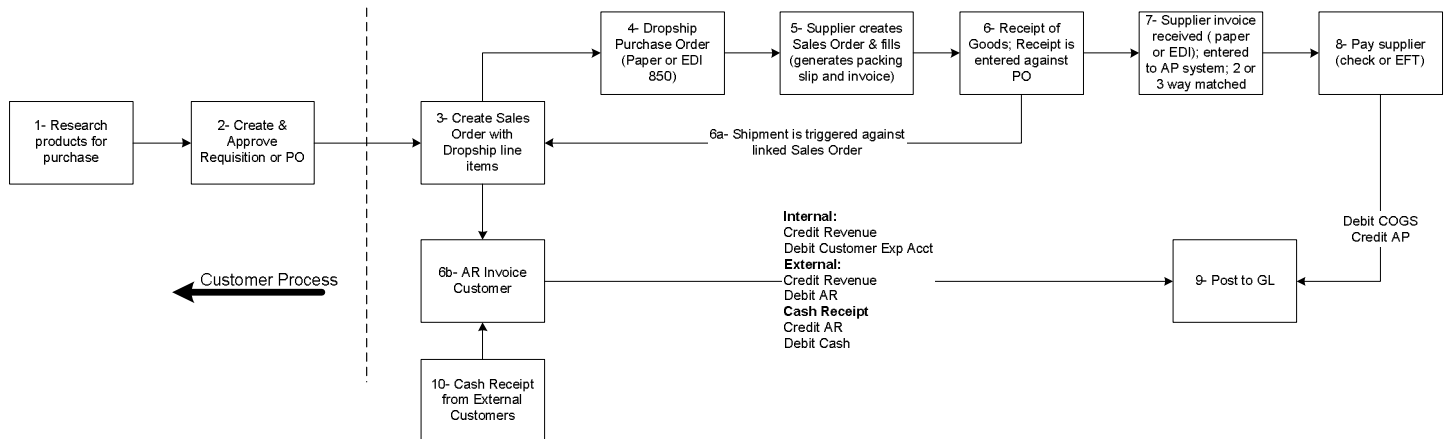
Partial receipts (or partial shipments) are much harder to track in this process and requires a shadow system to do so regardless of credit card reporting level. There are ways to design process around partial shipments, but it they depend on your business environment.

If an employee is using their personal card then they are liable payments. This type of control is problematic since it mixes the employee's credit rating and finances with that of the corporation. If the corporation is late in paying the credit card, the employee is penalized by having to make the minimum payment or if they miss the payment, having a bad mark on their credit report.

Suppliers may have higher product pricing to cover credit card processing fees, usually 1.5% to 2.8% + .30 cents per transaction.

If you company has a central receiving dock, then receiving products for credit card purchases becomes tricky because there is no PO in any system to receive it against. It is a big deal since packages purchased with a credit card do not always come addressed properly- web purchases excluded. Remember, the supplier can have many customer accounts or "ship to" addresses for large organizations. Hence, a central receiving department has no easy way to verify delivery information. It also becomes an issue for asset tracking since there is a good chance the delivery by-passed all asset tagging checkpoints.

Progressive Procurement Diagram (internal reseller, cost recovery, virtual distributor)



Progressive Purchasing has grown out of the need to find new internal revenue streams or to fund procurement operations. It enables an organization to drive volume to selected suppliers, thus reducing cost of goods purchased and could provide room for a markup or rebate on the dollar volume spent with select suppliers. It can provide operating funds to pay salaries, procurement department operational expenses, etc. while simultaneously freeing up budget for other uses. If designed properly, this model can yield benefits to a procurement operation as well as the organization. It is required that volume purchase agreements be “in place” to execute this model of business. Volume purchase agreements will enable an internal reseller or virtual distributor to offer competitive pricing and still generate revenue through a mark up (Cost Plus Revenue Method) or a supplier rebate (Rebate Revenue Method). If negotiated, next day delivery, no cost shipping, etc. will minimize the need to maintain inventory (goods for manufacturing not included).

Try to keep in mind that design options are driven by business requirements. Do not limit yourself to the listed example mentioned below.

Assumptions:

- A. Internal orders are from a customer within the organization and are enabled by GL account numbers.
- B. External orders are from a customer outside of the organization’s GL and are enabled by an external PO.
- C. Sale order systems might be separate from the organizations accounting or ERP system and may require modification (most systems cannot easily accommodate Progressive Procurement since they were design around the Traditional Procurement model)
- D. Volume purchase agreements are “in place”.

Process Description

1. Research Products- requisitioner reviews catalogs, solicits a phone or web quote from internal service provider.
2. Create & Approve Requisition/PO- An internal customer creates and submits an approved requisition (on-line or paper) or external customer creates and submits a purchase order at sell price.

3. Create Sales Order- a sales order is generated to record the sale. All items are entered at sell price and all items on the order should be flagged as “dropship”. The internal order requires entry of the customer’s GL expense account (this might be a barrier that requires modification when an internal reseller is operating within the same accounting package as the customer). External orders follow normal sales order processing. Don’t forget to add tax if you are required to remit.
4. Dropship Purchase Order- a dropship purchase order associates or links items on a purchase order to a sales order. The process should “auto-populate” product information on a purchase order. Some accounting packages handle this process better than others, but most systems can accommodate a dropship PO. A PO can be sent one of 3 ways: fax, call in order or enter directly to supplier’s order system (some suppliers provide access to their order systems to speed ordering for their customers). It could also be sent via an EDI 850 PO.
5. Supplier Creates Sales Order & Fills-. The supplier will generate a sales order, pick list, packing slip and ships products based on your contracted delivery terms and availability. An invoice is generated, mailed or sent via EDI 810 format.
6. Receipt of Goods- The receiver enters the receipt of good against the purchase order by reviewing the packing slip and sometimes verifying box contents. A receipt must occur against the purchase order to trigger a systematic shipment and invoice. Some organizations tag assets during this step.
 - 6a. Triggered Shipment- since the PO and SO are linked through the dropship process, a receipt on a PO will trigger a shipment on a sales order.
 - 6b. Invoice Customer (AR)- A shipment against a sales order auto-generates an Accounts Receivable Invoice. At this point the internal reseller will do one of two things with an AR invoice. First, is to print and send invoices for all external customers. Secondly, don’t print invoices for internal customers since they require their invoices to charge the designated expense account number (from step 4)...this could require modification to AR dependent system setup and design. If the sales order or AR system is outside the company ERP AR system, then transaction data can be generated in summary or detail and pushed through an ERP system (AR or GL module). It will require a data mapping effort as well as defining the transmission method...FTP, db links, etc.
7. Supplier Invoice Received (AP)- the AP invoice is entered into your accounting or ERP system AP module and 2 or 3 way matched...depending on your audit requirements.
8. Pay Supplier- upon successful matching, a check is cut to the supplier and the paid invoices listed on the check “stub”. Listing supplier invoices associated to a payment is very import for reconciliation efforts between the supplier and internal reseller (it is important for any AP purchase process).
9. Post to GL- AR and AP modules update the General Ledger accordingly. The General ledger is where financial reporting of revenue, COGS, operating expenses, etc. occur. It is very important to have proper setup options to support ERP reporting functions. An income statements and balance sheet is the measuring stick that gages financial health in a self-funded purchasing operation.
10. Cash Receipt- All external customers will usually pay with a check and a normal cash receipt process will occur. Internal customers are charged via account transfers when product is shipped and invoiced. Charging internal customers via the GL is also another potential point for a systems modification.

Advantages of Progressive Purchasing

If your procurement operation is self-funding, generating income statements is very important. This model enables the internal reseller to track income and expenses the traditional method:

Sales
- Cost of Goods Sold
<hr/>
Operating Revenue
- Less Operating Expenses
<hr/>
Net Income

Another advantage to this model is process and audit control. It enables the internal reseller to utilize automated accounting systems to record transaction detail for sales, purchases, AR invoices, AP Invoices.

As mentioned earlier, it provides a revenue stream so the organization can use budget dollars for other mission critical operations. This is a very big selling point for governmental entities. It also revitalizes service levels of the procurement operation since they may have to compete with external entities.

Back office integration is a must and can provide necessary reporting for budget and account balances in ERP and legacy accounting systems. If your organization is fortunate to have an ERP system, necessary transaction detail can be pushed to the AR or GL modules to satisfy customer reconciliation and tracking efforts.

Disadvantages of Progressive Purchasing

It requires an intimate knowledge of functional procurement, audit, accounting, integration processes and technical capabilities of the internal reseller. Finding individuals with this mix of skills is often difficult.

Assuming EDI is not in place, data is being re-entered 4 times during the transaction life cycle.

Progressive Purchasing Rebate Revenue Method

A rebate model could be pursued in Progressive Procurement regardless of if products are sold at contracted cost or marked up price (SO, PO and Supplier Invoice reflect price accordingly), and supplier issues a rebate to be deposited as revenue.

Using the Traditional Procurement Model with rebates and become self-funding sounds pretty clean. Well, it depends on your business requirements. If your organization requires income reporting for your procurement department, then it is not so easily accomplished within the purchase order or Accounts Payable module of an accounting/ERP package. Most legacy accounting systems are designed to execute single sided journal entries, ie recording a distribution/expense to a single account and most ERP PO/AP modules are designed to debit expense and credit AP



accounts (in the end). Both have no concept of revenue, AR accounts (credit income, debit expense-customer account or AR). So if your business requirement is to execute a recharge or fund transfer (not EFT) for all internal customers, then the traditional procurement model fails the requirement or the software needs tweaked.

Advantages of Progressive Purchasing, Rebate Method

Eliminates need to calculate/maintain sell price and keep AR and AP transactions matching or “in sync”. With proper design, it enables an organization utilize existing PO and AP software.

Disadvantages of Progressive Purchasing, Rebate Method

For internal resellers, it places your operating income in the supplier’s hands until they rebate you. Not good from a cash flow or cost reporting standpoint.

Author Bio

Timothy M. Ameredes has over 18 years of experience crafting business strategies and solutions in various sectors that includes “C” level positions.



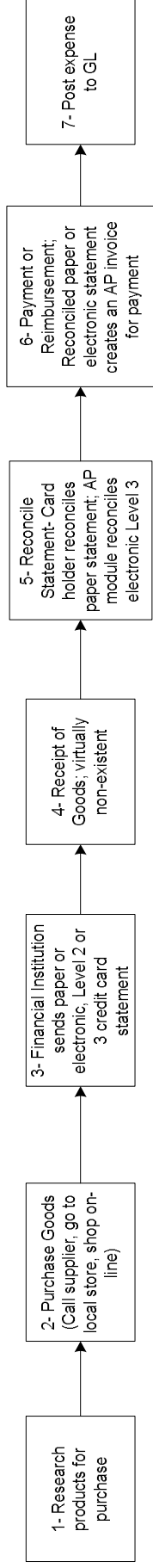
Model Diagrams (Larger View)

Traditional Purchasing





Credit Card/ Procurement Card Purchasing



Progressive Procurement (Internal Reseller or Virtual Distributor model)

