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# **INTEGRATED END-TO-END E-PROCUREMENT:**

## **THE FOUNDATION OF SPEND MANAGEMENT SUCCESS**

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## EXECUTIVE SUMMARY

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Procurement is a cycle that consists of up to nine steps, depending on the value and complexity of the buy, as well as organizational policies. At a minimum, it starts with need identification (and requisition), proceeds to the generation and delivery of a purchase order (possibly after one or more approvals), and results in the acceptance of an invoice and an eventual (e-) payment. However, for more complex purchases, the process will usually include the generation of a goods-receipt or acceptance of labor hours through a time sheet or other mechanism; multi-way matching and reconciliation of the purchase order, goods receipt, and invoice; tax tracking; and rebate request preparation.

The goal of procurement is to obtain the right product or service, at the right place, at the right time, at the right price in the most efficient manner possible. This is because, when done right, an organization will save time, money, and add value to their product or service offerings. However, if done incorrectly, the organization could add almost 5% to the bottom line.

That's why e-procurement, the electronic implementation of the procurement cycle, was introduced. Since technology was already improving efficiency and saving money in other areas of the enterprise, the vision was that the technology-enabled acquisition of goods and services required by an organization would enable the organization to acquire its goods and services at the best value obtainable.

However, e-procurement has been around for over a decade, but even best-in-class organizations max out at 82% spend under management while average organizations implementing e-procurement only have 65% of spend under management. Why? Although it's hard to say for sure, it's likely because most e-procurement solutions on the market are not complete, or even true, end-to-end solutions. Many, like EIPP, P2P, and e-payment solutions, only satisfy the needs of part of the procurement cycle.

Unless an e-procurement solution is an integrated end-to-end e-procurement solution, one cannot expect to obtain maximum value from the solution. This is because the efficiency and accuracy expected from e-procurement is lost due to remaining system inefficiencies. For example, the need to re-key data in an e-RFx application after it was keyed in during the creation of a requisition, or the inability to import contract metadata to verify pricing against a contract, eliminates the efficiency that e-procurement is supposed to provide. Without an integrated end-to-end e-procurement solution, significant aspects of the procurement cycle remain unaddressed.

Anything less than end-to-end e-procurement can result in these types of problems:

- inability to capture the manpower savings that results when data no longer needs to be re-keyed in multiple systems;
- unrealized cycle time reduction benefits because errors are not caught and an order gets lost in System A when it should be in System B;
- failure to ensure payment at contracted rates because the contracted rates weren't captured or available during the creation of a requisition by your buyer;

- not knowing if the item you paid for was actually the item your buyer ordered, or if the item the warehouse received was the same as the item your buyer ordered because there is no multi-way match between purchase order, goods receipt, invoice, and contracted rates.

That's why a fully integrated end-to-end e-procurement solution is so important. An integrated e-procurement solution supports each step of the various procurement cycles in your organization in a tightly integrated fashion. From the initial creation of a requisition to the payment of the final invoice at contracted rates, an integrated end-to-end e-procurement solution supports each and every step of the procurement cycle in an integrated fashion that seamlessly flows from one step to the next. Furthermore, the tight integration between the components that implement the various parts of the e-procurement process ensure that the organization only pays for what was actually received -- and only pays at contracted rates.

Integrated end-to-end e-procurement comes with many benefits that include improved process efficiency, increased organizational effectiveness, greater collaboration with suppliers, and optimal control over demand and spend. For example, Aberdeen Group has found that e-procurement reduces the average requisition order cycle by two thirds, cuts in half e-procurement cycle costs, increases spend under management by 35% in an average organization, and, most importantly, saves an average of 4.8% on spend - which, depending on organizational performance, can increase EBITDA by up to 100%.

This whitepaper will help you understand what integrated end-to-end e-procurement is, how it can help you save time and money, and how you can implement it in your organization effectively.

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## E-PROCUREMENT DEFINED

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E-procurement is the electronic implementation of the procurement cycle, not to be confused with e-sourcing, which is the electronic implementation of the sourcing cycle. It is the technology-enabled acquisition of goods and services required by an organization at the best value obtainable. The goal is the right product or service, at the right place, at the right time, at the right price in the most efficient manner possible.

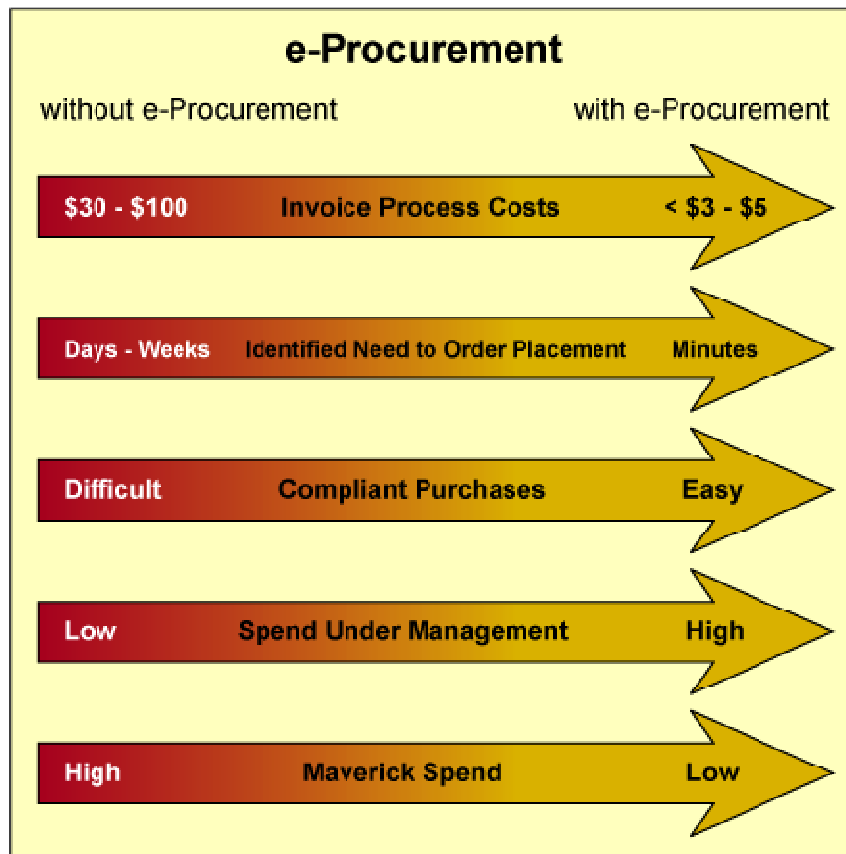
Procurement is a cycle that consists of up to nine steps, depending on the value and complexity of the buy as well as organizational policies. At a minimum, it starts with need identification (and requisition), proceeds to the generation and delivery of a purchase order (possibly after one or more approvals), and results in the acceptance of an invoice and an eventual (e-) payment. For high dollar and / or more complex purchases, the process will usually include the generation of a goods-receipt or acceptance of labor hours through a time sheet or other mechanism; multi-way matching and reconciliation of the purchase order, goods receipt, and invoice; tax tracking; and rebate request preparation.

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## E-PROCUREMENT VALUE

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E-procurement is important because it saves time, money, and adds value to the traditional procurement process through improved compliance and added visibility:



Requisitioners can also be assured that each supplier in the system meets any regulatory and specification requirements. Finally, e-procurement institutes and enforces best practices that increase spend under management, the ultimate key to procurement savings.

Spend visibility is the best defense against maverick spending as well as the best offense you have to prevent information overload. Remember that negotiated savings are just that -- negotiated savings - unless all orders are placed against the contract, all invoices paid at contracted rates, and all rebates and discounts collected. Furthermore, if users search the internet to find a product, they will be inundated with potential suppliers, many of which will not be good choices from a total cost of ownership viewpoint. Without good e-procurement systems and processes, chances are that maverick spend is rampant in an organization, even though it may not be the intent. Maverick spend not only eliminates the negotiated savings the sourcing team worked so hard to deliver, but could even add additional cost above and beyond previous costs.

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## END-TO-END E-PROCUREMENT DEFINED

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E-procurement has many different definitions in the marketplace, and is still confused with EIPP (electronic invoice presentation and payment), P2P (procure to pay), and e-payment (electronic payment) - but none of these technologies comes close to implementing the full procurement cycle. It's also sometimes confused with, or thought to include e-RFx or e-auction which is, in fact, part of the e-sourcing cycle; and sometimes also thought to include contract management, another major component of the e-sourcing cycle. In fact, it is catalog and content management that is much more important for day-to-day procurement.

True e-procurement is the enablement of the full procurement cycle from initial requisition to final payment. It includes support for the location of the required good or service, the necessary authorizations, generation or acceptance of a goods receipt, invoice processing, multi-way match-based reconciliation, e-payment, payment acknowledgement, and analysis and reporting.

Integrated end-to-end e-procurement is the implementation of e-procurement technologies that support each step of the various procurement cycles of your organization in a tightly integrated fashion. It also supports integration with the e-sourcing technologies that share common touch points. With integrated end-to-end e-procurement, the entire process is best practice workflow driven, each step flows into the next, no data has to be re-keyed, and no time or productivity is lost. It's more than just requisition tracking, catalog management, EIPP, e-payment, and analysis. Although these technologies, when combined, arguably cover the basic procurement cycle, it's not true end-to-end e-procurement, because these and other components need to be integrated:

How, and where, do you integrate e-RFx when a requisition needs to go out to bid?

1. With the requisition software that collects the request, or
2. With the EIPP system, which sends out the purchase order and receives the invoice?

The same question holds for contract management:

- 1) Do you embed the contract in the catalog system, where orders are made, or
- 2) Do you embed the contract metadata in the e-payment system, to make sure you are paying contracted rates?

In fact, the data is needed in both places.

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## THE END-TO-END E-PROCUREMENT NECESSITY

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The truth of the matter is that without integrated end-to-end e-procurement, you're not going to realize the benefits that e-procurement has been promising, and often failing, to deliver since its inception in the nineteen nineties.

E-procurement was touted as the cure to all of your organizational spend ills - a way to reduce manual processing (and manpower devoted to tactical tasks), to speed up procurement cycle time, and to ensure cost savings were captured through contract compliance. However, how do you capture manpower savings if you have to use, and re-key data in, multiple systems? How do you achieve cycle time reduction benefits if an error is made and not caught and an order gets lost in System A when it should be in System B? How do you know if you're paying contract rates if the contracted rates aren't captured? More importantly, how do you know you even received what you're paying for, or if what you received matched what you ordered, without a multi-way match between purchase order, goods receipt, invoice, and contracted rates - which requires tight integration between the components that implement the various parts of the e-procurement process.

If the goods or services being ordered don't have fixed prices, but instead are priced using a "best-price" or "discount off of standard price" mechanism, as many contracts are priced, how do you know that the rates you are getting through a catalog management system are optimal? How often does the supplier update catalog prices? How often does the supplier change SKUs? How many versions of the catalog does the supplier maintain? Some suppliers maintain a different version of the catalog for every client, and only update the master regularly. Others shift SKUs every time a component changes, even if the change is as minor as shifting the 2GB memory chip in the standard desktop PC configuration from one supplier to another. Others still only provide the promised discounts as "rebates", and still use antiquated systems which are not integrated, so there's no guarantee that all your orders will be credited unless your system accurately tracks them and automatically provides an invoice for promised rebates on a monthly basis. Without an integrated end-to-end e-procurement system, you cannot track, and enforce, preferred pricing and suppliers.

In addition, how do you know that 'best price' as reported by the supplier has any relationship whatsoever to external benchmark prices for the item? How do you know, without a trend analysis, whether 'best price' has obeyed the standard falling price curve associated with certain items (like PCs)? Without integrated end-to-end e-procurement that allows for integration with external content and analyses, such as might be conducted with your spend analysis system, you will have no way of knowing if the 'best price' is indeed the 'best price'.

How do you avoid turning the e-procurement system, and its inevitable punch-out to supplier catalogs, into a free-for-all for essentially uncontrolled and unmanaged spending? Without an



integrated end-to-end system that can enforce rules, limits, and preferred suppliers, you could find that spending actually increases as a result of an e-procurement implementation when it should be decreasing.

The fact of the matter is that traditional point-based e-procurement systems can actually cost you money. Since the full process is not supported, and multiple systems require data to be re-keyed, they don't bring the labor and manpower savings that many vendors promise. The lack of automation actually creates more work than it saves. Plus, the inability to define rules-based work-flows across the process, as well as the lack of user buy-in for a system that adds more complexity than it eliminates, actually increases the opportunity for maverick spend. Fully integrated end-to-end e-procurement will solve these issues.

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## END-TO-END E-PROCUREMENT BENEFITS

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Integrated end-to-end e-procurement brings with it a host of benefits that improve process efficiency, increase organizational effectiveness, facilitate collaboration with suppliers, and optimize control over demand and spend. When these benefits are combined, the net result is 100% spend visibility – the ultimate key to achieving and maintaining organizational savings.

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### IMPROVED PROCESS EFFICIENCY

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According to Aberdeen Group<sup>1</sup> research, e-procurement reduces the average requisition to order cycle by two thirds, from 11 days to 4.4 days in a typical organization. However, in addition to just cycle time reduction, an integrated end-to-end e-procurement system will also allow you to automatically detect shipping errors, eliminate invoice overpayments, eliminate tax overpayments, reduce fraud, identify un-deposited checks and spend more time on strategic issues.

#### *Automatic Detection of Shipping Errors*

An integrated system can automatically compare goods receipts to purchase orders and determine if the shipment matches what was ordered, and automatically alert the purchasing department, the supplier, and even the third party shipping company (if a return needs to be made) of any errors.

#### *Elimination of Invoice Overpayments*

An integrated system can automatically compare invoices to goods receipts to purchase orders to contracted rates and insure that you only pay for what you received and that you pay at the rate that was agreed to.

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<sup>1</sup> *E-Procurement: Trials and Triumphs, October 2007*

#### *Elimination of Tax Overpayments and Rebate Identification*

Tax rates can be coded into the integrated system and the reconciliation mechanism can determine if the tax charged is correct and, if not, compute the correct tax. Furthermore, if the system is integrated with third party tax tracking systems, purchases eligible for rebates can be automatically identified and the relevant details sent to the global trade systems that handle the rebate retrieval process.

#### *Fraud Reduction*

If all purchases have to go through the system and all purchases are subjected to rules, workflows, and authorizations when out of bounds, it becomes impossible for a less-than-scrupulous employee to charge personal expenses to corporate accounts or executives to make payments to shell companies for services that are never delivered.

#### *Un-deposited Check Identification*

An integrated system can identify all invoices marked as paid by check and compare them against all received payments imported from the accounts receivable file and then identify which invoices do not have corresponding payments in the receivables file. Furthermore, it can also detect when a promised rebate or refund payment hasn't been made by the supplier.

#### *More Time for Strategic Issues*

Users create their own requisitions. Data does not need to be re-entered. Overcharges are automatically detected. Payments can be scheduled. Your team is able to spend their time dealing with problems, performing analysis, and insuring that rebates are received and "best price" agreements are adhered to.

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## GREATER ORGANIZATIONAL EFFECTIVENESS

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Not only does an integrated end-to-end e-procurement system increase process efficiency, but it also contributes to organizational effectiveness as a whole. Organizational costs become transparent, auditing ability and regulatory compliance are greatly improved, collaboration increases, and the skill levels of your procurement team increases as well.

#### *Transparent Organizational Costs*

All employees can access the system and see what available products and services cost before making a requisition.

#### *A Foundation for More Collaboration*

Since everyone is able to use a common system, there is a portal where all users can come together to collectively agree on demands, requirements, and processes.

### *Regulatory Compliance*

Managers can insure that only approved goods and services from approved suppliers are enabled in the system.

### *Auditability*

Every transaction is date- and time-stamped every step of the way through the process. All users are authenticated and an audit trail of every action that takes place is logged and accounted for.

### *Improved Skill Levels*

Integrated end-to-end e-procurement enables best-practices and appropriate work-flow templates that automatically increase the knowledge and skill level of your purchasing professionals each time they use the system.

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## INCREASED COLLABORATION WITH SUPPLIERS

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Not only does end-to-end e-procurement increase collaboration within your enterprise, but it also increases collaboration with your suppliers by enabling increased visibility into supplier performance, better supplier relationship management, faster dispute resolution, and controlled supplier proliferation within the enterprise.

### *Increased Visibility into Supplier Performance*

This is especially valuable from a financial perspective. Are suppliers shipping what is ordered? How many returns need to be made (as a result of quality issues)? Are they charging appropriately? Are they adhering to contracts?

### *Better Supplier Relationship Management*

Disputes are resolved easier and faster, more performance issues are caught and corrected faster (and before they become major problems), and there is constant visibility into invoice and payment status (as well as on-time payment performance), which is what suppliers care about most.

### *Improved Data Accessibility*

All of the information is available at your buyer's and the suppliers' fingertips.

### *Controlled Supplier Proliferation*

Without good visibility into procurement and spend data, there is a good chance that an organization fails to realize just how many suppliers it is doing business with. Often, the number of suppliers with whom an organization is actually doing business is much greater than the number of suppliers the organization thinks it is doing business with. Good visibility enables an organization to see how many suppliers it is doing business with and arms the organization with the information it needs to rationalize its supply base.

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## IMPROVED CONTROL ON DEMAND AND SPEND

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Improved process efficiency, greater organizational effectiveness, and increased supplier collaboration all provide greater control over demand and spend. However, having a common system to centralize spend has additional benefits such as greater visibility into demand, improved inventory management, greater adherence to budgets, better cash management, and, most importantly, significantly reduced maverick spending.

### *Significantly Reduced Maverick Spending*

Each and every employee can find out who the preferred and contracted suppliers are, what the contracted goods and services are, and easily place orders for those goods and services. Furthermore, every off-contract requisition can be flagged and tracked.

If policies are put in place which state that spend which is not put through the system will not be reimbursed and / or departments that do not use the system will be penalized, then maverick spend can be almost eliminated.

### *Greater Visibility into Demand*

With greater visibility into spend comes greater visibility into demand.

### *Improved Inventory Management*

Greater visibility into demand and shorter execution cycles lead to reduced requirements for large inventories, which reduces costs and minimizes the chance of inventory obsolescence.

### *Greater Adherence to Budgets*

Budgetary constraints can be taken into account when constructing rules and work-flows, and purchases that are beyond approved amounts, or that would cause spending to go over budget, can be flagged and forced into an authorization queue.

### *Better Cash Management*

Since an e-procurement system automates payment as well as processing, in addition to giving an organization anytime-visibility into the status of each invoice, an organization can choose when it wants to pay. If a supplier offers a discount for early payment, the organization can choose whether it wants to pay early to take advantage of this discount or whether it would be better served by waiting until the due date and applying the cash to other purchases or operational needs in the interim. Similarly, if the invoice is not in the local currency, the organization can choose to watch the market and hedge its bets as to whether it wants to pay now, next week, or when the invoice comes due.

## 100% SPEND VISIBILITY

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A properly implemented end-to-end e-procurement system simplifies purchasing to the point where people want to use it, which increases the amount of spend that is put through the system, as well as the quality of spend data that is available. This increases the amount of spend that the purchasing team has visibility into, which allows the organization to leverage their purchasing power for every commodity with every vendor.

This, of course, implies increased **spend under management** which is the ultimate key to achieving significant savings in any procurement organization. Not only does it insure that spend is with approved suppliers for approved goods and services at contracted, or 'best price', rates, but it also ensures that the organization has the visibility needed into spending to do meaningful spend analysis, which allows the organization to identify which categories are the most likely to yield returns in a sourcing effort.

**Upon an initial implementation of an e-procurement system, an average organization increases spend under management by 35% almost overnight, from 48% to 65% according to Aberdeen Group<sup>2</sup>. Similarly a best-in-class organization that implements end-to-end e-procurement will see spend under management increase by 59%, to 82%, almost instantly.**

*This, of course, all leads to one undeniable benefit: **REALIZED SAVINGS**. The average organization with a complete e-procurement implementation saves an average of 4.8% on spend, and Best-in-Class organizations do even better. And saving money is what e-procurement is supposed to be all about in the first place.*

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<sup>2</sup> *E-Procurement: Trials and Triumphs, October 2007*



An average savings of 4.8% might not seem that significant, but when you consider that most organizations spend between 60% and 80% of their revenue on materials and services, and that only payroll, permanent wages, and current rental and leasehold payment spend isn't applicable to e-procurement, a savings of 4.8% can lead to an increase of anywhere between 10% and 100% on EBITDA, depending on industry and spend breakdown. Furthermore, in an industry that goes through boom and bust cycles, it can easily decrease losses in a bust year by 6% to 8%, which not only decreases the amount of loans the business needs to keep operating, but also significantly decreases the amount of interest the business will have to pay back when profits start flowing during the next boom cycle.

To illustrate both the dramatic increase in earnings e-procurement can bring, as well as the significant loss prevention it achieves, consider the following four examples of an average soft drink manufacturer, iron ore mining corporation, women's and girls' sew apparel contractor, and gold ore mining corporation, as calculated from the 2002 US Economic Census Data (tables 1 and 2 below). We see that, had the average soft-drink manufacturer upgraded to a modern end-to-end e-procurement system, it would have seen a 33% increase in EBITDA, while the average iron ore mining corporation would have seen a whopping 106% increase in EBITDA just by saving an average of 4.8%. On the other hand, the apparel contractor and gold ore miner who were in a down cycle would have seen their losses decrease by 6% and 8% respectively. In other words, no matter what the economic climate, an integrated and properly implemented and applied end-to-end e-procurement system will always save considerable money.

**Example Implementation Effects of e-procurement:**

	(K)	Soft Drink Manufacturer		Iron Ore Mining Corp.	
		<b>Ind. Avg.</b>	<b>4.8% Savings</b>	<b>Ind. Avg.</b>	<b>4.8% Savings</b>
<b>Revenue</b>	Gross	\$ 108,236	\$108,236	\$ 4,090,772	\$4,090,772
<b>COGS</b>	Materials	\$ 59,191	\$ 56,379	\$ 396,415	\$ 377,585
	Resale Costs	\$ 5,835	\$ 5,558	\$ 99,935	\$ 95,188
	Fuel	\$ 296	\$ 282	\$ 38,617	\$ 36,783
	Electricity	\$ 504	\$ 480	\$ 63,786	\$ 60,756
	Perm. Wages	\$ 3,270	\$ 3,270	\$ 141,258	\$ 141,258
	Contract Wages	\$ 315	\$ 300	\$ 308,294	\$ 293,650
<b>SG&amp;A</b>	Payroll	\$ 10,385	\$ 10,385	\$ 296,571	\$ 296,571
	Cap. Exp.	\$ 5,057	\$ 4,817	\$ 1,140,372	\$1,086,204
	Rentals	\$ 502	\$ 502	\$ 77,566	\$ 77,566
	Power	\$ 7,629	\$ 7,267	\$ 1,294,317	\$1,232,837
	Services	\$ 855	\$ 814	\$ 12,631	\$ 12,031
	Other	\$ 2,558	\$ 2,436	\$ 67,982	\$ 64,753
<b>EBITDA</b>		\$ 11,839	<b>\$ 15,745</b>	\$ 153,028	<b>\$ 315,990</b>
<b>Improvement</b>			<b>33%</b>		<b>106%</b>

**Table 1: Example Implementation Effects of e-procurement (based on 2002 US Economic Census Data)**

**Example Implementation Effects of e-procurement:**

	(K)	Women's & Girls' Apparel		Gold Ore Mining Corp.	
		Ind. Avg.	4.8% Savings	Ind. Avg.	4.8% Savings
<b>Revenue</b>	Gross	\$ 425	\$ 425	\$ 17,507	\$ 17,507
<b>COGS</b>	Materials	\$ 58	\$ 55	\$ 5,884	\$ 5,605
	Resale Costs	\$ 6	\$ 6	\$ -	\$ -
	Fuel	\$ 5	\$ 5	\$ 738	\$ 703
	Electricity	\$ 4	\$ 4	\$ 1,047	\$ 997
	Perm. Wages	\$ 152	\$ 152	\$ 2,757	\$ 2,757
	Contract Wages	\$ 22	\$ 21	\$ -	\$ -
<b>SG&amp;A</b>	Payroll	\$ 220	\$ 220	\$ 4,491	\$ 4,491
	Cap. Exp.	\$ 5	\$ 5	\$ 1,294	\$ 1,233
	Rentals	\$ 12	\$ 12	\$ 103	\$ 103
	Power	\$ 55	\$ 52	\$ 16,520	\$ 15,735
	Services	\$ 3	\$ 3	\$ 58	\$ 55
	Other	\$ 12	\$ 11	\$ 604	\$ 575
<b>EBITDA</b>		\$ (129)	\$ (121)	\$(15,989)	\$(14,747)
	<b>Improvement</b>		<b>6%</b>		<b>8%</b>

**Table 2: Example Implementation Effects of e-procurement (based on 2002 US Economic Census Data)**



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## AN END-TO-END E-PROCUREMENT PLATFORM

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An integrated end-to-end e-procurement platform, at a minimum, has the set of core capabilities and critical features described below.

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### CORE CAPABILITIES

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An end-to-end e-procurement platform will have ten core capabilities:

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#### 1. Requisitioning, Approval, and Purchase Order Generation

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The system allows any user to create requisitions for required goods and services. If the goods and services are on the approved list (on contract or from an approved vendor) and within pre-approved limits, then the requisitions will be automatically approved and converted into purchase orders which are automatically sent to the suppliers. If not, the requisition will be directed to an appropriate purchasing professional and approving authority that can choose to approve or deny the purchase order, and enter a reason.

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#### 2. Order Tracking and Receipt Generation

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The system allows all outstanding purchase orders to be tracked, queried, and automatically accessed when the order arrives for matching and receipt generation. If anything is missing, or anything delivered that wasn't ordered, the user is immediately informed.

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#### 3. Electronic Invoicing, Multi-way Match, & Reconciliation

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The system is capable of accepting electronic invoices, automatically retrieving associated goods receipts, purchase orders, and, if necessary, contract terms and conditions to insure that the invoice is only for goods and services received at the rates agreed to in the purchase order and / or contract.

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#### 4. E-Payment Integration Capability

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The system should support any and all e-payment platforms you have available to you - including electronic check / ACH, P-cards, and third party electronic payment platforms. Furthermore, it should automatically detect rejected transactions, and alert the appropriate individuals, as well as duplicate payment attempts, and prevent them.

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#### 5. Catalog Integration, Punch-Out & Agent Support

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An e-procurement system is useless if nobody uses it, and unless it's easy to find the goods and services they need, your colleagues are not going to want to use it. Thus, it's critical that it integrate with your catalogues, third party catalogues, and punch-out and agent-enabled web-sites. It should also allow your sourcing team to define custom products and services in your internal catalogue, and it should allow users to define custom products and services in requisitions, to make sure that all organizational spend can be captured in the system.

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## 6. Custom Workflow, Rules, and Alerts

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An e-procurement system provides the greatest value when it automates the mindless and emphasizes that which we have to be mindful of. It should allow you to build rules that automatically approve on-contract purchases for regularly required goods and services under a certain amount, that route all requisitions over a certain amount to the necessary individuals for approval, and that automatically decline off-contract requisitions for items for which there are contracts in place. It should allow you to automatically accept for payment any invoices that match goods receipts and purchase orders within a certain tolerance, automatically reject any invoices for goods or services not delivered, and automatically bring to your attention any invoices for goods and services received that are not within a certain tolerance of the expected amount for manual resolution. It should alert the catalog administrator when a contracted rate for a certain good or service is expiring and when new SKUs are detected.

In order to obtain maximum value from your assessment, the e-procurement system needs to support the work-flows that match your business processes and the rules that maximize the performance of your procurement team.

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## 7. Buying Templates

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The platform should not only support catalog integration and custom work-flows, but also templates for standard purchases. If your office manager orders toner, paper, pens, post-it notes, and binders every month, then he/she should have a template to just pull up that is already filled in with the preferred items from the preferred vendors at the contracted rates - and that only requires the quantities to be entered. Similarly, for each product being produced, engineering will have standard buys that they need to make on a regular basis. It should also support the creation of partially empty templates that define the proper way to request off-contract goods and services to insure that the request is accepted, automatically entered into the right workflow, and processed in a timely fashion.

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## 8. Reporting and Key Performance Indicators (KPIs)

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The platform should natively support a full suite of reporting capabilities on all elements of usage as well as export file formats that make it easy to get the data into your business intelligence and spend analysis tools for further analysis and reporting. It should track basic KPIs on utilization (requisitions and purchase orders created, invoices received, total spend, number of users, and total number of suppliers, etc.) as well as derived measures (invoices processed per FTE, cost per invoice processed, first time match rates, error rates, and total dollar value of overpayments prevented, etc.), compliance measures (percentage of purchases on contract, total dollar value of purchases off of contract, and percentage of purchases with preferred supplier), and performance (days payable outstanding, on-time payment performance, and average number of days to resolve disputes, etc.).

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## 9. Self-Service Supplier Portal

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Your procurement team probably spends too much time responding to supplier inquiries regarding shipment status, invoice status, and payment status and too much time retrieving lost purchase orders, goods receipts, and documentation regarding disputed amounts. The e-procurement system should include, or support, a self-service supplier portal where, at a minimum, a supplier can log in at any time and retrieve all of their outstanding purchase

orders; status updates on all outstanding invoices including whether they are under review, in dispute, or scheduled for payment (on a certain date); copies of goods receipts issued; organizational buying policies; and, if relevant, notices of any upcoming bids or auctions they have been invited to. Suppliers should also be able to self-administer contact and address / location information for their own profile.

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## 10. Integration Points for e-Sourcing

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The system should support (touch-point) integration with the spend analysis, e-negotiation (e-RFx and e-auction), and contract management components of your e-sourcing system. E-procurement delivers savings, it does not identify them. E-sourcing identifies savings, but does not deliver them. Often, it is a request that identifies a need that should be handled through e-RFx or e-auction, and such a request should be easily transferred to the e-sourcing application; the contracted rates are defined in the contracts, and associated meta-data, stored in the contract management system; and the best opportunities are often identified through a spend analysis project on organizational spend, which is captured in the e-procurement system. The best results are obtained not only when your e-procurement system is integrated end-to-end, but when it allows for the easy flow of data back and forth between your e-sourcing applications at the appropriate touch-points.

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## CRITICAL FEATURES

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An integrated end-to-end e-procurement system needs to have, at a minimum, the following features, which are key to widespread adoption.

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### 1. Usability

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The user interface needs to be intuitive, attractive, and conducive to the purchasing process. Otherwise, users will resist the system and attempt to bypass it at every opportunity.

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### 2. Multi-Currency Support

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Today's organizations operate and buy globally -- and not all contracts and associated pricing will necessarily be in the home country currency of the user. You could have a US employee buying off of a German contract in Euros or a French employee buying off of a Japanese contract in yen. The system needs to understand multiple currencies and support current exchange rate tables that allow prices in the local currency to be calculated and displayed in real time. Otherwise, the buyer will not know what is the best buy today and accounts payable will not know whether they should pay now or, depending on the currencies future market, wait and pay later (but still within the net terms) to get the best price.

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### 3. Data Interchange Standards Support

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Not only does the platform need to be connected end-to-end and support integration with the logical touch-points with the sourcing platform(s) to maximize efficiency and value

gained, but it should also support integration with your accounts payable and ERP systems. Unless the platform supports one or more common data interchange standards, such integrations will be difficult, time-consuming, and costly at best.

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#### 4. Security

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There are a number of reasons why a good e-procurement system needs world-class robust security - but three of the most important are the facts that it is deployed over the internet, involves the creation of legally binding purchase orders, and involves the electronic transfer of payments. It is critical that only authorized individuals be allowed to access the system, create purchase orders, and, most importantly, authorize electronic payments.

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#### 5. Scalability

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The platform should be able to grow as your organization grows without any issues with respect to the number of users or volume of activity put through the system, either via searches, purchase orders, invoices, or payments - even if your entire staff has a habit of getting their orders in during the last half hour of the day.

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## THE END-TO-END E-PROCUREMENT CHECKLIST

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How do you know whether or not a system qualifies as an end-to-end e-procurement platform, and that the platform will deliver the benefits it is promising? A quick way to identify a system that is not true end-to-end e-procurement is the ten question checklist in Appendix "A". If you answer "no" to any question on the checklist, the system is not an integrated end-to-end e-procurement system and it would be challenging to realize the full benefits that true e-procurement is capable of providing.

However, in evaluation of a system based on the checklist, a negative to only one or two of the questions doesn't mean it is not a good system for what it was designed to do. It may allow the business to realize the vast majority of the benefits that e-procurement can deliver. For example, it might be the case that very few, if any, of your purchases qualify for tax rebates and the additional cost of obtaining the tax tracking capability and filing for the rebates might not be beneficial when compared to the losses that maverick spend on difficult categories represents. It might also be the case that the e-procurement system includes basic RFx capability, eliminating the need for integration with your e-negotiation platform. Generally, any requisition not covered by a contract is a one-time buy and not the foundation of a sourcing project.

However, if the system does not support 3-way match and most of your suppliers do not have good EIPP systems and have to create invoices by hand, or if many of your contracts have complex pricing terms, it's probably the case that at least 5% or 10% of your invoices have errors, which could be costing you upwards of 1% to 3% in invoice overpayments annually, therefore making this functionality critical. Extracting a significant amount of value from a system that only failed one or two questions on the checklist may be satisfactory, however, even a single "no" might cost the business dearly and the risk should be considered.

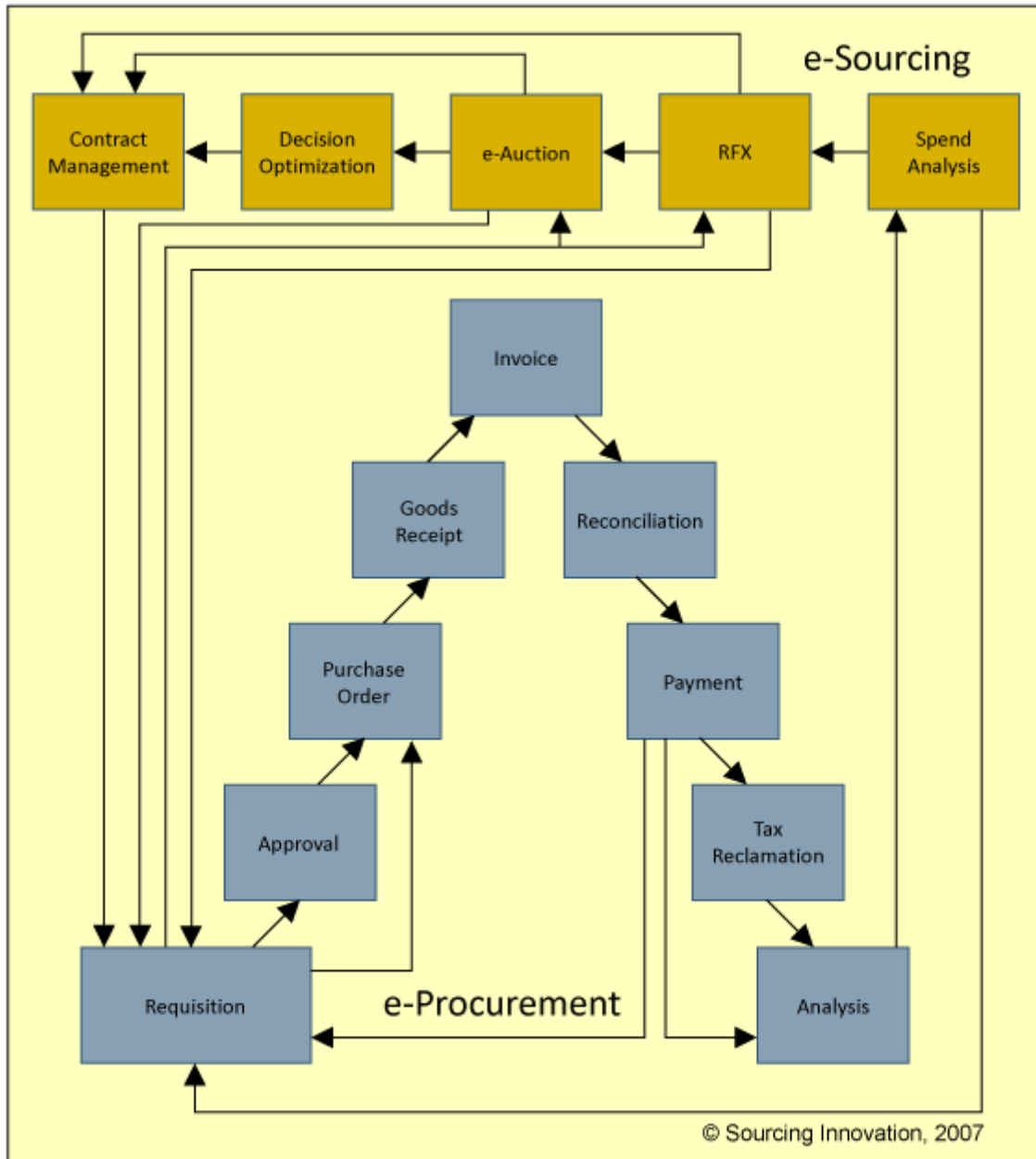
**Refer to Appendix "A" - The End-to-End e-Procurement Checklist**

## KEY INTEGRATION POINTS

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A review of the basic process helps to clarify where the key integration points are between the various components of the e-procurement platform, the companion e-sourcing platform, and other platforms that may be in use by an organization. We'll start with the basic flow described by Sourcing Innovation™, which is pictured in Figure 1.

The process starts with a requisition, which then proceeds to an authorization if the request is for a purchase that is off-contract and / or beyond the requester's spend limit, a purchase order if the request is on contract, or an RFX or auction if the request is for a (new) good or service that the organization does not have a contract or buying policy for. The requisition might be created with the aid of the catalog management system, which the user will browse to identify goods and services in the request.

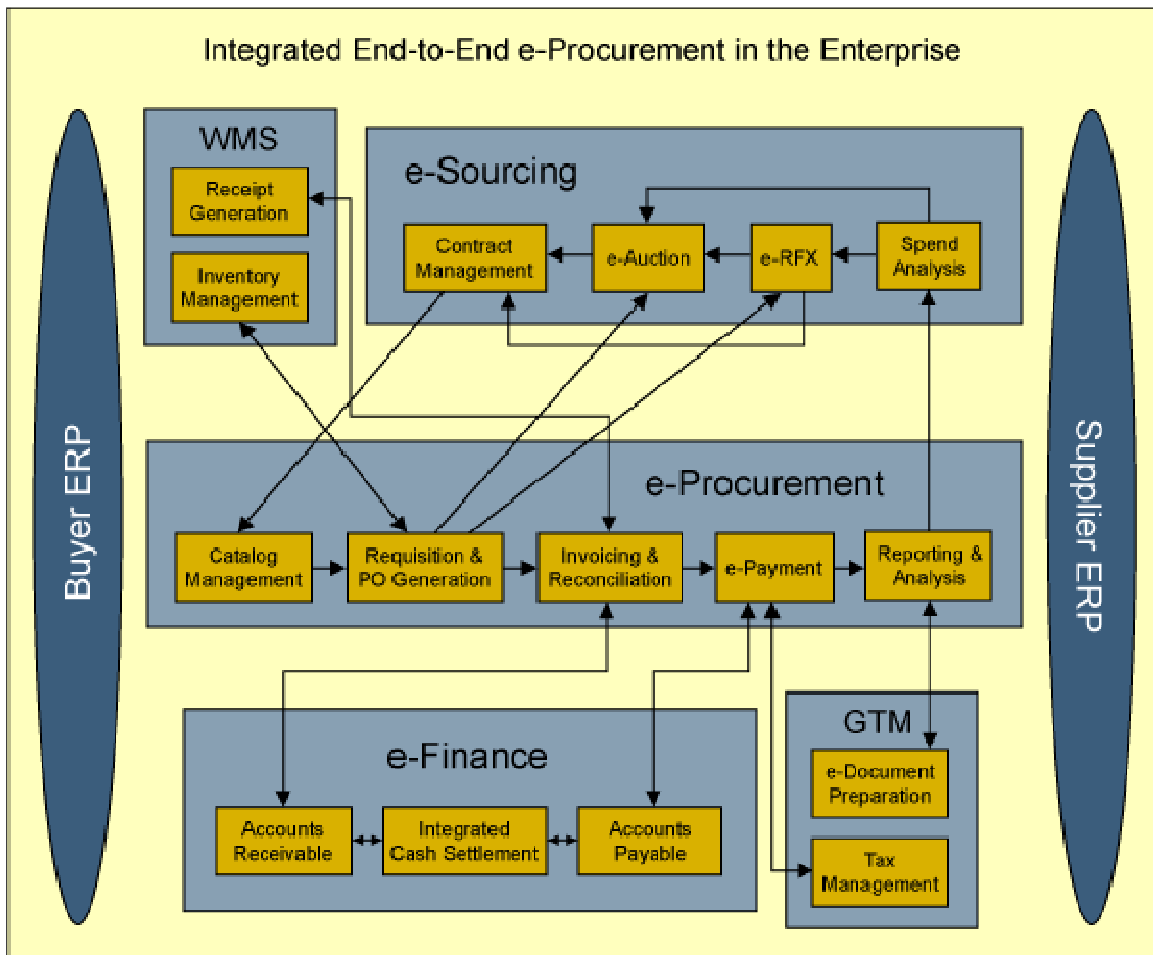


**Figure 1: The Sourcing - Procurement Cycle**

Once a purchase order is created, the process pauses until the order is received and a goods receipt is generated. Then, the invoice, which usually arrives between shipment and the generation of the goods receipt, is processed and reconciled with the goods receipt, purchase order and, if necessary, original contract. If the invoice is correct within a small tolerance, it will automatically be marked for payment. If not, it will be queued for manual processing where it will either be rejected and returned to the supplier, accepted with corrections, or accepted as-is and marked for payment.

The payment engine will either schedule an invoice to be paid automatically on the preferred date or add the payment to a queue where a budget or cash management expert will select the preferred date depending on whether or not there are early payment discounts, potential losses due to currency fluctuations, or late payment penalties. If the invoice contains one or more tax components, details will then be sent to a tax tracking and reclamation module in the accounting package. Once the payment is made, complete transaction details will be added to a data warehouse that is used by the application and external analysis packages for metric generation, reporting, and spend analysis.

From this description of the basic process, we are able to identify internal and external integration points that should be enabled by an integrated end-to-end e-procurement platform. The end result is that the e-procurement system becomes the central hub of the enterprise supply chain technology architecture as pictured in Figure 2.



**Figure 2: End-to-end e-procurement and the Enterprise Supply Chain Architecture**

**INTERNAL INTEGRATION POINTS:**

- *Catalog management with requisitions and purchase order management:*  
A user should be able to create a requisition in the catalog management system.

- *Invoice processing with the order, receipt, and contract pricing data repositories:*  
This is necessary for multi-way matching and proper reconciliation.
- *E-payment with the rules engine, invoice, and purchase order data repositories:*  
This is necessary to insure that each payment is appropriately identified and made for the correct amount.

#### *EXTERNAL INTEGRATION POINTS:*

- *Catalog management with contract management:*  
The catalog system should be able to retrieve current prices, or price definitions, at any time to populate or verify catalog prices.
- *E-Payment with accounts receivable, accounts payable, and tax processing:*  
The integration with accounts receivable is to catch refund and rebate payments owed to you for easy tracking by procurement; the integration with accounts payable is to record payments when they are made; and the integration with the tax tracking and reclamation system is to automatically populate it with relevant transaction details.
- *Analysis and reporting with contract management and spend analysis:*  
Pull integration with contract management allows a procurement professional to have visibility into which contracts are expiring, and push integration with spend analysis ensures that the data is always fresh and accurate.
- *Requisition and purchase order management with e-RFx and e-auction:*  
A user should be able to export the data required to generate an RFX or auction outline from a requisition and then import the data from a finalized e-RFX or e-auction into the e-procurement system and automatically generate a purchase order.
- *Receipt management with warehouse / receiving system:*  
The e-procurement system should be able to pull in receipts from the warehouse / receiving system, even if it's simply through a daily batch export / import process.

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## MAKING E-PROCUREMENT WORK FOR YOU

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Take the following ten steps to success:

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### 1. Secure Executive Support

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Senior executives will appreciate the benefits of end-to-end e-procurement – and they can help minimize the potential change resistance that the organization may face. Executive endorsement will be crucial to successful change management.

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### 2. Understand the Drivers for Change

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A successful e-procurement implementation starts with a deep understanding of why the system is needed and the benefits it will bring. Make sure there is a clear understanding of



the inefficiencies, costs, and problems the organization is currently facing, as well as the improvements the system will bring.

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### 3. Understand where e-Procurement Fits in the Big Picture

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E-procurement is benefit delivery, not benefit generation. E-procurement increases efficiency, improves cash management, reduces inventory requirements, and slashes maverick spending. This is all valuable (especially in organizations that typically only see 30% to 60% of negotiated savings realized), and often represents a process and prevented over-payment savings of 2% to 5% in many organizations, but the largest contribution of a properly implemented and heavily used e-procurement system is a centralized, clean, data store that provides a solid foundation for spend analysis and e-sourcing -- which can often deliver savings opportunities on many spend categories in the 5% to 15% range when there is an e-procurement system in place to capture and enforce the negotiated savings.

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### 4. Re-engineer Business Processes with Cross-Functional Teams

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There are multiple reasons for doing this, but it basically boils down to (1) most organizational processes are not as efficient as they could be, (2) the current processes were designed for pushing paper, and (3) new systems allow for improved, more efficient processes. The reason for a cross-functional team is because the processes need to work for all affected parties, not just the day-to-day purchasing team or accounts payable organization. In addition, it's the best way to make sure colleagues throughout the organization understand the system and the benefits it can bring.

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### 5. Select an Integrated Solution

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Remember, without an integrated end-to-end e-procurement solution, the promised benefits will never materialize. Furthermore, be sure to integrate it with your sourcing process and solutions at the appropriate touch points.

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### 6. Open It Up to the Entire Organization

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Everyone who needs to obtain goods and services should be able to search for contracted and approved goods and services, create requisitions, check on their status (in the queue, approved, in shipment), enter goods receipts, and run reports on their activity at any time.

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### 7. Focus On Compliance

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Almost everyone touts cost savings or efficiency as a reason why you should get behind their project. It's pretty much a standard rule of business. But how many people can claim compliance - with contracts, business policies, and regulations if you use this system. Right or wrong, this is the number one reason many people are going to get behind the implementation and use of a common, standard, integrated end-to-end e-procurement system.

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### 8. Implement Incentives

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There's a big difference between understanding the value of a system, committing support to a system, and actually using the system.

The best way to insure the system gets used is to convince management to base part of everyone's performance evaluation, and the criteria for bonuses and raises, on procurement system utilization metrics. If an employee's bonus is tied to what percentage of purchases go through the system and the amount of hard-dollar savings that the company realizes as a result, you can be virtually guaranteed of successful adoption.

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## 9. Involve Your Suppliers

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A good e-procurement system has complete catalogs available to buyers and self-service supplier capabilities that are actually used by suppliers. Involve your suppliers early to make sure that it is easy for them to provide you with catalog information in a format that is compatible with your system (whether it is flat-file, web-based database access, punch-out, or agent-based web-site access) and that the self-service capabilities provide them with easy answers to all of their common inquiries.

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## 10. Define Appropriate Metrics

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The old adage of "what gets measured, gets managed" applies in e-procurement - but more importantly, good metrics will allow you to zoom in on weaknesses in the system or processes and get them fixed quickly, which will prevent savings leakage. Considering that e-procurement is only capable of delivering benefits, this is a key requirement to achieving the benefits that are promised, but that also fail to materialize, with traditional e-procurement systems.

## APPENDIX A: END-TO-END E-PROCUREMENT CHECKLIST

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### **1. Are your buyers able to easily create requisitions for the goods and services they need by way of an obvious user interface with integrated search capability?**

If they can't, chances are that your buyers are bypassing the system and maverick spend is rampant in your organization. Aberdeen Group's<sup>3</sup> recent e-procurement benchmark report found that 39% of spend in an average organization without an e-procurement system is off-contract. That's 39% of the savings negotiated in every contract that will never be realized the day the contract is cut. (And a major reason why most organizations fail to realize as much as 70% of negotiated savings.) The simple act of implementing an e-procurement system reduces maverick spend in an average organization by 41%, and in a best in class organization by 45%. The maverick spend reduction alone allows another 16% to 22% of your negotiated savings to be captured and realized.

### **2. Does your e-procurement solution allow you to define approval work-flows for requisitions based on the total value, line items, and approval chain?**

If not, there is a good chance that even your best intentioned buyers, unaware of their approval limits or recently signed contracts, are buying off-contract with unapproved suppliers on a regular basis. In this scenario, maverick spend will be quite high.

### **3. Are you able to deliver purchase orders, purchase order changes, purchase order requests, and goods receipts electronically to your suppliers?**

If not, your cycle time is likely to be at least three times longer than it should be and order expediting is probably a regular occurrence as orders are likely being misplaced by your suppliers on a regular basis until a buyer calls in a panic. This, of course, erodes any freight savings you will have negotiated with your preferred carrier.

### **4. Are you able to receive and process electronic invoices?**

If not, you're probably spending between \$30 and \$100 processing each and every invoice, when you should be spending between \$3 and \$5.

The fact of the matter is that, as stated in Aberdeen Group's<sup>3</sup> recent e-procurement benchmark report, an average organization without e-procurement spends an average of \$60 on each requisition to order cycle, with the bulk of the costs occurring during the invoice processing step. This cost is halved by the simple act of implementing e-procurement, and reduced to one-third in a best-in-class organization. The average cost of processing an invoice drops dramatically.

### **5. Does your e-payment solution integrate with your electronic invoice processing solution?**

If not, human error is creeping in on a regular basis and this is eroding your expected process savings as it is still a long, laborious, manual process to track down errors and resolve disputes.

### **6. Does your electronic invoice processing solution allow for at least a 3-way match between purchase order, invoice, and goods receipt, and preferably a 4-way match between purchase order, invoice, goods receipt, and contract terms?**

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<sup>3</sup> *E-Procurement: Trials and Triumphs, October 2007*

Some statistics claim that as much as 70% of negotiated savings from any sourcing effort you undertake will never be realized. Significant savings erosion occurs in an average organization due to maverick spend, order expediting, and over-payments as a result of over-charges. Unless you can insure that each purchase is on contract when one exists, that each purchase order is based on contracted rates, and that each invoice is only for goods actually shipped and received at contracted rates, you'll find your savings slip away. Due to the huge volume of purchase orders, goods receipts, and invoices that flow through an average organization, the only way to insure this is with 3-way and 4-way matching.

**7. Are you able to capture the tax information that accounts receivable needs to recover taxes you may be eligible to reclaim?**

On some products, taxes that you are eligible to recover can be significant, often in the 10% to 20% range. If you're not recapturing all of the taxes a supplier has to charge that you're eligible to recover, any savings your sourcing team negotiated could literally disappear overnight. Since you'll only be able to recover these taxes if your accounts receivable experts have all of the data, it's easy to see that without a good e-procurement system, the opportunity will quickly be lost.

**8. Are all purchase orders, goods receipts, invoices, and payment transactions stored in a central repository that can be queried and exported in part, or in full, for spend analysis at any time?**

The average savings of 4.8% achieved from a properly implemented e-procurement system might sound pretty good, but this is pocket change compared to the average savings of 12% achieved from an e-auction on an appropriate category, or the average savings of 13.5% obtained when strategic sourcing decision optimization is also applied. However, selection of the proper category for a sealed-bid negotiation, e-auction, and optimization project requires solid spend analysis - which requires complete spend data that is only available if you have an end-to-end e-procurement system that captures all of the relevant data.

**9. Is your e-procurement solution integrated into your e-negotiation platform (where e-negotiation refers to e-RFx and e-auction technology) so that a requisition can be used to quickly instantiate an RFX or e-auction project when appropriate?**

If not, your cycle time is probably twice as long as it needs to be and unnecessary transcription errors are probably being made in 5% to 10% of projects, negating some of the process savings e-procurement was designed to achieve.

**10. Is your e-procurement solution integrated into your Contract Management solution so that a user can quickly pull up a contract when a discrepancy is found or suspected in an invoice?**

If not, your dispute and discrepancy cycle time is probably at least twice as long as it needs to be, but more importantly, contracts are likely only being checked when there is a supplier dispute, and not when something looks like it might be off. Considering that some errors, such as overcharges on computer equipment under a "best price" contract, will not be found if no one looks for them, it's hard to say just how much money is being left on the table, but chances are that it's a significant amount.