

by Michael G. Lamoureux, PhD
Editor, Sourcing Innovation



The Direct Material Procurement Challenge:

An Indirect Tool for Direct Procurement is Mission Improbable - Direct Procurement Requires Different Capabilities.

These days, just about every vendor is selling a sourcing or procurement “suite” that they are claiming will revolutionize your sourcing and procurement, just like it did for Company X that is saving 10%+ year-over-year on their top n categories. But will it do the same for you?

The short answer is maybe, maybe not. The reality is that just like not all categories are equal, not all sourcing and procurement suites are equal. Some are custom designed for indirect purchases, finished commodity CPG (Consumer Packaged Goods), MRO (Maintenance, Repair, and Operation), Transportation, and supplies, and work extremely well on these categories. Others are custom designed for services and temporary labor, and can help you understand, and acquire, the right resources at the lowest fully burdened cost. But very few are designed for direct procurement of components and raw materials needed to support your manufacturing and related processes where cost is only one of the critical factors as material/component compatibility, compliance, quality, reliability, and CSR (Corporate Social Responsibility) is just as important, if not more so. Moreover, whereas all an indirect sourcing platform has to support is items and lots, direct sourcing requires detailed cost breakdowns across multi-level bill of materials, which is just not supported in the majority of platforms designed for indirect sourcing. And this is just the tip of the iceberg.

Plus, just like no one ever got fired for buying IBM, no one ever got blood on their hands as the result of a poor indirect sourcing decision (except, of course, the blood they spilled when they gave themselves a paper cut signing and sending the paper contract). The same can't be said in direct sourcing. As we will discuss, poor direct sourcing decisions have resulted in dozens of deaths (and hundreds of injuries) on a number of occasions. If that's not enough of a reason to make sure you have the right sourcing platform, what is?

The Classic Procurement Lifecycle: Cost-Centric Perfect for Indirect

By now, we're all familiar with the „core“ capabilities of e-Sourcing and e-Procurement tools, namely:

- Spend Analysis
- Supplier Network
- RFX / e-Auction
- Optimization
- Award and Contract

... for Sourcing and

- Requisition & Order Management
- Invoice & Receipt Management
- Payment & Tax Management

... for Procurement

- Requisition & Order Management
- Invoice & Receipt Management
- Payment & Tax Management

and we're all familiar with the standard 5-step sourcing process

- Category (Spend) Analysis
- Category (Sourcing) Strategy
- Supplier Identification & Invitation
- Sourcing Strategy Execution
- Award and Contract

which is concluded when the Sourcing team

- throws it Over-the-Fence to e-Procurement.

And we're even familiar with the strengths that each phase, and supporting technology has to offer.

(Category-Focused) Spend Analysis

- total spend and volume by supplier, geography, category, and product
- year-over-year changes, trends, and associated shipping/inventory costs

(Multi-Round) (Optimization-Backed) (Weighted) RFX

- sourcing by product, lot, and collection of lots
- cost breakdowns into unit, transportation, tariff, tax, and related indirect costs
- weights and simple formulas to compare bids across suppliers

(Optimization-Backed) (Weighted) e-Auction

- support for standard reserve price, sealed bid, Dutch, Yankee and other formats
- masking, automatic time increments, real-time feedback, and other useful mechanisms for real-time auctions

Supplier Network enhanced with Supplier Information Management

- supplier portal, (self) registration, and data management
- scorecards with delivery, reject rate, and other internal data measures
- supplier discovery and communication

Contract Management

- contract creation
- contract archive, meta-data indexing, and search
- alerts and milestone management

Each of these capabilities, and benefits, are great. They are more than sufficient for indirect and services Procurement. They have been used, sometimes with great success, for direct categories. But, are they enough for Direct Procurement in general? (Hint: The answer is a resounding NO.)

The Direct Procurement Lifecycle: Supplier-Centric and the Only Solution for Critical Categories

In our last section we reviewed the classic Procurement lifecycle, which hasn't changed much since the introduction of the first e-Sourcing and e-Procurement suites in the late 1990's. It worked great when it was introduced (as anything is better than fax, spreadsheet or e-mail), but as time has passed, these classic

solutions that were designed primarily for indirect and simple direct (finished goods) have started to show the cracks in their armor. Moreover, some of these cracks are getting so large that one more strike could disintegrate the armor.

Why? First of all, these solutions do not capture a number of the key requirements for successful direct procurement. These requirements, if they are supported at all, are only supported to a limited extent in the MRP (Manufacturing Resource Planning), IMS (Inventory Management System), or old-school manufacturing systems that are only available to a few and not supportive of the sourcing and procurement teams at all. We will discuss these requirements in detail, but first we need to point out that these solutions don't even support the appropriate procurement lifecycle.

A key difference between indirect and direct is that in direct, it can't come down to simply cost. When buying materials and components for manufacturing, they have to meet stringent specifications, at a minimum level of quality and reliability, and be deliverable on-time every-time as a single production line shutdown can cost more than an organization could ever hope to save with even the most sophisticated sourcing event.

Quality, reliability, safety, delivery, etc. all come down to the supplier and its performance. In fact, when you analyze all of the requirements, and risks, around direct raw material and component sourcing, you see that the most important factor is not the cost, but the supplier, and the sourcing lifecycle, which traditionally revolved around cost reduction and avoidance technologies, now has to revolve around supplier lifecycle management technologies. RFX, optimization, contracts, and analytics often take supporting roles to technologies for supplier identification, qualification, on-boarding, information tracking, performance management, development, relationship management, and innovation.

The six step sourcing process, which was very technology driven, now becomes a six-step supplier management process which is very process driven. In particular, the sourcing cycle is now:

- Category Supplier Strategy
- Supplier Qualification
- Supplier Sourcing Strategy
- Supplier On-boarding
- Supplier Management
- Supplier Development

And each of these phases requires special capabilities not found in traditional sourcing platforms for successful execution. In particular:

Category Supplier Strategy

While the high-level strategy is often the same from one sourcing event to the next from an internal view point (RFX worked well with the 4 suppliers that are incumbent and / or previously qualified to supply the products in-line with organizational specifications), the details change on market dynamics. For example, if a raw material is becoming rare, the goal will be long term lock in. If a raw material is now in abundant supply, and new suppliers are available for pre-processing, a more aggressive strategy may be pursued. As a result, more detailed market intelligence tailored to the strategy is required, and more in-depth category knowledge is required. This doesn't necessarily dictate additional platform capabilities, as the strategy can always be decided offline, but it is important to note that most indirect sourcing platforms will not integrate

the necessary market intelligence, and will not have a question-based wizard walkthrough that can guide a buyer to the right strategy.

Supplier Qualification

Qualification requires a full 360 analysis based on internal and external market intelligence. As a result, a key feature is:

- integrated supply market intelligence
- detailed 360 supplier scorecards with supporting scorecards by product

Supplier Sourcing Strategy

Regardless of the strategy chosen, which will typically be a multi-round RFX, typically weighted, sometimes optimization or analytics backed, but which may be an e-Auction for products where there are multiple suppliers that score equal and where the risk is lower, a number of very specific capabilities will be needed.

- bill of materials support since lots are NOT enough
- (what-if) cost breakdown analysis (with complex formula support) as costs are not fixed

Supplier On-boarding

When the supplier is selected, the supplier needs to be on-boarded. This is more than just having the supplier fill out a profile or sucking in some data from D&B. Extensive profiles, product and production details, insurance and compliance certifications, etc. are required. Some of this will need to come direct from supplier systems.

- EDI, WebEDI, and XML standards support to integrate, and keep up to date, all the data that is required
- deep supplier portal that allows a supplier to manage their complete profile, product and production offering, certifications & insurance certificates and that grants a supplier access to all of the platform capabilities offered by the buyer

Supplier Management

Once the supplier is on-boarded, and the day-to-day Procurement against the contract begins, the supplier needs to be managed. This will require:

- development plan management that collects all performance metrics and monitors against KPIs
- dispute resolution, corrective action management, and APQP (Advanced Product Quality Planning)

Supplier Development

This is more than a simple request for better quality management and a decreased defect rate, less late deliveries, or more cost reductions. Requests for improvements in direct material categories often include a request to improve processes, increase purity, or modernize production processes. This may require:

- PDCA support (Plan-Do-Check-Act)

- Product Lifecycle Management (PLM), inc. POM (Product Orderability Matrix), DM (delivery management), DAE (Document Archive Environment), etc. with embedded collaboration

But the list of key requirements, not often found in typical indirect sourcing platforms, does not stop here. Direct Sourcing also requires supply chain management. This also requires:

ERP Document & Contract Management & Exchange

Direct Materials are required to support manufacturing and manufacturing is managed by the ERP and/or MRP system. It's critical not only that all sourcing and procurement data get in, but that all related documents - drawings, CAD/CAM diagrams, insurance certifications, regulatory approvals, contracts, and so on - also make their way into the ERP/MRP system.

Purchase Order Management

A good Direct Procurement system has exceptional purchase order management. It can automatically deliver the purchase orders to suppliers using EDI, WebEDI, and XML protocols, as required. It can automatically receive and processes purchase order acknowledgements and advance shipment notifications and then flip the purchase orders into invoices. It can maintain complete audit trails if change requests are made and new versions issued.

Quality Management

The quality management system is the glue that connects all the dots. It sits between SCM and SRM and the RFx/Sourcing process in that poor supplier quality needs to make it into the SRM/Scorecard process which in turns factors into Sourcing decisions which results in direct material orders that need to be managed to ensure quality and reliability. Furthermore, if quality is not up to snuff, in order to define an appropriate corrective action plan, quality needs to be well documented and well understood. In most typical Procurement systems designed for indirect sourcing and procurement, quality is simply a single score given by an account manager, but in reality, quality is a multifaceted issue that differs across products, categories, needs and suppliers and only a system designed for direct procurement will capture these nuances.

VMI

In order for a direct materials vendor to efficiently and effectively serve its clients, it at least has to at least be up to date on its clients' inventory requirements, and will often have to help customers manage inventory levels appropriately to insure that they do not stock out on critical materials and components that will bring down a production line. The best way for them to do that is with an interface that they can use to help their client appropriately manage inventory levels.

Master Data Management

Between sourcing, procurement, supply chain management, production, inventory management, and distribution, there is a lot of data - a lot of data - and it all has to be synched and kept up to date. In an average large manufacturing organization that has a sourcing and procurement system, an ERP/MRP, an inventory management system, an analytics system, and pin-point best-of-breed solutions for specific needs, each of these systems will have replicates, or at least pieces of, every Procurement related record and all of these will need to be synched continuously.

Certain projects will require even more customized features than the ones discussed in this paper so far, but these fifteen (15) features are almost always necessary, and all of these are rarely, if ever, found in standard indirect sourcing platforms

The Direct Procurement Challenge: Does Your Platform Pass?

In the last section we outlined fifteen (15) core platform capabilities that were always required for direct procurement. While a few of these features will be found in your average sourcing platform, the reality is that most will not. That's why -- before you allow the indirect sourcing team, IT, or the C-Suite -- to dictate a Procurement solution, you need to insist that the organization take the direct procurement challenge and determine the extent to which a platform will actually support the organization's direct procurement. While it's likely that any platform preferred by the indirect sourcing team, IT, or the C-Suite (because of executive relationships) will be a great indirect solution (and solve every problem the indirect sourcing team has and then some), chances are that most (if not all) of these platforms will not be appropriate for direct sourcing. When you take the indirect sourcing challenge, chances are the organization will collate results that are similar to the following:

Requirement	Indirect Platform	Direct Platform
Supply Market Intelligence	D&B, Bureau van Dijk, or CreditSafe Integration	Integration with risk data, CSR, and third party auditors
360 Supplier Scorecards	Scorecards limited to risk data, OTD, defect rate, and internal surveys	Scorecards encapsulate all external data, delivery data, quality data, performance data, corrective action data, development and innovation data
Bill of Materials	NO BoM Support	Deep multi-level Bill of Materials Support
Cost Breakdown Analysis	Limited to ancillary costs (shipping, taxes, storage, etc.)	Deep cost breakdown support across the bill of materials which allows costs to be broken down across components, the production process, distribution and inventory management, and overhead
EDI, WebEDI, & XML	XML data exchange only	XML, EDI, and WebEDI and direct integration into supplier systems
Deep Supplier Portal	RFx, invoice management, and communication	RFx, invoice management, communication, corrective action management, cost breakdown support, catalog management support, development and innovation plan contribution, document exchange, and VMI among other capabilities
Development Management	NO Development Management	Development plans, innovation plans, document management, full audit trails, collaboration capability
Dispute Resolution	Simple message-based communication dispute resolution	Support for standard processes, full audit trails, associated plan and project management

Requirement	Indirect Platform	Direct Platform
PDCA	No PDCA support	Continuous improvement initiative support
PLM	No PLM support	Integrated project management and product lifecycle management from cost breakdown analysis and BoM definition in the sourcing phase to production and inventory management in the supply chain phase to quality management and return management in the support phase
ERP Document Exchange & Management	NO ERP Support	Integration with ERP document/contract management with locking, checkout, and versioning, restricted to approved parties
Purchase Order Management	Web-based PO disbursement, web-based PO flip to invoice	Automated distribution using EDI, WebEDI, or portal; acknowledgment and change management; automated flip to invoice on ASN and invoice association
Quality Management	RMA & account credit request, maybe	APQP, sample test reports, standard 8D & QDX complaints report; goods issue docs
VMI	NO VMI Support	Embedded inventory and VMI support
Master Data Management	MDM limited to supplier data and catalog data	MDM for all organizational data across the ERP and integrated sourcing, procurement, and supply chain management systems with automated push and pull

In other words, while the table above should clearly demonstrate that a full-featured direct platform can always be used for indirect sourcing, an indirect sourcing platform cannot support a complex direct sourcing project. Trying to fit the large round direct sourcing peg in the small indirect sourcing square hole is just asking for failure.

For example:

A well-known direct procurement failure was the Sony Laptop Battery recall of the late 2000's as a result of batteries literally bursting into flames. This impacted Dell, Apple, Lenovo, Toshiba, and Fujitsu; resulted in the recall of over six million laptops and ten million batteries; and created over 500 cases of property damage. Sony ended up losing over \$430 million in a 3 month timespan and took a hit of almost 40% against its annual profit forecast.

And while it is an oldie, it's still a goodie that we can't forget - Nike. As a result of an ERP and inventory planning implementation failure in 2000, which it blamed on i2, Nike experienced a \$100M Profit shortfall and 20% stock drop. It's pretty bad, but not the worse supply chain failure in history as the result of an overly aggressive ERP and automation project failure. That distinction belongs to FoxMeyer, a \$40 Billion company back in the 1990's that went bankrupt in 1996 as the result of a failed 65M ERP project.

In other words, don't let your direct sourcing platform be chosen at the mercy of the indirect sourcing team. Major loss and even bankruptcy could result. And to make matters worse, while no one ever died from a paper cut (which is the most blood an indirect sourcing professional has ever seen), people have died from production line accidents and oversights as a result of poor quality products, materials, and operations.

For example, consider the Peanut Corporation of America (PCA) which had to shut down in 2009 after a massive outbreak of Salmonella Typhimurium linked to its products left the company bankrupt after it had to undergo the most massive recall in history. The situation was worsened by the fact that executives had knowingly released contaminated product onto the marketplace for almost six years.

In 2003, a manager ordered the substitution of one brand of peanuts with another before the corporation received the results of testing (which would reveal the presence of Salmonella in the product on eight separate occasions). They not only failed to tell the customer of the change, but also failed to inform the customer of contaminated products in any of these instances. This continued undetected for three years until a customer notified the company in 2006 that the product received tested positive for salmonella. PCA's response was that there was no salmonella (despite tests to the contrary) and it continued to ship tainted product.

Finally, in 2008, the first victim of what becomes a massive salmonella outbreak falls ill, but still the company continues to ship. By the time PCA does a recall in 2009, 9 people have died and 691 people have suffered.

But this is not the only case in Direct Procurement where a significant number of people have died. A year later in 2010, there were 18 attempted suicides with 14 confirmed deaths at FoxConn, Apple's main supplier, as a result of working conditions. The working conditions were described as labor camps in an 83-page report on FoxConn that was compiled by 20 Chinese Universities. Management was called inhumane and abusive, discrimination was said to be common, and hours were too long.

Direct Procurement Platforms Win

Not only will a direct procurement platform prevent this doom and gloom, but it will contribute substantially to your bottom line. Ever since CAPS Japan released its 2009 Study on Front-End Loading: Supply Management and New Product Development in Japan, we've known about the power of involving Procurement early in NPD and Manufacturing. In this market leading report, CAPS listed 11 case studies across electronic equipment, transportation equipment, machinery, heavy construction, and other business and consumer goods categories that involved Procurement early. In each case where Procurement was heavily involved, the company saw improvements, which included:

- in the case of a wholesale trade company, Procurement was key to ensuring speed to market, high quality, and a good reputation in a build-to-order market;
- in the case of a car parts company, an up-front reduction in product lifecycle with the expectation that the average lifecycle of seven to eight years would be reduced to four years over time; and
- in the case of an electronic equipment manufacturer, an annual 10% reduction in net product cost, a 93% reduction in rejection rate, and a 50% reduction in new product development time and cost.

In Closing:

You wouldn't use a Chihuahua to herd sheep, so why are you trying to use a mouse to herd cats (which is mission improbable anyway)? (This is exactly what you are doing if you try to use an indirect sourcing plat-

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form for direct sourcing.) If you want to do direct sourcing right, get a platform built for direct sourcing. This platform, which will push your value engine into overdrive, will not only increase your efficiency and effectiveness, but deliver more value than you can ever imagine.

Authored by

Michael G. Lamoureux, PhD
Editor, Sourcing Innovation



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POOL4TOOL AG
Altmannsdorfer Straße 91/19
A-1120 Vienna
Tel.: +43-1-80 490 80
office@pool4tool.com
www.pool4tool.com