

Sourcing Lifecycle Management (SLM): A New Dawn for Direct Sourcing

by Co-exprise
November 5, 2007

Table of Contents

Table of Contents	1
Summary	2
The Supply Chain Management Space	3
Enterprise Resource Planning (ERP) & Manufacturing Resource Planning (MRP)	4
The Failings of ERP / MRP	4
Strategic Sourcing Technology	5
The Limitations of Today's Strategic Sourcing Technology	6
Product Information Management (PIM) and Product Lifecycle Management (PLM) ..	7
Product Information Management (PIM) is not The Solution	8
e-Procurement, EIPP, & P2P	8
e-Procurement Needs to be Integrated	9
Supplier Relationship Management (SRM), Supplier Performance Management (SPM), and Supplier Information Management (SIM)	10
Supplier Management (SXM) is the Key to Continued Success	10
Total Quality Management (TQM)	10
TQM Must Not Be Used in Isolation	11
Enter Sourcing Lifecycle Management	11
The Building Blocks	12
Primary Technologies	14
Cost Models and Collaborative Bill of Materials	15
Negotiation Methods	15
Visibility Based Spend Analytics	15
Contract and Order Management	16
e-Procurement	16
Supplier & Quality Management	17
The Full Picture	17
Key Benefits	18
Productivity	18
Better Spend Management	19
Compliance	19
Continuous Improvement	20
The Co-exprise CX4 Solution	20

Summary

Sourcing Life-cycle Management (SLM) is the latest solution to address the Supply Chain Management (SCM) space. The difference between SLM and other technologies in the SCM space is that it takes a holistic view of the cradle-to-grave sourcing process with a strong focus on the unique aspects of direct sourcing - aspects which are largely ignored by most sourcing solutions on the market today.

In addition to decreasing product life-cycles, increasing product complexity, skyrocketing raw material and labor costs, and global talent shortages, direct sourcing has its own unique challenges. Manufacturers have to manage high-level components and sophisticated assemblies with high labor requirements, rich CAD, CAM, and product life-cycle management (PLM) specifications, rapid new product introduction (NPI) cycles and time-consuming product part approval processes (PPAP). Then there are the complexities introduced by low cost country sourcing, environmental directives, and IP/specification protection.

These challenges are only amplified by traditional sourcing and procurement systems that have been designed and optimized for indirect sourcing and are not equipped to handle the PLM complexities that lie at the heart of direct material sourcing. Furthermore, the quick and temporary fix of using a product information management (PIM) solution in conjunction with a sourcing solution doesn't address the problem. It just doubles the work as users have to use two separate systems. Complex assemblies require sophisticated bids that are broken down into part, labor, transportation and assembly costs - requirements that are beyond the simple-bid and lot-based reverse auction market actions of traditional sourcing systems.

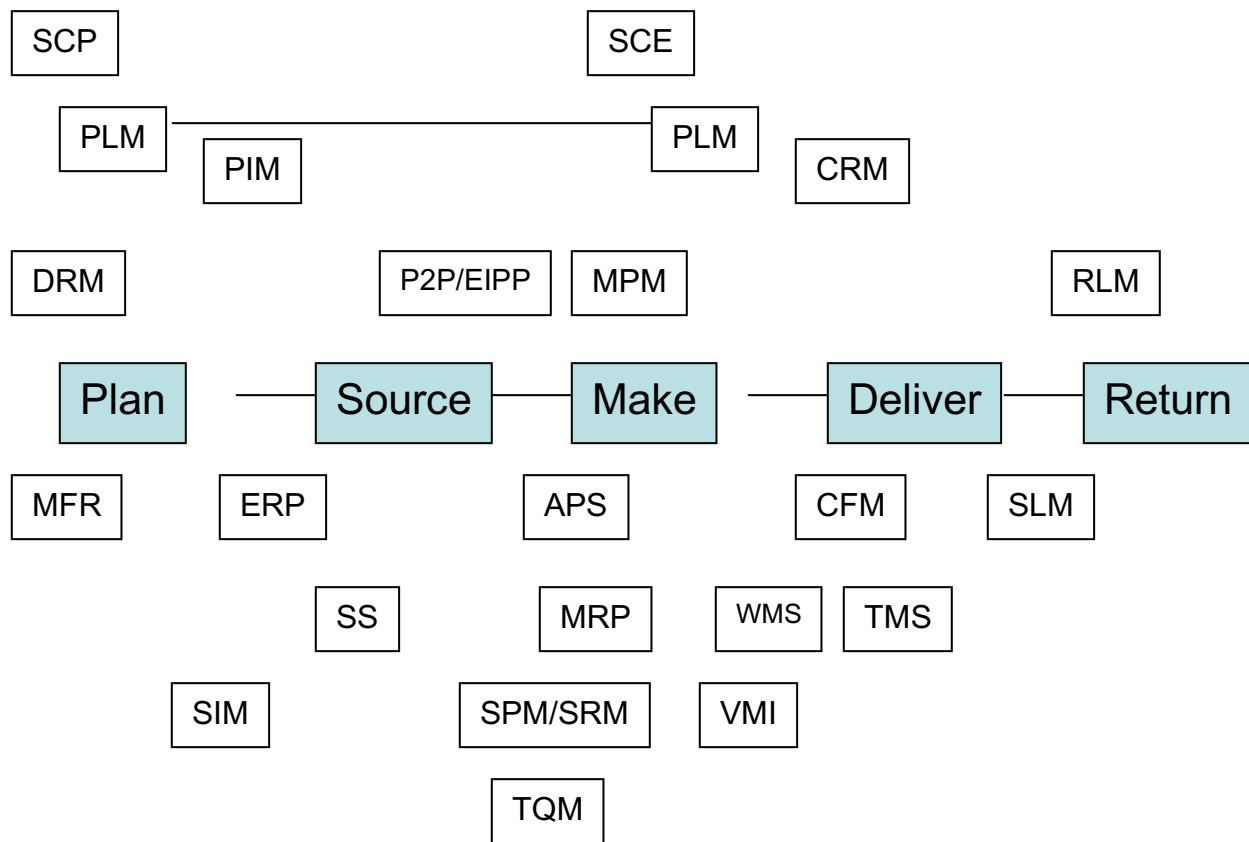
The fact of the matter is that an approach which cobbles together existing e-Sourcing, e-Procurement, PIM, supplier management and TQM technologies in an attempt to solve the unique challenges of direct sourcing is always going to fall short. That's why SLM, a new dawn in enterprise technology, is required as it is the first solution to integrate business processes that were always meant to go together but became siloed by the introduction of ERP.

After reviewing existing technologies and explaining where they fall short, this white-paper describes SLM in detail, the core building blocks that the technology is built on, and the primary technological capabilities a SLM solution offers. It then describes the unique benefits of a solution that enables each step of the direct sourcing process and integrates all of the required capabilities into a single solution. Finally, it concludes with a brief description of the Co-entreprise CX4 solution, the first solution on the marketplace to address SLM as a whole.

The Supply Chain Management Space

Sourcing Lifecycle Management (SLM) is the latest solution to address the Supply Chain Management (SCM) space. The difference between SLM and other technologies in the SCM space is that, unlike its predecessor technologies, it takes a holistic view of the sourcing process from cradle-to-grave with a strong view on the unique aspects of direct sourcing - aspects that are largely ignored in many traditional sourcing solutions.

However, before we can dive into SLM, and how it differs from its predecessor technologies, we need to first review what other technologies exist in the SCM space and then review why they are insufficient, especially from a direct sourcing point of view.



APS - Advanced Planning & Scheduling
 CFM - Customer Fulfillment Management
 CRM - Customer Relationship Management
 DRM - Demand & Revenue Management
 EIPP - Electronic Invoice Presentment & Payment
 ERP - Enterprise Resource Planning
 MFR - Material Forecasting & Replenishment
 MPM - Manufacturing Performance Management
 MRP - Manufacturing Resource Planning
 P2P - Procure to Pay
 PIM - Product Information Management
 PLM - Product Life-cycle Management

RLM - Reverse Logistics Management
 SCE - Supply Chain Execution
 SCP - Supply Chain Planning
 SIM - Supplier Information Management
 SLM - Service Lifecycle Management
 SPM - Supplier Performance Management
 SRM - Supplier Relationship Management
 SS - Strategic Sourcing
 TMS - Transportation Management System
 TQM - Total Quality Management
 VMI - Vendor Managed Inventory
 WMS - Warehouse Management System

One can see from the diagram that the space is quite extensive. However, since Sourcing Lifecycle Management is primarily concerned with sourcing, all of the inputs that are required to flow into the process, and all of the outputs that required to flow out of the process, it is easy to see that only a subset of these technologies need to be addressed from a background perspective. In particular, ERP/MRP, strategic sourcing, PLM/PIM, P2P/EIPP/e-Procurement, SIM/SPM/SRM, and TQM.

Enterprise Resource Planning (ERP) & Manufacturing Resource Planning (MRP)

Enterprise Resource Planning (ERP) is probably the most famous technology in the Supply Chain Management space. With roots dating back to the sixties when systems were needed for inventory control, and the seventies, when the first generation of MRP, known as Material Requirement Planning, was developed, ERP originated in the late eighties, shortly after the introduction of MRP-II, Manufacturing Resource Planning, which is now just known as MRP.

ERP was developed to optimize internal enterprise operations in manufacturing organizations by going beyond just MRP and also tackling human resources management (HRM), accounting, basic commerce, and some aspects of customer relationship management (CRM). The goal of ERP was to cut operating cost, improve productivity, and insure consistent quality levels.

ERP brought many advantages to enterprises that successfully employed the solution. It allowed for quicker information processing and reduced paperwork burdens. It enabled different departments to act independently, as accounting did not have to chase engineering for purchase transaction details, for example. It enabled status queries to be answered quickly and facilitated the payment process. It enabled an organization to get a grip on how much material it was using, and this improved forecasting. Successful ERP implementations greatly sped up and enhanced the reporting processes. It was a good first step, but not at all equipped to deal with today's supply chain challenges.

The Failings of ERP / MRP

ERP was designed to run a business within the four walls of a company. This was fine back in the day when a company literally did everything themselves, from mining the raw material, processing it into refined metals, cutting it into the shapes needed to produce the goods, producing the goods, loading them on the company trucks, and taking them to a retailer's warehouse. As vertically integrated companies became less the norm, due to the down-sizing, right-sizing, and outsourcing trends of the past few decades, the limitations of ERP became more and more apparent.

Thus, the fundamental failing of ERP is unveiled. It is not capable of addressing the entire supply chain. For example, an engine control computer isn't just an input in automotive production - it's a complex assembly in its own right with its own sub-assemblies, each of which contains its own parts and has its own supply chain that needs to be understood, monitored and optimized. An automotive manufacturer that fails to monitor its supply chain and realize there's a severe shortage of specialized GPS processor chips could find that its entire production line has come to a screeching halt without warning (and it wouldn't be the first time something like this has happened).

An ERP system is only capable of adequately tracking and managing what goes on within the four walls of the enterprise. An input doesn't exist until it arrives in a warehouse and gets recorded in the system and an output only exists when it gets sold and loaded onto a truck. This makes it difficult, if not impossible, to manage the sourcing process which has to evolve from forecasting and new product design (NPD) and continue at least through the successful delivery of the last order. That's why sourcing technology was invented.

Strategic Sourcing Technology

As defined in Wikipedia, "*Strategic sourcing is a systematic corporate/institutional procurement process that continuously improves and re-evaluates the purchasing activities of a company. It is one component of supply chain management. While most organizations implement strategic sourcing initiatives for the purposes of saving money, other reasons for implementing strategic sourcing include improving supplier performance and minimizing risk.*" It is about strategic improvement of the traditional tactically-oriented purchasing function as that is where the greatest savings potential, and the greatest impact to the bottom line, exists.

To this end, strategic sourcing has introduced the market to the online reverse auction, or e-auction; online request for information (RFI), request for proposal (RFP), and request for quote (RFQ) technologies - collectively known as e-RFX; spend analysis; decision and award optimization; and contract management.

And the technology has worked - to an extent. Although its initial introduction led to phenomenal results in the indirect, MRO, and services spaces, with many phenomenal success stories with results often in the 30% to 50% range, and an average savings of 10% to 30% depending on the category, the savings were generally not repeatable in subsequent events. Moreover, the results were not nearly as impressive in direct sourcing, as difficult implementation processes and complex operational hurdles often led to maintaining the incumbent supplier at only a slightly reduced price point. In many cases, a better price was identified but the savings associated with such a price identification never made it to the bottom line as supplier replacement strategies fell short with regard to actually implementing the new supply into the direct goods supply chain.

The Limitations of Today's Strategic Sourcing Technology

The problem is that today's sourcing technology was primarily designed for indirect, MRO, services, and off-the-shelf commodity sourcing. Consisting primarily of RFX, reverse auction, and, potentially, some award optimization with the leading providers tucking spend analysis on the front end and contract management on the back end, it was designed to solve the easier problems associated with indirect, service, and commodity sourcing. In the indirect and commodity space, where the specifications are commonly understood and all that is required is a verification of basic requirements and a set of quotes, form-based supplier qualification and simple quote management more than meets the need.

However, in your average traditional organization that creates physical goods and relies on contract manufacturers, most of the spend is not on commodities, MRO, or services but on direct spend for custom created parts and products. These products cannot be procured off the shelf and are, by definition, unique to the goods that are being produced.

Considering that most of today's RFX and reverse auction applications are designed for sourcing commodities and services that can be captured by a single price per unit bid, and not for bids that require a total landed cost breakdowns across parts, components, and assemblies that are described in terms of material, labor, and production overhead costs, the limitations of today's sourcing solutions start to crystallize.

Furthermore, when one considers that their lot-based quoting methods do not support multi-level collaborative bills of material that are common in direct material sourcing, and in particular the complex assembly sourcing found in the aerospace, automotive, high-tech, and medical device sectors, the limitations become even more apparent. Especially when most of today's sourcing suites typically don't support the suite of negotiation methods needed to ensure success of organizational sourcing efforts across a broad range of categories where the right method for the project, and its unique business challenges, needs to be utilized.

Award optimization, especially when it's based on sound decision optimization, is one of the major selling points of today's leading sourcing suites, as it is often the technology that generates the largest returns on investment. However, the technology is only as powerful as the model it supports, which is generally not appropriate for complex direct sourcing problems. The reality is that an optimal solution is only optimal if the model is optimal. Furthermore, the benefits of optimization in direct sourcing are not as pronounced as they are in indirect sourcing. In direct sourcing, the major analytic needs are for make versus buy analysis, since the organization is usually locked into a particular supplier, or set of suppliers, for a complex part or sophisticated assembly. In contrast, in indirect sourcing, the majority of spend can be treated as off-the-shelf commodity spend as the organization is not typically locked into a specific set of suppliers.

Sound spend analysis can be powerful, as it can identify the set of opportunities with the greatest potential for savings, but when it's not integrated into the solution, the analysts often end up doing a lot of work twice. First in the spend analysis tool to identify the opportunity and then again in the sourcing tool to set up the project. Furthermore, if the spend analysis tool is not integrated into the e-Procurement solution, someone has to spend time exporting, cleansing, organizing, and classifying the data before an analysis can even begin. (This last step can be a significant effort if the spend analysis tool does not support a sophisticated, priority-based, rules-based mapping engine.)

Contract management is the key to compliance, but unless it's integrated into your e-Procurement, P2P, or ERP system and is able to monitor each transaction against a contract as it comes in, then it's nothing more than a glorified document repository. When one considers that there are dozens of open-source document management solutions out there, one begins to see how limited the value is in a stand-alone contract management solution relative to the investment that is required.

However, not one of these solutions even begins to address the most difficult problems associated with sourcing direct materials, custom parts, and complex assemblies. Direct sourcing requires sophisticated project management, design and specification management, and collaboration with not only suppliers but the internal engineering and operations team. A problem that many people think can be addressed by augmenting their sourcing solution with a product information management (PIM) solution, but the truth is that PIM is not the answer.

Product Information Management (PIM) and Product Lifecycle Management (PLM)

A Product Information Management (PIM) solution is a solution designed to securely manage all designs, schematics, and documentation related to a product in a central repository that is easily accessible by all stakeholders. It is sometimes viewed as a component of Product Lifecycle Management (PLM) that focuses just on the data management aspects of PLM.

Product Lifecycle Management (PLM), in comparison, is defined by Wikipedia as "*the process of managing the entire lifecycle of a product from its conception, through design and manufacture, to service and disposal*". A PLM solution is focused primarily on managing descriptions, properties, and processes associated with product design, development, and manufacturing throughout a product's useful life, and a PLM solution is predominantly concerned with the engineering point of view. It only addresses the creation process and doesn't touch on the business level intricacies of sourcing or procurement, which is why it is not commonly used outside of an internal engineering organization.

It is important to understand what PIM is, and is not, in the context of PLM, because some vendors will lead you to believe that a PIM solution tacked onto an existing sourcing solution will give you everything that is needed to handle even the most complex direct sourcing problems. However, just as a traditional sourcing platform designed for indirect, MRO, and services is not equipped to handle direct sourcing on its own, neither is a PIM solution.

Product Information Management (PIM) is not The Solution

Although today's on-demand web-based PIM technology has come a long way and is very powerful, as it has been used in conjunction with on-demand web-based sourcing technology to successfully tackle sourcing of custom parts, its limitations rapidly become apparent when one is trying to source complex assemblies of hundreds, or thousands of parts, and each part has its own set of specifications, 3-D solid model designs and 2-D prints (CAD and CAM diagrams). Trying to find the right document in a PIM solution that wasn't built to handle multi-level collaborative bills of material can be equated to finding a needle in a haystack. Not to mention the time wasted by having to switch back and forth between two solutions to find the information needed to answer RFIs and submit quotes.

The true power of PIM technology, and the PLM technology it is derived from, lies in the ability to not only manage all of the design documentation but to also manage the project workflow - a critical capability with respect to direct sourcing. Without a solution to manage the workflow, it will be impossible to make any significant gains in project efficiency due to the large number of tasks and stakeholders that need to be managed. Furthermore, like sourcing, PIM is just addressing the activities that happen up to the award, not the activities that relate to the actual ordering, receiving of, and payment for the goods in question which are usually relegated to e-Procurement. In essence, the combination of PIM with other technologies that address the needs of the sourcing professional has, in many companies, become the quick and temporary fix to a complex business process issue.

e-Procurement, EIPP, & P2P

e-Procurement refers to the electronic implementation of the purchase cycle. Procurement generally starts with a requisition when a need is identified, which may or may not include an authorization, proceeds with the transmission of a purchase order to a supplier, and ends with an electronic payment, and, if applicable, an application for any (value-add) taxes for which the company is eligible for reimbursement. An e-Procurement system will also send a goods receipt to the supplier when the products arrive, accept an electronic invoice, and reconcile the invoice against the goods receipt and purchase order, before authorizing the submission of a payment. Simply put, e-Procurement is the automation of all of the tactical transactional activities that revolve around electronic order management.

e-Procurement includes electronic invoice presentation and payment (EIPP) and procure-to-pay (P2P) technologies, which focus on electronic invoice presentation, processing, and subsequent payment and direct e-payments, respectively. Although these technologies might get a lot of web-play, it's important to not mistake them for end-to-end e-Procurement solutions.

e-Procurement can deliver significant improvements in productivity, and drastically reduce invoice processing costs (as much as 90%), but the real cost savings potential is in strategic sourcing, and not in transaction automation. Furthermore, even though a properly implemented, configured, and utilized e-Procurement system is likely to be the only system to capture the bulk of an organization's transactions in certain spend categories, the value of the data is limited if there's no easy methodology to push the data into a spend analysis system on a regular basis in a consistent manner.

e-Procurement Needs to be Integrated

Most e-Procurement systems today are stand alone systems that accept purchase orders, generate and accept invoices, track goods receipts, do n-way matching between purchase orders, invoices, and goods receipts, and authorize payment. Some e-Procurement systems, and standalone Procure-to-Pay (P2P) solutions, also handle e-Payments through ACH, wire transfers, and p-card payment methods, to name a few. However, that's not where the real value of an e-Procurement system is.

The true value of having an e-Procurement system lies in the ability to store, manage, and track every transaction - the bulk of organizational spend. Purveyors of e-Procurement systems often focus on the fact that they can increase efficiency, decrease maverick spend, and insure compliance. However, unless an organization spends the time and money to integrate their e-Procurement system with their sourcing system, someone has to expend manual labor entering the contract, populating the catalogue, and defining rules to only allow on-contract spend when a contract is available and to generate alerts when an invoiced amount doesn't match a contracted amount.

In other words, the ability to insure each transaction is in compliance is the key to realized cost savings and the ability analyze all the transactions is the key to successful spend analysis. However, neither is realistic without integration into an underlying platform which natively supports spend analysis and contract management, because the likelihood of someone re-keying the data is small. Furthermore, the ultimate key to success in a typical manufacturing organization is not ensuring a sequence of successful transactions, it's ensuring that the goods associated with each transaction are high quality and delivered in a timely manner. At a foundation level, this requires solid supplier management.

Supplier Relationship Management (SRM), Supplier Performance Management (SPM), and Supplier Information Management (SIM)

Supplier Relationship Management (SRM), Supplier Performance Management (SPM), and Supplier Information Management (SIM) constitute the trifecta of supplier management technologies in the marketplace today. SRM deals with the relationship aspect and generally focuses on managing all of the communications and agreements that exist between an organization and its suppliers. SPM deals with managing supplier performance and usually focuses on quality tracking, improvement initiatives, and (balanced) scorecards. SIM advocates that the key in managing suppliers and achieving successful relationships is managing all of the data and SIM systems track all of the information related to a supplier, the products the supplier produces, and the agreements that exist in a central repository that is easily queried.

Considering that a successful sourcing effort doesn't stop with the signing of the contract - but actually *starts* with the contract signing and ends when the last order has been successfully delivered on-time, on-budget, and on-specification, it should be obvious that supplier management, continual supplier performance monitoring, and supplier data management is a necessity. However, improvements based on supplier management alone will be limited if done in a vacuum.

Supplier Management (SXM) is the Key to Continued Success

For supplier management capabilities to be truly effective, they need to be integrated into the sourcing and procurement platform so that performance can be tracked against orders and contracts and appropriate actions defined and executed. Complete histories need to be maintained and instantly available so that lessons learned can be available for future projects. Additionally, results should be archived and instantly included as part of a regular scorecard or review. Furthermore, there's more to performance than just supplier performance, there's also internal performance, and making sure both organizations are in sync with performance and quality requirements post-award. This is where TQM comes into play.

Total Quality Management (TQM)

Total Quality Management (TQM) in general refers to the organizational strategy of embedding quality awareness in key operational contexts. In direct sourcing, it is generally a collection of tools and processes used by an organization to manage the quality aspects of a sourcing decision from the time an award decision is being considered to the utilization of the last delivered component. It's important because it's often the only set of processes and tools an organization has at its disposal to manage all post award activities that lead to the successful realization of a negotiated contract and implemented cost reductions.

The vast majority of e-Sourcing and e-Procurement tools out there do not include any capabilities to manage post-award activities key to realizing the negotiated reductions, beyond making sure that a purchase order for the product or service in question is placed with the contracted supplier. In direct sourcing, it is key that the part or component be delivered on time, in the right quantity, and be of sufficient quality to use in the assembly being constructed. This will often require insuring that suppliers expedite orders if they are late leaving the supplier plant, that supplier corrective actions are initiated if the products are not of sufficient quality (or too many are being delivered defective), and that suppliers understand, and work with the internal engineering department, if an engineering change notification (ECN) needs to be put into force.

TQM Must Not Be Used in Isolation

A TQM toolset may be the best solution out there for post-award contract management, but the value associated with such a toolset is quite limited if the toolset is used in isolation. If multiple supplier corrective actions are required, but these do not get recorded in the sourcing or procurement system, chances are that the sourcing team believes the supplier has a great performance record and that they should weight future sourcing events toward that supplier. This is likely the wrong thing to do if the supplier requires constant hand-holding and refuses to admit that they need improvement or need the buying organization's help.

Furthermore, some of the key concepts of TQM such as fact-based decision making, employee empowerment, and continuous improvement are hard to do if the facts are scattered throughout multiple systems, the employees don't have a system that guides them to – and gives them confidence in – the right decision, and there's no easy way to track how much a supplier has improved since the last corrective action was required. An integrated solution is needed.

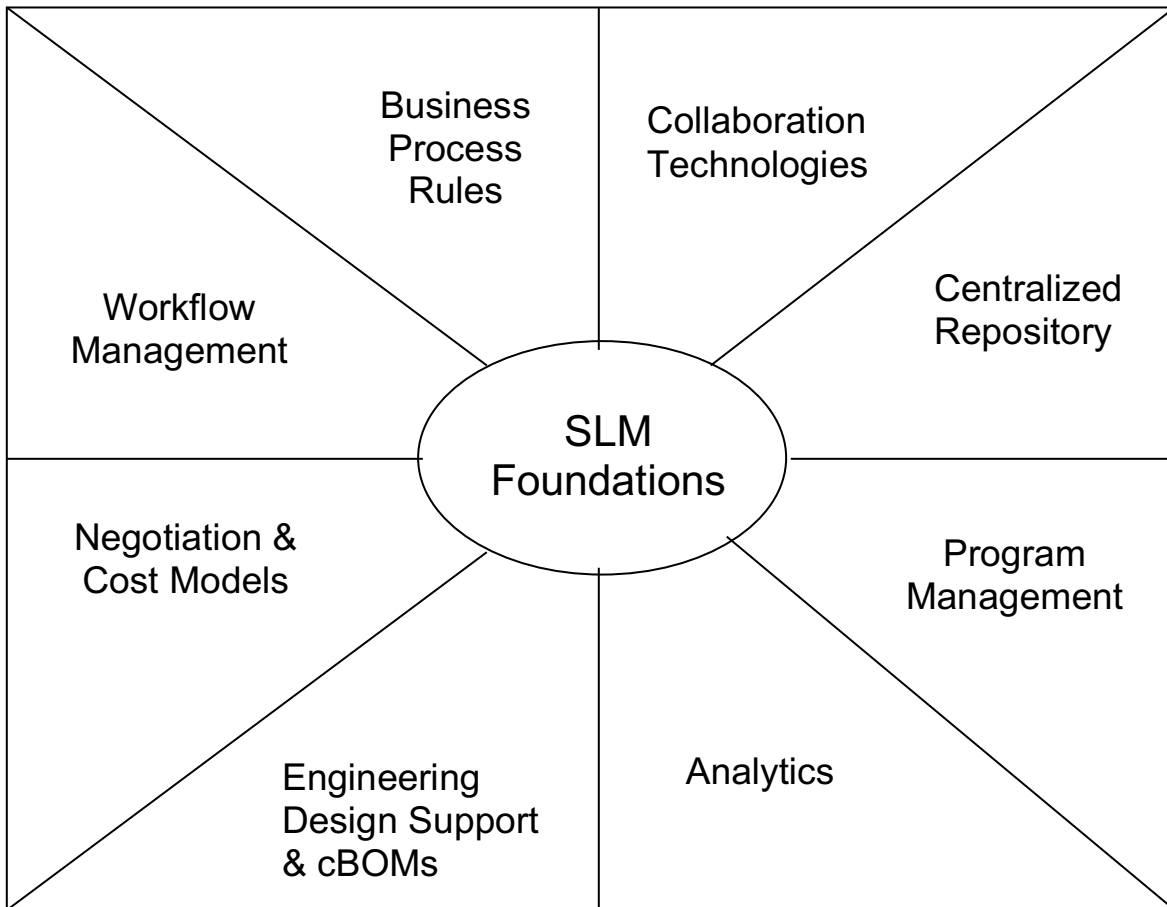
Enter Sourcing Lifecycle Management

Whether they are deployed on their own or as a group, neither ERP/MRP, strategic sourcing technologies, PIM / PLM, e-Procurement systems, supplier management, nor TQM technologies hold the key to successful direct sourcing. Each has their flaws and weaknesses, and even combined they do not address many of the fundamental needs of direct sourcing, especially when one considers custom manufactured parts and complex assemblies. A cobbled together approach of current technologies to attempt to solve the business challenges presented in direct sourcing typically falls short, in that together or apart they do not satisfy the smooth flow of data, documents, and collaborations needed to satisfy the strategic and tactical business processes of both the buyer and the supply partner for the attainment of an optimal result. That's why a new solution is needed, and that solution is Sourcing Lifecycle Management.

Sourcing Lifecycle Management (SLM) represents a new dawn in enterprise technology as it integrates business processes that were always meant to go together, but became siloed by the introduction of the ERP and modern business mantra. Sourcing, procurement, PLM, supplier management, and TQM were always meant to be together - and SLM unifies them into a single process and achieves that goal.

The Building Blocks

The building blocks of Sourcing Lifecycle Management are workflow management, business process rules, collaboration technologies, centralized data, meta-data, and document repositories, program management, analytics, engineering design support and collaborative bills of material, negotiation and cost models - not RFX, auctions, contract management, P2P, or supplier scorecards. RFX, auctions, and balanced supplier scorecards are important technological capabilities, but the power of SLM is in the mesh that not only holds each of the technological capabilities together, but interconnects them in a centralized, unified fashion.



The workflow management, business process rules, and project management capabilities allow a project to be defined with timelines, resources, and commitments, tracked with respect to milestones and task completions, and monitored over its lifetime. It also guides the user through the steps that are required for a successful sourcing project as well as providing easy access to needed documentation, resolutions, and results that need to be obtained and monitored.

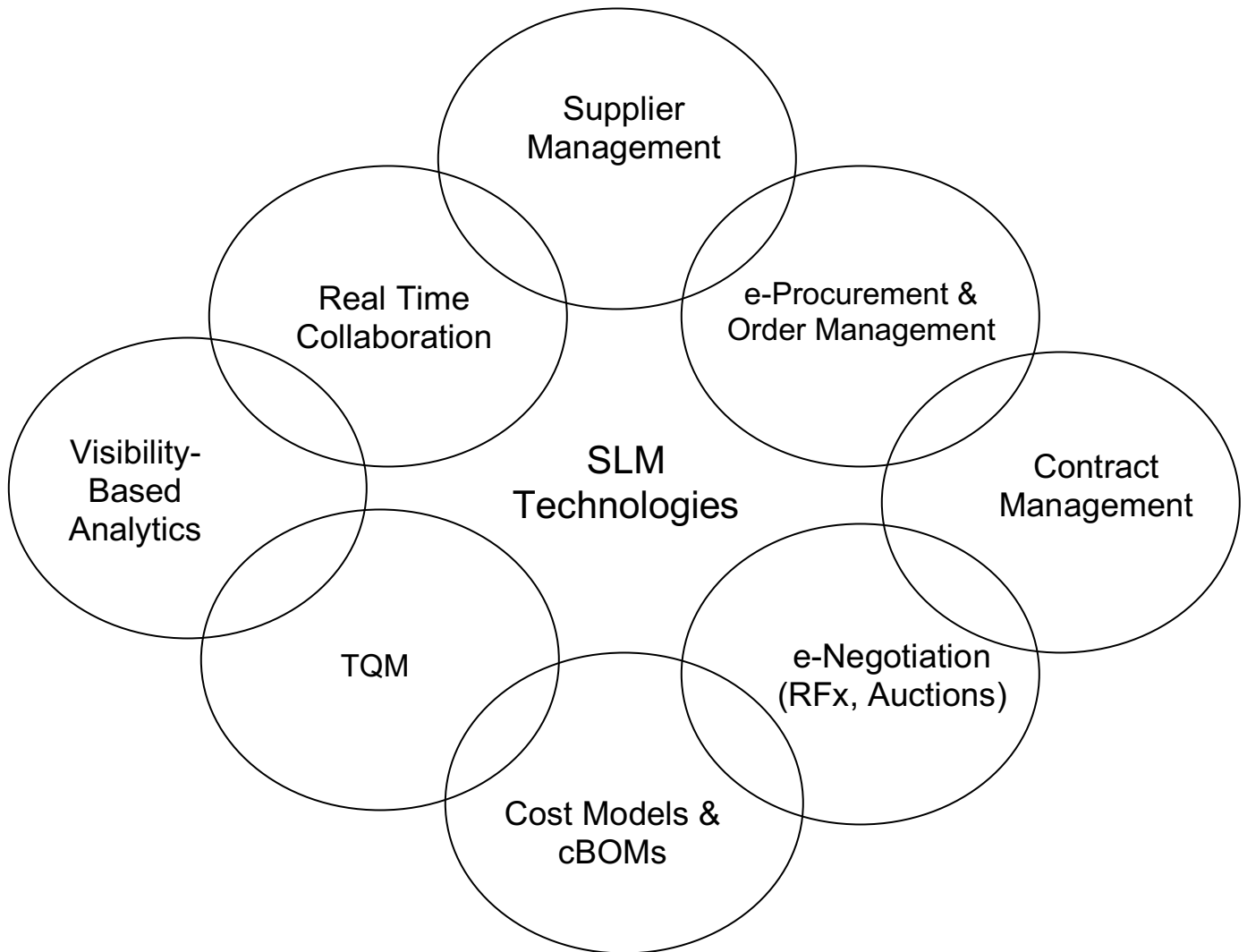
Sticky data, meta-data, and document repositories capture all of the data collected, generated, and amalgamated by the sourcing project. They're different from your standard data repositories in that they are designed to hold the data produced by each technology and not just bids, contracts, or orders. This allows for a holistic view of a sourcing project, and not the piece-meal view generated by a traditional application. Helpful information such as team makeup, supplier profiles, processes, timelines, quotes, negotiation parameters, bid replays, 2D & 3D design documents, and other key data from past projects can easily be retrieved for current or future projects.

Collaborative capabilities allow all of the relevant stakeholders from sourcing, engineering, finance, business partners, and suppliers to come together and collectively work on the sourcing project. The centralized, and automatically populated, collaborative bill of materials, specified by 3-D solid models, enables sourcing projects of arbitrary complexity to be defined accurately and completely. Including analytics at the core enables all types of data to be analyzed and compared consistently and holistically.

Primary Technologies

This section provides an overview of the primary technological components of a SLM solution. Most of these solutions are already found in existing sourcing, procurement, PLM, and MRP solutions, but the difference in SLM is that they are tightly integrated with the other solutions using the core building blocks found in the last section.

Once a project is defined, engineering uses a consistent interface to upload the specification documents, which the suppliers can then access through a restricted view. Collaborative Bills of Material can then be generated from the uploaded documents and used as the basis for RFX-based negotiations. Furthermore, integrated forms technology can be used to gather pricing as well as information on REACH and RoHS compliance. The bids can then be analyzed and compared in the same interface using built in analytics, and once an award is decided, it can be turned immediately into a contract. Everything is integrated – there's no switching between two, three, or half a dozen systems to meet the PIM, sourcing, procurement, and supplier management needs of the direct sourcing project.



Cost Models and Collaborative Bill of Materials

A true SLM platform supports sophisticated cost models that can be coupled with a multi-level collaborative bill of materials that enables a complex assembly to be broken down into its component parts, sub-parts, raw materials, and labor requirements for detailed make-versus-buy analysis at every level of the assembly.

This is an important capability because, without it, there's no way to know whether sourcing a specific part from China is truly the right decision, as often the cost of a complex assembly is not dominated by its component parts, but is in fact dominated by the cost of shipping those parts to a centralized location and then assembling them. Furthermore, additional factors such as labor offset costs for assemblies and subassemblies may vary in their impact as the complexity, size, and scope of the manufacturing process are considered. The reality is that the prevailing worldwide commodity price of the raw materials defining the assemblies may not be the dominant cost components. By providing detailed CBOM capabilities in conjunction with solid models and key documentation at the assembly level, the data to support make-versus-buy decisions is readily available and sound economic decisions can be made quickly every time.

Negotiation Methods

A SLM platform will incorporate multiple negotiation methods, including traditional sealed-bid RFX and e-Auction technologies, to enable sourcing professionals to pick the optimal negotiation method for each project. It will also support collaborative multi-round negotiations and flexible auctions that support fixed and variable cost components as well as formula-based bids that allow for real-time total cost rankings.

Visibility Based Spend Analytics

A SLM platform integrates analytics at the core that can be used to analyze spend across projects and timeframes to determine not only where the top 80% of spend lies, but also where common parts categories are comprising a significant percent of spend across projects, where spend is varying over time, and where sourcing projects have led to realized cost savings.

SLM platform analytics go well beyond those included in stand-alone solutions or sourcing-only spend analytic platforms. Although most spend analytics platforms can identify the same part across projects, and amalgamate spend at the part level, sourcing analytics do not integrate PLM classification capabilities and are not always able to detect similar parts automatically and present opportunities for cost savings through part standardization and rationalization.

Similarly, although most spend analysis tools can be configured to analyze and compare spend for different periods of time, because they are not tied into a platform that also handles order management, they can not automatically detect and report on variances. Also, because most spend analysis platforms do not have the ability to take complete "snapshots" of data at a specific point in time, it is difficult to explicitly quantify the effect a sourcing project had on realized cost savings.

Contract and Order Management

The key to good spend management is good contract management, ensuring that the negotiated savings are realized, that the negotiated terms and conditions are adhered to, and that all spend is on contract after a contract has been executed. The only exceptions would be certain emergency situations, such as a Long Shorman's Strike, which would then be permitted with the explicit authorization by a senior manager for a one-time off-contract purchase.

The contract management capability will include the ability to define rules and alerts that notify a buyer when a buy is off-contract and prohibited, when orders are not meeting forecasts and discounts and rebates could be in jeopardy, and when an invoice is not at contracted rates. Additionally, alerts for contract expiration, contract extensions, out clauses, or contract milestone attainment (based upon variables such as the volume purchased or time passed) should be supported as they contribute to optimal contract management over the term of the executed agreement.

The order management capability will allow a buyer to create purchase orders against contracts, manage those orders in the face of exceptions or last minute change orders, track those orders throughout the project, and archive them for future spend analysis and template creation efforts.

e-Procurement

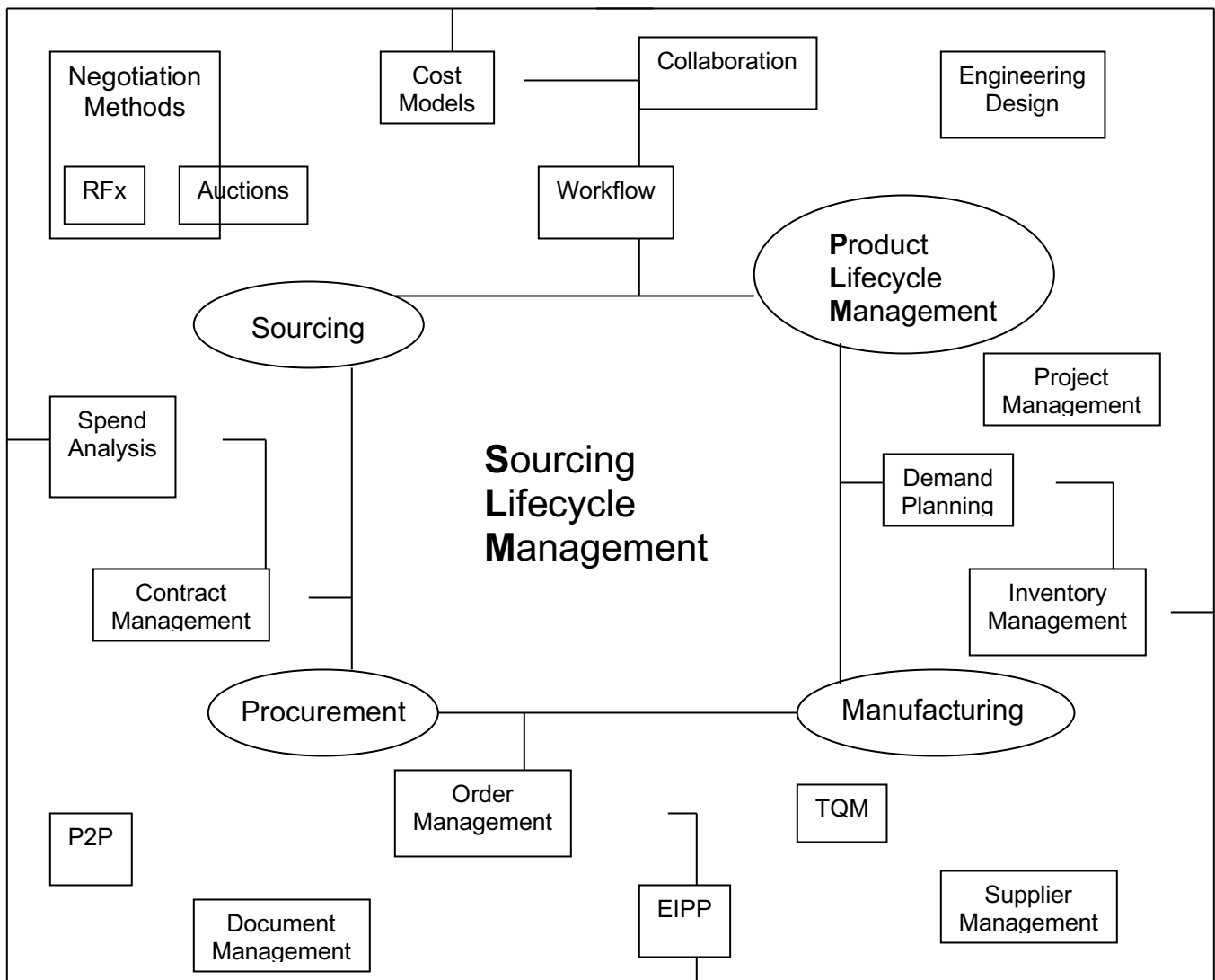
The system will incorporate all of the basic components of an e-Procurement system, including requisitions, purchase orders, invoice management, and payment tracking. The system will also contain, or support integration with, an external solution capable of generating invoices on behalf of the suppliers against the contracts to insure matching, processing, and timely payments. It will also support integration with one or more payment platforms, allow payments to be scheduled in advance, and support early payment discounting when applicable.

Supplier & Quality Management

Just like an iron chain is only as strong as its weakest link; a supply chain is only as strong as its weakest link. A solid SLM platform contains capabilities to enable and manage suppliers and performance in addition to its core collaboration capabilities. This will include the ability to track performance and automatically generate scorecards, to develop corrective action plans, and to develop continual improvement initiatives as standard post-award contract management activities to insure that productivity continues to rise while costs continue to fall over time.

The Full Picture

As the diagram below indicates, SLM is not your father's sourcing technology. It is enterprise sourcing the way it was meant to be, with all of the relevant, associated processes unified into a consistent whole. Each of the core processes of the sourcing process, from initial requirements collection from engineering through negotiation and award to manufacturing and, ultimately, the final delivery and invoice, are enabled.



Key Benefits

The primary benefit of a true, integrated, SLM solution, as compared to stand-alone PIM/PLM, sourcing, procurement, manufacturing, and quality management solutions is that it bridges the critical gaps that exist even when each of these solutions is deployed in the same organization. The amount of effort required to close these gaps more than cancels out the perceived productivity gains of the standalone tools and provides a myriad of opportunities for savings leakage. The following diagram captures some of the more noticeable gaps that exist when PLM, sourcing, procurement, manufacturing, supplier management, and quality management systems are not tightly integrated.

PLM > Sourcing > MRP/ERP/e-Procurement > Supplier Management / TQM

- Increased Timelines
- Ineffective Communication
- Lack of Shared Data
- Key Data "Locked" in Engineering
- Increased Margin on Quotes
- Lack of IP Protection

- Spend Aggregation Challenges
- Cost Savings Erosion
- Poor Implementation Management
- Difficult Global Part Transition
- Quality Issues / Corrective Actions
- Lack of Commitment Tracking

- Long Implementation Timelines
- Incomplete Specification Data
- Best Price Risk
- ECN Effectivity Delays
- Increased SCOR Actions
- Inadequate Product Management

Productivity

Once the sourcing team creates the project, engineering documentation can be imported and the appropriate designs and specifications uploaded directly into the system. The sourcing team can then provide access to the relevant specifications to qualified suppliers through the platform in a secure manner that can be revoked if the supplier loses the award or is removed from the process, protecting the buying organization's IP. Project templates guide the buyer through the project, making sure each step is handled at the appropriate time and alerting the buyer if a document is missing, a form is not complete, or a bid has not been submitted in the allotted timeframe.

By allowing each stakeholder, partner, and prospective supplier to enter their own information and by enabling all project management aspects internally, a SLM solution provides improved program and project management and enables a level of productivity gains to which other systems can only aspire. These productivity gains are made by replacing previous solutions that required time-consuming internal organizational effort with new solutions that simplify the process, make use of collaboration, and offload appropriate work to suppliers and partners. Instead of completing spreadsheets, burning CDs for delivery, managing FTP sites, auditing internal progress meetings, and conducting supply partner outreach, a buying organization is now using software that automatically collects and collates all relevant information from individual supplier forms, does away with the need for CDs through enhanced web delivery mechanisms, handles all of the access requirements within the main software, maintains workflow and timelines for all parties involved, and alerts the appropriate partners at the appropriate times using e-mail. Furthermore, embedded collaborative functionality at the core allows all of the team members, internal stakeholders, and external supply partners to take care of their respective tasks to collectively complete the project requirements in a sound manner consistent with best-practice project management.

Better Spend Management

By capturing all of the organizational spend in the system, and allowing analytics across projects, categories, parts, and suppliers, an organization can achieve greater spend visibility and get a solid handle on its spend. Furthermore, by integrating order management with contract management, the system achieves increased implemented cost reduction as an organization can insure each buy is on contract and that each invoice is quoted, and paid, at the contracted rate.

Compliance

Not only does a SLM system insure each buy is on contract, insuring compliance with contracted awards, but with its built in RFX and data tracking capabilities, it can also ensure that each buy is in compliance with appropriate government and environmental regulations such as REACH and RoHS. Furthermore, the aggregation of all relevant data in one place leads to improved knowledge transfer, which further enables compliance capabilities.

Continuous Improvement

Being able to track all information related to a project, spend category, or supplier in a central repository makes it easier to generate continuous improvement plans as all of the data that is required is already at the fingertips of the sourcing team. Furthermore, a continuous improvement initiative can be set up as its own project and data tracked against the project over time, just as fulfilled orders can be tracked against a sourcing event, and performance monitored in real-time using built in analytics. This leads to optimized use of global resources and suppliers, which is, simply put, as good as it gets.

The Co-exprise CX4 Solution

The Co-exprise CX4 platform is the first SLM solution designed from the ground up to solve the real direct sourcing challenges that plague each and every manufacturing organization including aerospace, automotive, defense, high tech, medical device manufacturing, and diversified CPG manufacturing. Taking the best pages from sourcing, procurement, manufacturing resource planning (MRP), enterprise resource planning (ERP), product lifecycle management (PLM), product information management (PIM), supplier performance management (SPM), and total quality management (TQM) playbooks and drawing on hundreds of years of collective experience in the manufacturing sector and in innovative sourcing organizations, the Co-exprise team has built a unique solution that encompasses cradle-to-grave sourcing lifecycle management.

Based on best practices in object-oriented program design, business process management, and security, the Co-exprise platform is built on a centralized, secure, data repository, generalized project management and workflow capabilities, cross-platform analytics, integrated collaboration capabilities, and a flexible collaborative bill of materials.

In addition to flexible project management that supports timelines, milestones, commitments, and status tracking; program management that automatically tracks resources, designated critical issues, and pre-defined KPIs; and a collaborative secure environment that allows chat, centralized e-mail threads, and document sharing; the platform also supports multiple negotiation methods that include standard RFx and e-Auction capabilities; powerful contract management that includes templates, automated monitoring, and contract creation tools; secure digital forms that support unique instances for each recipient, data validation, and offline data entry support; enhanced visibility-based spend analysis that supports pre-defined cubes and reports for quick-start, a KPI builder for custom KPI definition, and a unique "snapshot" capability that can be used to capture the status of any analysis at any point in time for the purposes of generating comparison reports in the future; and much more.

However, rather than describing in detail all of the platform capabilities and how it meets each and every core need of SLM, Co-exprise would rather show you! If you're suffering from direct sourcing challenges and are serious about learning about a next generation sourcing solution that can save you time, money, and the stress that comes with worrying about annual savings targets, please feel free to e-mail the Co-exprise team at info@coexprise.com or call them at (724) 933-1180. Co-exprise would love to show you what we could do for you!