



## **Optimization: Higher Adoption is Where True Value Lies**

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## Introduction

Optimization is the ultimate sourcing strategy but it is grossly under-utilized. An honest appraisal of its failure to become the de-facto standard approach in all mature Procurement functions is overdue. That's why this paper starts by taking a look at why adoption rates are historically low before discussing what is changing in the marketplace and how a radical increase in adoption could be just around the corner.

***As a buyer, you have heard a lot about optimization, but what you really want to know is if optimization can be used on your problem, scale appropriately, adapt to unexpected developments, and be driven without the help of an expert resource.*** If you cannot use the optimization solution, and, more importantly, cannot use the solution to interact with your team in the context of a sourcing event, it does not matter how revolutionary the platform is or how many awards the platform has won.

That's why, in this paper, we're going to address the often overlooked, but still critical, softer side of optimization in contrast to the harder, more technical side that is traditionally addressed. Why?

## Suppliers Want to Say More

Back in the days of back-office purchasing, Procurement was simple. Order from a catalogue for standard goods and parts. Get three quotes for a service bid, platform requirement, or custom manufactured product. Select the cheapest, and buy. This worked great when supply chains were local (and logistics costs and tariffs would not double the total cost of ownership), services were standardized, and all you needed was a MRP/ERP to capture the orders, and, when it came to decisions, it was six of one, half-a-dozen of the other. But now supply chains are global. Services are specialized and niche. And to make a good decision, you need more information from your suppliers, who want to provide that information to you. However, if all you give your suppliers is an e-mail address or a fax number, all they can do is send you data sheets and free-form quotes that you cannot analyze or work with.

Moreover, with continually spreading supply chains, expanding service delivery options, and more combined solution delivery options than ever before, even the traditionally simple categories hide all nine factors of sourcing complexity<sup>1</sup>. For example, even the classic print category, thought to be among the simplest of all *indirect* categories, is among the most complex categories an organization can source. From a centralized viewpoint, it actually hides all complexity dimensions.

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<sup>1</sup> What Defines Complex Sourcing – and Why Does It Matter?, Peter Smith, 2015  
<http://spendmatters.com/research/what-defines-complex-sourcing-and-why-does-it-matter/>

This is because, in today's global marketplace, lots of problems are combinatorial, complex, and contain a significant amount of tradeoffs between cost, quality, delivery, warranty, and other relevant factors. Moreover, when you add in buyer constraints with respect to warehouse capacity, delivery time frames, existing contracts, (award splits for) risk mitigation, and so on, even the simplest of events gets complicated very fast due to the inherent multi-variate nature. Your suppliers want to help address these issues, and simplify them for you, but to do so, your suppliers need to provide you, as a buyer, with the different options that the suppliers have available to minimize their costs and, as a result, maximize your value. Their optimal production volumes. Their most cost-effective shipping options. Value-added services (such as warranty service) they can bundle in.

However, if you as the buyer do not provide the supplier with the right platform, instead of the sourcing event being inherently simple for the supplier, who should simply be able to bid the products they have at the best prices they can at different levels of commitment and production, the supplier will likely be restricted by limitations that force the supplier to bid at fixed and inappropriate volume levels, on ill-defined bundles, and for non-optimal delivery time frames. The net result is that your suppliers get confused and present unclear or sub-optimal options to you as the buyer.

## **Sourcing Managers Need Speed and Simplicity**

As a Sourcing manager, you need a solution that meets all of your sourcing platform needs, including sophisticated multi-variate categories, not just simpler indirect or commodity goods categories that are typically sourced with the standard RFX or (weighted) e-Auction available in the organization's first generation sourcing platform. Having one solution for indirect and commodity goods and another, completely different, solution for high-value categories, strategic categories, or categories with lots of bids or constraints only complicates your life. But this is usually the case.

This is due to the lingering misconception that optimization can only be used for high-value, strategic, or more complex categories. This misconception has likely done more damage to optimization, and its uptake, than any other misconception in optimization history. It's likely done even more damage than the misconception that optimization is difficult and requires a PhD to use or the misconception that optimization is too expensive to use for every event. While both of these statements were true once upon a time, that was a long time ago.

## Optimization Must Be User Friendly

Optimization is only going to be used if buyers want to use it. Right now, optimization is feared, typically awkward, and often expensive. This is the exact opposite of what an attractive platform is. Why is this the case?

### Historical Complexity

In the beginning, most of the solutions were built by academics who were working off of invented solution requirements. As a result, these initial solutions were quirky. However, as more practical limitations came to light, more features needed to be added. These features tended to be added in a haphazard way, which made the solutions bloated. Moreover, academics survive on research, development, and new feature development, which is the foundation of grant proposals and continued survival in academia, so continued development of new features, useful or not, was a necessity. Even though the reality of the situation is that simple formula support, a core set of constraints, and a minimal workflow is more than enough for 90% or more of sourcing scenarios, many early solutions were bloated with archaic features beyond comprehension.

### Fear of the Unknown

There is the widespread perception that optimization is still hard and requires a PhD to drive it. While optimization was complex in the beginning and user interfaces were minimal, this is no longer always the case. However, as a few of the early providers made a lot of money selling managed events on a per-event basis, there has been no incentive for many providers to alter this perception. But over time, newer providers have come on the scene with more advanced user interfaces, simpler -- more expressive -- workflows, and options for infinite self-service. The fear is no longer well founded, but the message has not yet been delivered.

### Cost

Every solution is expensive during the early stages of development. However, as the technology matures, every solution decreases in price. And while optimization used to cost six figures per event, there are now solutions that cost only four figures for a small event and five figures grant an unlimited license to a basic solution for a mid-size organization. Optimization is no longer an expensive technology.

Modern solutions are simple, easy to use, and affordable. They are the very definition of attractive and user-friendly. The misconceptions no longer have a foundation in reality.

## How Modern Technologies Increase Adoption

An attractive solution that is user friendly, easy to use, and affordable is a good start -- but the solution still needs to effectively encapsulate the key requirements of a modern optimization-enabled sourcing platform. By now we all know the four pillars of strategic sourcing decision optimization -- solid mathematical foundations, true cost modeling, sophisticated constraint analysis, and what-if? capability<sup>2</sup> -- but do we have knowledge of the key requirements of an optimization-enabled sourcing platform? Probably not.

### The Look and Feel of a Modern Web Application

While many assumptions will be made about a category when the Sourcing event begins, as suppliers return RFXs, analysis is done, demand projections solidify, and market conditions change, a significant portion of those assumptions will be invalidated. The platform needs to be able to adapt to changes as they happen -- add or drop constraints, add or drop bids, add or drop products, add or drop suppliers, and so on -- and be able to quickly reevaluate the model and the best solution.

Moreover, even if the buyer expects bids or bundles to come in from a supplier one-way, it needs to allow the supplier to bid the way the supplier wants to bid to offer the buyer the best, or most realistic, scenario the supplier can put forward. Good suppliers know their production costs, their optimal production levels (where they can give the biggest discount), the best bundles they can offer, their delivery times, and the best delivery options that they can offer the buyer. The more flexibility, the better it is for the supplier, and, in effect, the better it is for the buyer.

This means that the user interface has to have the adaptability, flexibility, and the ease of use of an average modern web application that only shows the buyer what she needs to see at any point in time, scaling the presentation up and down depending on the category, the data requirements, and the data that is available. If the user is sourcing a simple office supplies bundle, all she needs to see is the bundle name and the supplier bids. But if the user is sourcing a custom manufactured electronics gadget, detailed cost breakdowns, delivery times, and other relevant data need to be presented with aggregate costs and comprehensible graphical displays.

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<sup>2</sup> Strategic Sourcing Decision Optimization, Michael Lamoureux, 2008  
[http://www.esourcingwiki.com/index.php/Sourcing\\_Decision\\_Optimization](http://www.esourcingwiki.com/index.php/Sourcing_Decision_Optimization)

## Guided Tours

For the true value of optimization-enabled Sourcing to be realized, it needs to be ubiquitous. It needs to be used in every Sourcing event, even if it's just used to automatically find the lowest-cost unconstrained scenario for automatic award during a weighted auction. This means it needs to be easy to use by the average buyer, not just by trained PhDs. Simple workflows. Built in templates. Wizards for complex cost-model or constraint definition. And so on. The solution guides the user to success.

Moreover, as discussed above, the solution shouldn't be bloated with features. The reality is that 90%+ of categories and Sourcing events can be realistically modeled and accurately solved with basic optimization features and somewhere between 95% and 99% of Sourcing events can be solved with only moderately complex constraints and cost models. (Even though the average event contains a fair amount of combinatorial complexity, and requires capabilities that are well beyond what Excel and a standard sourcing platform can offer, in the world of optimization, the mathematical complexity required for even the average combinatorial category at an average mid-size organization is only moderate.)

## Time Savings

While the dollar savings that optimization can identify is good, the time savings it offers in the average event that requires a number of real-world constraints to be adhered to, multiple cost and non-cost factors to be analyzed, and multiple negotiation rounds to be conducted is often incalculable. When recalculations that would take days, weeks, or months by hand in Excel can be done at the push of a button, new models can be created simply by copying the current model and adding or removing a few constraints, and drill-down side-by-side comparisons can be performed with a few clicks, the amount of time required to conduct a sourcing event can be reduced from months to weeks and weeks to days. This allows many more events to be conducted, which is the key to the ultimate Procurement goal of getting more spend under management.

One key fact that is often overlooked is that optimization can be extremely simple and deliver benefits even for small events. Moreover, in aggregate these small events can deliver a much larger savings across an enterprise. While weighted e-RFXs and e-Auctions that use single bid approximations can often achieve good results, optimization backed e-RFX and e-Auction events that incorporate accurate cost models that use formulas and tiered pricing can typically deliver better results.

Even a few percentage points makes a big difference. If optimization is traditionally only being applied to 20% of spend due to the solution complexity and cost, that's leaving 80% of the potential savings on the table. Imagine realizing even an

additional 3.75% savings on 80% of spend. That's another 3% that can go straight to the bottom line. The net profitability the organization can realize in this situation is incredible, especially if it is operating on razor thin margins to begin with.

A modern platform that makes optimization enabled RFX and e-Auctions as simple as, or even simpler than, traditional RFX and e-Auctions creates a significant savings opportunity for the organization in both time and money.

## Collaboration

Classic sourcing platforms were designed to be used by a single buyer who ran a single event and did everything from start to finish on her own. While this works well for indirect services and commodity goods, this does not work well for combinatorially complex categories that require detailed cost models, lots of variability in the supply base (and supplier bids), and a host of constraints to be satisfied in an award.

These models will only be appropriate, and the constraints will only be appropriately defined, with the right input from the right stakeholders. That's why an optimization-backed platform needs to be collaborative, and why modern optimization-backed sourcing platforms have collaboration capabilities built in at the foundation.

## A Balanced Optimization Platform Sees Widespread Adoption

Right now, the number of users utilizing sourcing optimization is abysmal and the number of events those users apply optimization to should be a very somber wake up call that something needs to change, especially now that complex sourcing is no longer the exception but the norm. As per our discussion so far, there are a number of reasons why optimization was not widespread historically, but, as we have pointed out, these reasons are no longer valid. Optimization-backed Sourcing is no longer unaffordable by the average organization, no longer restricted to the realm of the PhD, and no longer hard to use.

However, in order for the platform to see widespread adoption, it has to be balanced. In addition to all of the reasons just listed, one of the barriers to widespread adoption has been the fact that platforms have not been well balanced for the different users of a Sourcing platform. Most users have relatively simple events (compared to the complexity a leading platform will support); many users just need to run simple reports and/or provide stakeholder data; and a small minority of users only run complex or strategic events. These different perspectives on what a platform should do lead the organization to evaluate, and often buy, different, and sometimes inappropriate solutions. Thus, in order for a platform to



appeal to all users, it has to be balanced, and the optimization component (almost) hidden from the average user.

A balanced platform changes the playing field because, with an optimization-backed sourcing platform, as opposed to a stand-alone optimization engine where data has to be imported (or pulled-in) and awards exported (or pushed out), buyers can get immediate feedback on how different RFP responses stack up against multiple factors and how awards would be split from a total cost perspective. There is no need to run multiple side-by-side comparison reports to cherry pick a suitable award scenario and determine whether additional rounds of bid submission and feedback are necessary. Moreover, with category templates, the default weightings, award splits, and capacity constraints can be built in and the "scenario" automatically built and run without the user even needing to enter the optimization modeling module.

Moreover, in a balanced platform, auctions can be defined not only with weightings, but complex capacity and award constraints and interdependent cost models and the true total cost of ownership computed in real time -- allowing each supplier to see their true rank and award projection after a bid, not just where they stand on the different factors (cost, delivery time, etc.) and a weighted average. This allows even more categories to be automatically awarded after an auction, allowing the Sourcing team to spend more time on truly strategic or high value categories, not categories where savings or value is limited.

A balanced optimization-backed platform allows one to capture the full picture of a category in all of its panoramic glory, not just a small snapshot. When a buyer can create and analyze complete models of the real world, and not just approximations, her entire perspective can change for the better.

## **Key Features of An Adoptable Sourcing Platform**

Besides the fact that it should be easy to use and user-friendly, there are some key features that an adoptable sourcing platform should have as these features decrease fear and increase overall solution attractiveness and, ultimately, solution adoption. In this paper we are going to focus on three of these features:

### **Fast Onboarding**

The ultimate key to adoption is usage. The faster the platform gets used, the faster adoption increases. As the early adopters in the buying organization use it, get success, and enjoy the benefits that come from using the platform, they will tell their colleagues, and usage will spread virally. This is how the organization will ultimately succeed.

Thus, it's key that the platform be able to be used out of the box. It shouldn't take more than a couple of minutes to create a user account and get the first buyer on the system, who should be able to create the outline of her first sourcing event in a matter of minutes. She should very quickly be able to define the category, list the products and services, specify a set of suppliers to receive the invitation to the event, and set-up a basic RFP or e-Auction. If it's faster than doing it the old way, the platform will be adopted almost instantaneously.

### Templates and Hidden Optimization

As we just noted, the goal is to get users up and running as quick as possible. One way to do this is with templates.

Remembering that, relatively speaking, not all events are complex from a user, or even an organizational, perspective and sometimes only a small amount of the complexity needs to be captured to identify the majority of the inherent value, the effort to use the platform should be minimal. (Especially since it's not worth doubling or tripling the effort required for a sourcing event for an additional 1% savings on a 100K, or even a 1M, category if it would take days away from a senior resource who has a fully-burdened cost of over 1K a day. The time of a senior resource should be spent on activities that generate 10X her fully burdened cost.)

As a result, the effort required to use optimization, especially in the eyes of an average Sourcing professional who just wants to push out that RFP or run that auction, has been traditionally seen as considerable. However, if the platform allows templates to be created by the Sourcing Optimization experts for each category that includes both the RFP and/or e-Auction definition, the weightings, and the standard business constraints, the model can automatically be built, and solved, after each RFP (update) is returned or each new bid comes in during the auction -- and the optimal award distribution immediately displayed. This hands-off optimization approach makes optimization accessible to the masses and immediately dispels any fear or usability concerns an average user might have.

### Expert Guidance

Once a user gets comfortable with optimization-backed Sourcing events, the next thing the user is going to want to do is dip their toes into the optimization ocean. Not too much, but just a little. Maybe they want to understand the cost of the standard 50/30/20 split and compare that to what a 60/40 split would cost if the award was consolidated to two suppliers. Maybe they want to do a what-if analysis to see just how much would be saved overall if they asked the supplier for a 3% price concession. Or maybe they have a new category and want to set up an event similar to another event they have already done.

If the system comes with expert guidance, or user-driven wizards, that, based on the answers to a few simple questions, help the user quickly modify that constraint,

create a copy of the current scenario with a 3% price drop for the target supplier, or copy a (sub)category template for a new (sub)category (exposing the user only to the power, and configuration, they need), such a system will be welcomed as a time-saver and not shunned as a time-consumer.

## Summary

Right now the number of users utilizing sourcing optimization is abysmal and the number of events those users apply optimization to should be a wake up call that something needs to change, especially now that sourcing of complex categories is no longer the exception but the norm. Given that sourcing optimization has been available for over fifteen years, and that we've known for over ten years that the average year-over-year savings it enables is 12%, this is appalling, but understandable given the inertia of ordinary users when they saw how complex the first generation tools were to navigate.

Sourcing optimization used to be stand-alone. Sourcing optimization used to be archaic and designed by PhDs for PhDs. Sourcing optimization used to be for only the most complex high-dollar strategic categories. Sourcing optimization used to be costly. And few, if any vendors, or analysts have done anything to dispel the myth that this is still the case.

However, modern Sourcing platforms that are optimization-backed, not optimization driven, change the game. Modern platforms are designed with Sourcing workflows in mind, not academic interests. Modern platforms are applicable to all sourcing categories regardless of perceived complexity, spend volume, or the inherent strategic nature -- and the workflow adapts as needed. Modern platforms are very affordable -- an average organization can get an annual license for what it used to cost for a single event. And the optimization model can even be hidden from the average user with templates and wizard-based workflows.

In addition, the instant analysis after each RFP is submitted that presents the lowest total cost of ownership taking all costs, capacities, and business constraints into account provides a buyer with considerable value as the buyer can go straight to negotiations, or contracting. These new platforms prevent the buyer from having to waste countless hours on side-by-side comparison reports and off-line analysis to identify the best buy for the organization. This usability allows the platform to be applied to every category, which not only gets more spend under management, but, at the end of the day, pushes more savings straight to the bottom line.

Usability is the ultimate key to adoption, which is the ultimate key to organizational success. And this usability is what modern optimization-backed Sourcing platforms deliver.