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By PETER SMITH

## Sourcing Optimisation – Extracting Value from Complexity

How optimisation tools are changing the way in which organisations can achieve increased value and performance from large-scale and complicated sourcing challenges

### Executive Summary

Complex supply chains have historically been difficult for sourcing or procurement professionals to structure commercially. Issues such as whether to use Prime Contractors to manage all or part of the supply chain as opposed to contracting with individual suppliers were difficult to assess as alternative commercial options. The different options have various pros and cons, but usually procurement has to judge these prior to approaching the market and then choose a strategy before running a 'live' procurement process around that strategy.

But the latest 'optimisation' technology enables such options to be considered as part of the supplier selection and contracting process. Potential suppliers can propose different options, which can then be assessed and the lowest cost solution chosen; or procurement can identify the cost of moving to a 'sub-optimal' solution (from a cost perspective) which may nonetheless be more attractive for other reasons. For strategic sourcing, this is a radical departure from 'traditional' multi-step models, and this paper explains why this approach differs, and the benefits it can offer.

In Part 1 of this paper, we look at the range of factors that define what makes certain procurement exercises complex and difficult to execute. We discuss two examples of complex supply chains leading to potentially challenging procurements, and how organisations have traditionally responded to that complexity in terms of designing processes. We explain why the process arrived at in most cases for complex procurement requirements has some inherent flaws; particularly in that it relies on the buyer making judgments that could be better explored by suppliers in the market. But the theoretically 'better' process has been unmanageable until recently; so the current approach is a pragmatic compromise.

In Part 2, we explain how recent development in procurement 'optimisation' technology is opening up a different approach to contracting, whereby suppliers have more scope to express different views of how they would like to meet the buyer's requirements. The huge range of potential options offered can then be optimised; and then a range of constraints can be introduced around that optimisation. The costs of moving away from the lowest cost solution can be easily examined, and a business decision made around necessary constraints leading to what is a non-optimal solution; but one where the cost 'penalty' involved is transparent.

Finally, we will look at some of the key factors procurement and business executives should consider if they are looking to introduce optimisation and the tools available in the market, and four factors that they should consider in looking for a provider to support them in this area.

### Part 1 – What makes procurement complicated? Introduction and background

Sourcing or procurement tasks come in a wide variety of shapes and sizes. We all carry out simple sourcing tasks on a daily basis, without thinking in most cases because the decisions we have to make are very simple. I didn't have much choice about which train ticket to buy this morning. But some decisions are much harder. For our next holiday, where

should we go? Which country, resort or hotel? Which means of transport? And now, with low cost airlines and helpful websites, doing it myself and buying the air travel, the airport transfer and the accommodation separately may look a better option than buying a package holiday with everything included.

For organisations, rather than individuals, we can see the same range of sourcing activities or 'events' as we might call them. At one extreme, they can be very simple ('get a bunch of flowers sent to Laura to congratulate her on the new baby...') to the most complicated ('we want to outsource our entire IT delivery function across all 37 countries we operate in').

Clearly, the manner in which these tasks are approached will vary enormously depending on their complexity and the risk that is inherent in the decision. This White Paper will look at the most complex sourcing events and decisions that organisations face, and consider what makes them so challenging for procurement and supply chain executives. It will discuss how those challenges have traditionally been met, and what this has meant for the outcomes that are achieved. We will then look at how the latest 'sourcing optimisation' technology and services enable procuring organisations to take a new approach to these issues, with the potential for major benefits and cost savings.

### What makes a procurement requirement complex?

Complexity can come from a number of different factors. In the example of my holiday decision above, the sheer number of potential suppliers is part of that complexity. So in terms of the number of 'suppliers' of hotels for instance, there must be hundreds of thousands globally. Then we have the different combinations of suppliers; as above, do we buy a package or the elements separately? Or there may be intermediate steps; I could buy the air fare and hire car from one supplier, a hotel and some excursions from another. There are literally millions of options.

A further complexity would come if I had to take the wishes of several travellers into account. If I'm organising a ski trip for my old college friends, they may be travelling from different airports. If it is a large party, some may want to stay in a self-catering apartment while others (the bankers perhaps) want the best hotel in town. At this point, we would probably give up and go for a lie down in a darkened room.

Yet this is all trivial compared to the issues and options faced by large organisations when they look at their own procurement and sourcing options. While some of the factors that cause complexities are similar to those that our holiday planner faced, they can be on an even larger scale, and there are some further complications. But just as this complexity provides practical barriers in terms of making decisions in the best possible manner for the organisation, then it also provides great opportunities in many cases. We'll look at the positive outcomes that are possible when the whole range of alternative supply options can be considered in a structured manner in the next section.

So, for an organisation, complexity in a contracting task can arise from a wide number of factors. For example:

- The **size and nature of the supply market** - a greater number of suppliers, or a wider geographic spread, will potentially increase the complexity of the process.

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- The **number of 'lines' or items** that need to be purchased; so a finished product with many individual components, or a transport contract with many 'lanes', has intrinsic complexity.
- The **scope or spread of the requirement** in terms of the purchasing organisation; so if we need the item delivered to 60 different company offices or factories situated in 47 various countries from New Zealand to Latvia, then the sourcing activity is intrinsically more complex than a single delivery point.
- **The number of users or stakeholders** internally; as their numbers increase, so too will the likely complexity or breadth of the requirement, and the need to align a wide group of people with the process and the outcome of the procurement.
- The **potential for dis-aggregation** of the requirement, i.e. whether suppliers can offer some of the entire requirement rather than the totality; if there are multiple items, is it feasible for suppliers to offer a subset of the total package?
- The **timescale** over which the purchase is to be made. So a single one-off purchase is easier to source than an item or service that will be delivered in lots or continuously over an extended time period.
- The **potential for substitution**; can suppliers offer alternatives to the goods or services specified by the buying organisation?
- Supply chain dependencies or critical paths; if items A and B are needed in order to produce item C, then I may have to consider that critical path when I source those items. I may also have the option to consider disaggregating that supply chain rather than going for an integrated single supplier approach.
- Supplier-created dependencies; situations in which a supplier can make conditional offers. 'I can only offer you this price on item A if you also buy item C from me'.

But complexity in all these cases brings opportunities. And with the benefits that technology and recently developed tools can bring, procurement no longer needs to be constrained into appointing a single supplier, or a small number of suppliers, to meet the entire need through a standard contract. New options which can deliver increased value and performance come into play to handle complex requirements.

### Examples of complex supply chains

Let's look at a couple of real-life examples for organisations in terms of complex requirements – potential procurement scenarios that combine the challenges and opportunities brought by that complexity.

#### A. Transportation – trains and boats and planes....

It is no surprise that transportation has perhaps been the sector that has most readily embraced complex sourcing tools. That is simply because for large organisations, it is inherently complicated. A typical international food manufacturer<sup>1</sup> may have a double figures (or more) number of factories merely across Europe.

#### Demonstrating the scope of the challenge for major organisations

"Nestle is the world's leading recognized nutrition, health, and wellness company. With more than 280,000 employees and more than 450 factories globally, their products, which include everything from bottled water to frozen food, are sold in nearly every country in the world".

Transport requirements for finished goods will be complex. There may be different sized loads for different products or at different times of the day, month or year. Ambient, chilled or frozen food products probably need different vehicle types, and of course the loads will be heading for a multiplicity of different destinations; company owned warehouses, retailers' or wholesalers' premises. This complexity means that choosing suppliers and contracting was traditionally done in one of two ways.

- ◆ Break the total requirement down into relatively small, manageable requirements, and run multiple procurement exercises.
- ◆ Choose a prime contractor, 'partner' or outsource service provider; in effect the complexity and the problem would be passed on to a single logistics organisation that would sort out the complexity themselves and appoint a range of sub-contractors to cover the requirement.

While there is nothing intrinsically wrong with either approach, the first inevitably loses some benefits of economy of scale, may miss other potential supply-side benefits because of the dis-aggregation, and is costly to manage. In the second, the effectiveness is very dependent on the competence of the appointed partner; and however good they are, there is an inherent additional cost and margin to cover for their input.

#### B. Direct mail / fulfillment supply chain – not as simple as it looks

In this example, a firm requires a 'direct mail' printed product that will be sent out to clients or potential clients; perhaps an advertising mailshot or similar. (And let's assume the quantities are such that one or more commercial printers are clearly going to be required rather than local use of network printers). The product is required in large quantities across 30 countries; it then needs to be distributed through the national mail system or equivalent.

So, while the product itself is relatively easy to specify, the supply chain has a number of different elements, principally:

- The base **paper** required for the mailshot
- The **printing process** – 'ink onto paper'
- **Fulfillment** – getting the paper into the envelopes and making sure they are addressed correctly
- The **distribution** process (which may also involve an element of storage at some point)

So what is the 'best' way of contracting for this requirement? A single contract with a supplier who will act as an integrator of the whole supply chain, using sub-contractors to handle the elements they cannot deal with themselves? Would it be best to give that task to a printer as that is perhaps the most challenging part of the requirement? Should the customer use their leverage or skills to contract for the paper separately and provide that to the printer? Would it be better to look at each of the elements as separate procurement exercises, and place multiple contracts? If so, is that best done geographically, or by capability, or some other way?

Whilst there are only a finite number of options, the task is certainly complex enough to cause uncertainty in anyone's mind about what the optimal strategy might be.

#### 'Traditional' procurement

We gave some flavour above of how organisations might have traditionally approached these specific examples of complex procurement tasks. What is striking is that, although procurement has progressed and taken a more prominent role in most organisations over the last decades, the core process has remained largely unchanged. By 'core process',

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we mean the stages within the end-to-end process whereby the buyer approaches the market, executes a set of activities designed to choose the best supplier(s), and establishes contracts. We'll call it the 'contracting process' from here on in this Paper, although others will no doubt have different terminology.

At its heart, that contracting process involves a buyer approaching the market with a requirement, asking for offers, and after some negotiation, choosing one or more suppliers to fulfill the requirement. The process may of course need several stages - a pre-qualification stage, formal tendering, post-tender negotiations and so on. But the general approach is the same in the vast majority of cases.

The requirements may relate to outputs or outcomes rather than inputs if the buyer understands the benefits of this approach and the requirement suits it, but they will still usually be carefully described. In the case of goods, aspects of the requirement such as quantities, specifications, delivery schedules and so on will be clearly laid out. While we might allow the possibility of "non-compliant bids" being submitted by suppliers, any procurement executive who has tried to evaluate a non-compliant bid in a manner that would stand up to scrutiny - or even a few questions from the unsuccessful bidders - will know how difficult that route can be.

So the scope for flexibility and alternative approaches has been limited. And that means both alternatives proposed by potential suppliers, and the flexibility of the buyer around their ability to consider a range of different solutions or combinations of solutions.

### So why do we do procurement like this?

Let's consider *why* we have structured the contracting process in this manner. Why do we allow the supplier so little flexibility in most cases? It is not because that is the 'best' way of organising matters. Clearly, we would like suppliers to be able to offer the best possible deal to us, which means that they, ideally, should be able to structure their production and delivery of the goods or services we are buying in the most economically advantageous manner. Then, assuming we know what we're doing from a negotiation point of view, their benefit will be passed on to us as the buyer in the form of a best value proposal.

Anyone who has been around a while in procurement circles will have heard 'if only' stories from suppliers - often too late to be of any benefit.

Now, sometimes, procurement people and suppliers develop a strong and trusting relationship that enables the two parties to explore those options openly and reap the benefits from such flexibility. But more often, it just doesn't happen; the supplier accepts the proposed parameters and does their best to put together an acceptable offer.

#### The suppliers' lament

"If only you had been prepared to accept delivery a month later; we could have done you a great deal"

"We would have offered you a 20% lower price if only you would have accepted a slightly different specification"

"If only you could have guaranteed us those three related contracts at the same time, then we could have put a package deal together that would have blown your mind!"

So why don't we open up our requirements to wider offers from the supply base? It is not, as we have seen, because there is no likely economic advantage in doing so.

**It is quite simply because we cannot cope with the complexity.**

That is the most fundamental message of this Paper. Complex procurement requirements have been handled in a manner that is not driven by getting the best possible outcome; the process used has been constrained and made sub-optimal by our limited capability to handle complexity.

To explore that further: back at the start of the author's procurement career, when the only sourcing 'tool' available was a calculator, the complexity of bids that could be sought was limited by what could be analysed on a piece of paper with that Sinclair calculator's help. Over the years, tools and in particular spreadsheet based software (whether simply Excel or the first generation of e-Sourcing tools) enabled far more complex bids to be sought, with a wider number of bidders, more line items within a bid, and even incorporating the use of auctions.

But these tools, including spreadsheets, still assume a standardisation of responses; we compare offers for basically the same requirements, as defined by the buyer. Considering the whole 'seven steps' or whatever category management / strategic sourcing process we follow (see Fig 1 below), the barrier caused by the potential complexity of the contracting process therefore defines the way the whole process is structured. The sequencing of strategic sourcing activities, and the actions within it, is to a large extent driven by the constraints of the contracting process.

### Develop, implement and embed category management

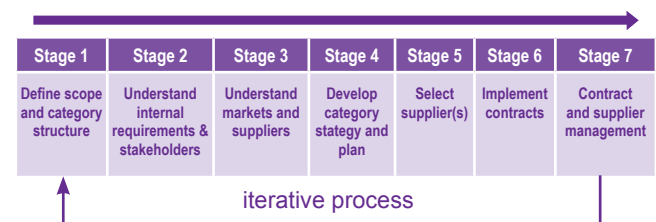


Fig 1: Category Management Process<sup>ii</sup>

Indeed, the hard work, or at least the real strategic work, for the procurement function or individual, tends to be carried out well before the market-facing contracting process. So through the early stages within the strategic sourcing life-cycle, much of the analysis, market research, and consideration of options are carried out by the buyer in order to offer a tightly defined specification, and clear requirements to the market. That limited approach is necessary to make sure we can handle the market's responses.

*"We want these items (or services), in these quantities, delivered to this list of factories / offices, on these dates, to this specification".*

Let's take another example. For a spend category such as packaging, the category manager will determine how to segment the market and then may research the market based on that segmentation. There may be decisions around how to structure the supply chain. Is it better to buy the base material directly (for example, polypropylene film) and require the converters to print that film and produce the finished product? Or is it more effective to let the converter source the base films themselves? How much stock does the buyer want to hold and is she prepared to be flexible there to accommodate some different delivery profiles that might suit suppliers better?

All of these questions tend to be asked during those early stages of category management or strategic sourcing and then our answers define how we approach the market. Why

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do we do it like this? **Because we have to.** Because we haven't had the tools to do anything different - we have not had the capacity or capability to examine highly complex supplier responses with multiple options, dependencies, or conditionalities.

### What are the consequences of the constraints?

Before the advent of optimisation technology, which has opened up new options (discussed later), procurement professionals tended therefore to follow one of two strategies to cope with complex sourcing and contracting situations. We'll call them the *disaggregated* approach and the *prime contractor* approach.

The disaggregated approach responds to complexity by breaking up a requirement into discrete elements that are small and/or simple enough to be handled as single contracting events. The results from those events can then be analysed relatively easily and comparisons made between suppliers.

The Prime Contractor or 'integrated' approach follows a very different strategy. Here, a number of items that could be expressed individually are aggregated into a single requirement. This is then sourced through a contracting process that will end up with a single supplier (or conceivably a number of suppliers) who will provide that range of individual requirements; acting as a 'Prime Contractor'.

Whichever approach is chosen, the buyer will generally limit what the potential suppliers can offer. There may be some opportunity for a supplier to bid for several individual contracts under the first option, but usually each will be considered on its individual merits. In the second case, it would be unusual for a bidder under the Prime model to be able to come back and say 'I'd like to do some of the supply chain but not the element in Germany'. In either case, the traditional contracting process certainly leaves no scope for the bidders to respond with "I can supply those items for 9 months of the year very competitively, but not the other 3 months". Such behaviour would usually result in exclusion from the bidding process.

What did that mean in practice? Let's take the examples we used above. In the case of the printing requirement, we might analyse the pros and cons of the integrated approach.

	Pros	Cons
<b>Aggregated approach</b>	<ul style="list-style-type: none"> <li>Easier to manage a single supplier</li> <li>One party responsible for whole delivery</li> <li>Prime can get economies down the supply chain e.g. bulk paper buy</li> <li>Develop a close working relationship with single provider</li> </ul>	<ul style="list-style-type: none"> <li>Assumes the Prime is competent at managing supply chains</li> <li>What if they don't choose the best sub-contractors?</li> <li>Lack of flexibility - market movements</li> <li>We may have better economies on some elements within the supply chain</li> </ul>
<b>Disaggregated</b>	<ul style="list-style-type: none"> <li>Flexibility of multiple suppliers</li> <li>Ability to use different markets and our leverage</li> <li>May be more resilience in the system</li> </ul>	<ul style="list-style-type: none"> <li>Management cost of multiple suppliers</li> <li>Lack of co-ordination between participants</li> <li>Inherent complexity-opportunity for interfaces to go wrong</li> </ul>

Fig 2: Pros and cons of alternative supply chain strategies

Some of the issues are obviously apparent when we look at these lists. How do we know we are defining the best strategy under these conditions of uncertainty about the market? How do we know whether the management fee charged by a Prime will make the whole thing unattractive? Or whether they really can manage a supply chain? Another alternative would be to take a more iterative approach. We could contract in a certain way and if it doesn't work out, try again. The problem here is obvious; deciding after a major tender that the Prime Contract route probably wasn't the way to go may mean a whole new start-to-finish procurement exercise and months of delay in reaching a final agreement.

Despite the drawbacks of all of these sub-optimal contracting approaches, we have had to choose one or the other because until recently, procurement has not been able to handle the complexity of what a market-driven process would bring. Fortunately, this has now changed.

## Part 2 - Optimisation technology makes possible the previously impossible

### The optimisation approach

Over the last few years, the growth of computer processing power has enabled more and more complex mathematical calculations to be carried out increasingly easily and quickly. This has had major implications for many aspects of business and professional life, and it is now having a similar impact on procurement.

'Optimisation' approaches, based on mathematical algorithms, now enable contracting processes to handle the sort of complexity we've outlined above. For the first time, we can ask potential providers to respond in far more complex ways to our requirements. We can ask for bids against a wide range of alternative options, knowing that the technology at our disposal can handle the responses and allow us to carry out analysis of the literally millions of options that could be possible outcomes in terms of awarding contracts.

This ability changes the nature of the contracting process as we described it above. The contracting exercise becomes in effect an opportunity to gather information and assess options, as much as it is an exercise in selecting a supplier or suppliers. We can gain an understanding of which elements of the supply chain each supplier is really expert in, how their own cost drivers affect what they offer us, and consider innovative alternatives to structuring the supply chain – including some we may not have even thought of ourselves!

So rather than the buyer trying to assess the market and supplier dynamics **before** approaching the market with a specific contracting exercise, an optimisation approach enables the market to tell us the best way of structuring our optimal contracting outcome.

Is this de-skilling the procurement profession? Not at all. Identifying potential suppliers, for instance, is as important as ever. There is still a need to understand markets, requirements, cost drivers and so on. We need to know how to structure the market approach itself, which can be more complex than doing the same for a conventional tender. But we don't need to go all the way to a solution before going to market; the skill now becomes structuring the options that are put to the potential supply base.

So in the case of our examples earlier, we would approach the market with a structured request that enables potential suppliers to bid for a wide range of alternative elements of the supply chain. They may also – if we want them to – be able to express other options we haven't specified; dependencies or conditional offers, for instance.

In the transportation example, potential suppliers can quote for any of the route options they want to, different prices can be submitted for various load sizes or types of vehicle, and there may even be variation based on time of the year. In the case of our direct mail work, some suppliers may bid purely for paper supply, or printing. Others may want to do the end to end service, so may include prices for the whole range of requirements. Some may only be interested in certain locations. The technology has the flexibility to allow them to respond in whichever manner suits them. And once they have responded, the analysis can start.

### *Iteration – asking the ‘what if’ questions*

The starting point of the analysis is generally the absolute lowest cost potential solution that can be achieved from the suppliers who have quoted. The optimisation tool starts by carrying out this basic calculation, providing the answer to the sourcing organisation. But this is rarely the end of the process. Why not - why wouldn't we just accept that lowest cost option as the optimal solution?

Because it may, simply, just not be practical. For instance, in a transport example, we may find that the lowest cost solution involves 38 different carriers picking up from a single factory location over the course of a year, depending on the destination of the load, the size, or the time of the year. While the procurement manager might be happy with that, the factory or goods-out manager probably won't be; it may not be practical in terms of security, managing the process, or may add to the risk of incorrect loading.

Another issue might be that the lowest cost solution puts 'too many eggs in one basket'. One highly competitive supplier might win over 50% of the business, which may be judged to generate unacceptable risk (what happens if they go out of business? Or their drivers strike?) In other cases, the client organisation will take account of the current supply position. We may feel that incumbent suppliers need to be treated with care and sensitivity; so even if the initial solution suggests they 'should' lose all their business, we may want to let them down gently.

All or any of these options can then be explored through the optimisation process and technology. Constraints can be included in the parameters of the analysis, and then the process is repeated, to obtain the new optimal solution within the new constraints. So in the cases above, a constraint could be included that states no more than three suppliers can be used for any factory collection location. No single supplier can be allowed to win more than 20% of the total business on offer (and perhaps no more than 50% of the work in any given country, in order to preserve competition). And in the final case, we could stipulate that incumbent suppliers should not lose more than 50% of their current level of business.

These options could be considered separately or in a combined scenario. The optimisation process could then be re-run; the responses will show the new total cost and it is obviously easy to compare this with the initial lowest cost solution. This enables the organisation to understand how much of a premium it is paying for the constraints it has put in place. Perhaps the limitation on market share has only a very small impact; but supporting incumbents actually has a significant effect on overall cost. The organisation can then decide if it is prepared to incur this premium; or may choose to run another scenario; perhaps allowing incumbents to lose a higher share of business.

### *What skills are needed to make this a success?*

In our past experience, procurement professionals have sometimes been slow to adopt new technology, despite

apparently obvious advantages. That may be because of a generalised fear of change, or that their previous performance will somehow be exposed as inadequate, or that technology will in some sense do away with the need for their role.

Our opinion is that professionals should not fear optimisation in these regards. The obvious complexity of what can now be done is such that it is hard to imagine the CFO or MD saying 'why weren't you doing this years ago'? It just was not possible for anyone to carry out the highly complex options analysis and calculations before the growth of affordable processing power made this possible. And in terms of the automation concern, the examples above suggest that actually new skills are needed for procurement - and business - executives. This does not take away the need for skilled procurement professionals.

Both before and after the actual optimisation event, a high degree of skill and intelligence is needed. Prior to the event, the structure of the tender needs to be determined, with thought around the options, constraints and parameters to be used. This is somewhat different to what has historically been carried out as for example part of a traditional category management process, but it is none the less skilled for that.

During the analysis phase, there is considerable skill needed in knowing the right questions to ask to test different options, and understanding the impact from both a market perspective and an internal stakeholder dynamics. Finally, negotiation and structuring the final contract will remain a key part of the overall process, whatever the outcome of the optimisation process. These areas will remain core professional skills.

### *The benefits of optimisation*

Evidence of the benefits which early adopters have realised is already available, although obviously some organisations are reluctant to say too much and give away this competitive advantage. Those benefits include:

- **Cost reduction;** by allowing suppliers to optimise their own cost profile through their offerings, the overall cost of the chosen contracting strategy and supplier portfolio is almost always more favourable than that which would be obtained from conventional procurement methods.
- **Understanding of the whole supply chain;** as well as cost benefits, understanding the dynamics of the supply chain (which is an outcome of a well-designed optimisation process) may bring further options or identify risk points and sensitivities.
- **Widening the supply base;** in our experience, organisations often end up reducing their supply base not out of a desire to reduce transactional costs (which is a factor that should be taken into account) but because of the ease of running the procurement process, and managing supply, if there are fewer suppliers. So the Prime Contractor route is chosen for convenience, not value for money; and real value is often sacrificed in return for the simplification. Optimisation makes more complex solutions manageable and feasible.
- **Exploring innovative options;** suppliers may suggest options that the buying organisation has not even considered. Combinations of activities within the supply chain may emerge that have not been predicted.
- **Ability to consider multiple value drivers / selection criteria;** for example (and as well as cost based factors), delivery lead times, quality scores and supply risk.
- **Reduction in sourcing cycle time;** use of the right sourcing optimisation tool can significantly reduce the length of the data analysis and supplier selection stage.

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- **Transparency;** the audit trail for decision making is very clear, with the costs of any constraints or supplier preferences absolutely clear and documented.

Our understanding of the benefits that users are obtaining is that they are significant and in some cases well above initial expectations. Understandably, commercial organisations are wary of disclosing too much because of competitive considerations. Indeed, this technique strikes us as one of the few genuine sources of competitive advantage which is readily available to procurement leaders now. And given that the majority of organisations have not as yet become habitual users of optimisation, then such advantage may be significant.

### Optimisation options

There are a number of providers who offer sophisticated decision support platforms that allow organisations to look at complex procurement events or activities and consider a wide range of the different options, constraints and innovative offers. Previous Spend Matters research has identified firms such as Trade Extensions, Emptoris, BravoSolution and CombineNet as having strong capability in this area, although it is important to look carefully at your specific requirements.

While, as we said above, optimisation can be implemented relatively quickly, there is no doubt it requires some different skills from 'traditional' procurement activity – whether it is procurement or another business function that is leading the process. Part of that is in the technical set-up, management of the optimisation tools, and analysis of the data. But it is also different in terms of how suppliers are brought into the process, how the options are determined, the tender documentation structured, and the evaluation process defined.

We think it is therefore likely that a new user to this area will need some assistance – at least for a perhaps quite short initial phase – in order to implement. Given that, there are four critical factors that we suggest any potential user needs to consider very carefully when selecting a service provider.

1. First, the strength of the underpinning technology and the optimisation 'engine'. Can it cope with the size of your contracting events, and the range of constraints and variables you are likely to want to examine? That is perhaps the most fundamental question to ask.
2. The user-friendliness and flexibility of the solution, including integration, scalability and the ability of clients to manage all types of event across multiple categories without significant external assistance after a reasonable initial learning curve.
3. Support and advice available around the technology. Some providers have considerable resource available and dedicated to assisting customers. It is not unusual for a client to start their optimisation journey using Trade Extensions, for instance, almost on an outsourced service basis, then in time, with appropriate skills transfer, learn how to deliver the processes internally with the minimum of support. Other providers work through third parties, so the 'consulting' support that may be initially necessary may come from a partner firm. Neither model is right or wrong, but it is worth thinking about what type of support you expect and need when assessing the options in terms of provider.
4. The 'fit' in terms of culture and ways of working between the potential providers and client organisation; hard to describe objectively, but a factor that in our experience is important and in practice usually easy to evaluate.

Taken together these factors should influence the buyer's choice, and the overall return on investment, as measured by the benefits of an optimised approach compared to the total cost of deploying the chosen tool / service.

### Conclusion

We've seen how traditional procurement processes have been constrained by the practicalities of what we could cope with in terms of complexity of options; we designed the processes based on how much information we could handle and in a manner that allowed us to make decisions with relatively unsophisticated tools. We could not therefore consider the full range of possible options that the market could in theory have offered us, which of course meant we rarely achieved the optimal solution to our sourcing requirement.

But new tools open up new possibilities. It is now feasible, using 'optimisation' technology, to structure an approach to the market in a manner that enables potential providers to offer a much wider range of options, and for buyers to examine those options in detail using 'what if' questions and answers. Constraints and dependencies can be modeled. For instance, the effect on final cost of introducing constraints can be identified and examined, and decisions made which optimise the solution under the particular needs and conditions for that requirement.

Few organisations have as yet fully appreciated what can be achieved through these innovative processes. Those that have are seeing considerable benefits, and are claiming some genuine competitive advantage. If your organisation has not as yet looked at the options in this area, we would strongly urge you to do so.

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