

# Construction Sourcing with eProcurement Tools



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The goal of this white paper is to share a historical perspective, both positive and otherwise, relative to the use of eProcurement tools in the construction space from a variety of sources as well as SafeSourcing's specific experience with our own customers.

SAFE SOURCING



## Construction Sourcing with eProcurement Tools

We are regularly asked to comment on a variety of categories by our customers, prospects, suppliers from the 427,000 member SafeSourceIt™ Supplier Database and SafeSourcing's daily blog readers. These questions normally occur during the course of the discovery or value assessment phase we conduct with companies with which we do business. The questions vary, but generally have to do with Safe Sourcing's experience with a particular category (in this case, construction) or our impression of successes or failures within that category; when using today's modern eProcurement tools such as online RFIs, RFPs and RFQs. RFQs are typically called Reverse Auctions and many times are the end result or final step of a much longer and more detailed process. While the focus is on more than just price, quite often the first question we get is "What kind of savings might we expect?"

The goal of this white paper is to share a historical perspective, both positive and otherwise, relative to the use of these tools in the construction space from a variety of sources, as well as SafeSourcing's specific experience with our own customers.



### **HISTORY OF ePROCUREMENT TOOLS**

Online eProcurement tools have been around since the late 1990's, and as such, have evolved significantly to provide a robust set of tools used frequently by Fortune 500 companies as part of their procurement tool kit. These tools are also part of an overall procure-to-pay process supported by a variety of industries as procurement best practices. As these tools have evolved, so have the opinions of the tools by users, participants and industry groups.

One of the most significant changes in the procurement space with these tools over the last five years is the evolution of Software-as-a-Service (SaaS) offerings that are accessed via cloud based computing systems. Simply put, this means that companies can buy as much or as little of the functionality of the tools and related services as they need and begin using the tools almost immediately ( think do it yourself or have someone else do it for you). The benefit is that this eliminates the need to buy hardware and software that would need to be installed and maintained behind a company's corporate firewall and supported by their Information Technology team. A SaaS-based solution can dramatically reduce the cost of the system, as well as the speed of startup, and often returns an ROI almost immediately. All a company or their suppliers needs for access is a web browser, with the ultimate benefit being that these tools extend the work output by buyers, category managers and other procurement

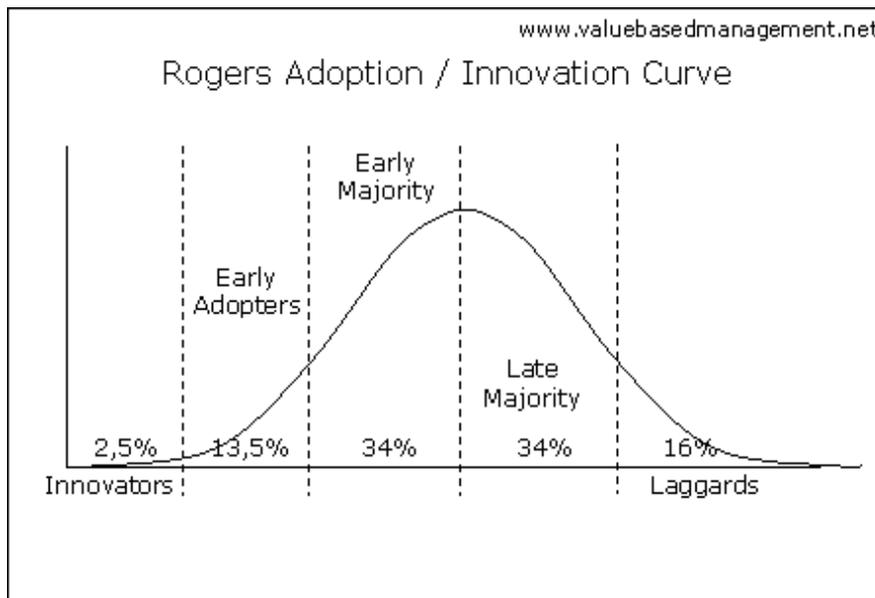


knowledge workers by allowing them to use their knowledge to evaluate data rather than having to collect and assemble it as well.

Ultimately these tools have evolved to be used for all types of sourcing such as commodities, services and just about an expense or capital related item. Some companies even use these tools in the form of Forward Auctions in order to sell out of cycle merchandise, excess inventory and used equipment where buyers bid up the price.

## **STUDIES**

As with most technologies, eProcurement tools, specifically Reverse Auctions, went through the normal early adopter life cycle (**Figure 1**) generally described, in order, as innovators, early adopters, early majority, late majority and laggards. The late majority and laggards generally represent about 50% of the adoption pool. It is this author's opinion that these stages also follow very closely the rhetoric relative to the potential for success of the technology due to the level it may be perceived to disrupt work process, workflow, jobs or in the case of eProcurement tools, existing supplier relationships by impacting there business or profitability.



**Figure 1**

As is the case with most new technologies, early studies tend to explore the technology's impact theoretically, as there is not enough relevant data available to support a detailed analysis of actual results over a broad base of results for a specific category. One study of this nature, conducted in 2007 and probably during what was still the innovator or early adopter stage within the construction space, is titled **Simulating Reverse Auction Bidding of Construction Contracts** by Dr. Khaled Nasar of the University of Sharjah, Sharjah, UAE.



The conclusion of Dr. Khaled’s paper was that “*agent-based negotiation technology utilizes autonomous agents that act as a representative to the parties involved and interact to reach an agreement. Autonomous negotiation has recently gained interest among both researchers and professional due to its apparent potential to deeply transform the way business is conducted. In negotiating construction contracts, agent-based negotiation technology utilizes autonomous agents that act as a representative to the contractors and the owners and interact to reach an agreement. The main perceived benefit of using agent-based negotiation technology is the removal of the emotional component of the negotiations that so often result in less than Pareto-optimal agreements*”.

Another study conducted at about the same time in 2007 titled **ONLINE REVERSE BID AUCTIONS IN THE CONSTRUCTION INDUSTRY: A REVIEW OF APPLICATION INFORMATION AND SAVINGS DATA** by **Yilmaz Hatipkarasulu**, PhD Texas A&M University, College Station Texas and **James H. Gill Jr.**, JD, AIC Iron Mount Corporation Fairfield, AL came to a differing conclusion.



The first paragraph of the conclusion of this study at the time of publication in 2007 was that, “*In the last decade, the OLRA method has gained interest as a procurement tool for both commodity and service applications with the advancement and aggressive marketing of online technologies. The marketing approach for the method is to promote OLRA as an online technology that will provide cost and time savings regardless of the application area. However, as of today, there is no published proof of savings for OLRA applications when used for construction services*”.

The above study however was based on references that mentioned no data later than 2005, which is eight years ago as of this writing, when most tools were still not focused on an entire company’s spend data, but rather on a smaller set of categories and commodities.

### **ACTUAL RESULTS**

As technologies evolve and cross the early adopter chasm and begin to be utilized by more main stream companies, more individuals, and in the case of e-procurement, more tools are used to address specialty categories such as construction. Resultantly, information evolves which actually speaks to specific results in support of continued use across a broad base of categories, products and services including construction.



**SAMPLE CONSTRUCTION AND RELATED CATEGORY RESULTS 2010-2011**

During the period of January through October of 2010 a fortune 100 company conducted a total of eighty seven eProcurement events utilizing the SafeSourceIt™ eProcurement toolset consisting of on-line RFI’s, RFP’s and RFQ’s or Reverse Auctions. Of the eighty seven events (87), twenty five (25) were specific construction events. This represents 28.7% of all events run by this company. This did not include equipment or related products used by the general contractors to complete the construction projects such as roofing, flooring, fascia, concrete, electrical, plumbing, air conditioning and refrigeration, etc. These event results are shown below in order to offer a complete picture of the entire construction category.

Included during the general contractor bid submissions were a variety of specific line items related to the following categories.

- |                               |                            |
|-------------------------------|----------------------------|
| 1. UST                        | 12. Traffic Signalization  |
| 2. Demolition                 | 13. Storm water Management |
| 3. Site Preparation:          | 14. Offsite Utilities      |
| 4. Sediment/ Erosion Control  | 15. Water Service          |
| 5. Earthwork                  | 16. Sanitary Sewer Service |
| 6. Environmental and Wetlands | 17. Natural Gas Service    |
| 7. Landscaping                | 18. Electrical Service     |
| 8. Asphalt Paving             | 19. Telephone Service      |
| 9. Traffic Signage            | 20. Fencing                |
| 10. Concrete Curb and Gutter  | 21. Retaining Walls        |
| 11. R.O.W. Improvement        | 22. Sight Lighting         |

These construction bids listed were for new construction sites and resulted in a 9.5% real price reduction from original bid submissions by the general contractors. Additionally, specific products that supported the new sites and benefited from direct contract sourcing, as opposed to sourcing by default through the general contractor, were also considered and drove the following additional savings.

<b>Construction Item Sourced</b>	<b>Savings %</b>
<b>1. Strip curtains</b>	39%
<b>2. Walk in Coolers</b>	29%
<b>3. Signage</b>	79%
<b>4. Graphics</b>	35%
<b>5. Impact Doors</b>	60%
<b>6. Roofing</b>	20%
<b>7. Fire Extinguishers</b>	59%
<b>8. Lighting</b>	22%
<b>9. Mill Work Display</b>	40%
<b>10. Concrete</b>	18%
<b>11. Cooler/Freezer Lighting</b>	27%



<b>12. Remodeling</b>	17%
<b>13. Floor Tile</b>	67%
<b>14. Fascia Graphics Package</b>	28%
<b>15. Construction site delivery - Trailers</b>	12%
<b>16. Storage Tanks</b>	8%

In summary, this customer’s construction projects benefited from an enhanced view of the supplier community capable of supporting their national construction projects. The number of national suppliers invited to consider participation increased from 30 to 75, an improvement of 150%. The average number of general contractors per project also increased from 4.4 to 6.2, an improvement of 41%. Standard company specification increased from 38 line items to 162 line items, an improvement of 276% which further refined the makeup of the construction projects for more accurate and detailed price collection by construction category. The resulting specification allowed easy reuse and modification of future projects; this made the sourcing of future construction projects more efficient and the tracking of projects more accurate. As a result the quality of entire process was improved, the project timeframe was improved to a period of less than 30 days and average pricing was compressed 9.5%.

<b>National Suppliers Invited</b>	<b>Increased 150%</b>
<b>General Contractors Per Project</b>	<b>Increased 41%</b>
<b>Standard Specification Detail</b>	<b>Increased 276%</b>
<b>Project Timeframe</b>	<b>&lt; 30 Days</b>
<b>Average Savings</b>	<b>9.50%</b>

**ADDITIONAL CONSTRUCTION SUCCESS STORIES**

While most companies do not advertise for their competition, it is only fair to include additional data from other construction projects that have use this style of sourcing to accomplish very respectable results. The following headlines can be easily found via the internet.

1. Western US Resort Town Utilizes Reverse Auction for Construction Project
2. Ohio Hospital Establishes Construction Contract through Reverse Auction Process
3. Ohio County Utilizes Reverse Auction to Establish Construction Contract
4. Insurance Company Purchases Construction Materials through Reverse Auction Process

The URLs for these projects are included in the references section of this document. Please visit the specific site for additional information.

Here is a recent article from Canada that also supports the use of eProcurement for construction:



## **Is Construction Ready for Electronic Procurement?**

DAILY COMMERCIAL NEWS and CONSTRUCTION RECORD

January 13<sup>th</sup> 2013

KELLY LAPOINTE

Staff Writer

*Canada is ready for electronic procurement, though the construction industry has to work together to ensure a smooth transition, concluded a panel of industry leaders at the recent Construct Canada conference.*

*“We should just get over it and get into electronic procurement and do it well because it has the capabilities, if done well, to have a lot more checks and balances than the manual way does,” said Gordon Stratford, director of design for HOK, a global design, architecture, engineering and planning firm.*

### **CONCLUSIONS**

There are many companies that have not used eProcurement tools for construction sourcing. In fact, below the Fortune 500 level, it is possible that as many as 80% of companies do not use these tools, as they have historically been too expensive. There will be a continuing struggle to change the way companies operate and collaborate internally on procurement initiatives in more current productive ways. However, with the advent of SaaS cloud based solutions like SafeSourceIt™, these tools are now available to any company, regardless of size, that wishes to use them. There really is no spend too small or category too complex, because there are always suppliers available that are interested in earning new business. In many cases these suppliers are also beginning to use these tools to make their sourcing easier and more cost effective. As a host you may not know who they are, but the use of these tools will help you find them, improve your processes and your company’s profitability. At the executive suite this is what companies expect and also what business and free markets are all about.



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