



Ensuring Good Value: New Methods for Price Evaluation

How do you evaluate price in vendor proposals? Does your process need improvement? Such is the situation for the US government as it tries to determine fair and reasonable prices for commodity or inventory available items allowed on government contract. In this study, we describe how two agencies are moving towards an automated process for evaluating vendor pricing.

According to OMB Memorandum M-13-02 “Executive departments and agencies spend over \$500 Billion annually to buy goods and services in support of their missions. Since taking office, President Obama has prioritized cutting unnecessary contracting and ensuring that **all contracts deliver the best value for the American people.**” The “best value” includes, among other considerations, fair prices: government regulations require a Contract Officer to demonstrate that the proposed price is reasonable in comparison with current prices for the same or similar items.

Ideas in Practice:

Traditional methods of evaluating fair prices for catalogued products placed on government contract are not scalable. The volume of examinable SKUs grows as suppliers add new products.

Some Agencies are starting to use data mining solutions to evaluate prices for commercially available products.

What problem needs to be solved?

When a contract is issued for a large set of products or services, should each product in that catalog be evaluated? The average size of a vendor catalog listed on GSA Advantage!, a government managed eCommerce Web site, contains more than 4,000 line items. In fact, almost 500 vendors catalogs on GSA Advantage! have 10,000 line items, or more. Similarly, more than 200 vendor catalogs on DOD EMALL, another large government eCommerce site, contain more than 10,000 SKUs each.

Validation of prices for all 10,000 products can consume an unreasonable amount of time - when done manually; in fact, prices may change by the time this process is completed. One traditional manual process for validating vendor prices involves examining a manageable sample of items. Often that sample amounts to less than 10% of the proposed vendor catalog. An anecdotal description provided by one government Contract Officer depicts him Googling each item in the sample to find three alternative prices for identical or similar items available in other commercial catalogs. The best ad-hoc solution that we witnessed was put together by inventive Contract Officers trying to directly match a proposed catalog price to a database of several competing catalogs.

To illustrate the situation, let’s take a vendor who submitted a catalog with 25,000 products in 2012. Among other products, and additional fields of data, the vendor submitted the information shown in the table below.

Manufacturer Name	Manufacturer Part Number	Product Name	Price	Unit of Issue
BLACK & DECKER/DWLT	DW1608	EXTRA LENGTH DRILL BIT	\$12.31	EA
DEWALT	DW160V	3/8" RIGHT ANGLE DRILL	\$156.36	EA
DEWALT	DW235G	1/2" VSR DRILL	\$107.49	EA
BLACK & DECKER/DWLT	DW3753H	WOOD CUTTING JIGSAW BLADE	\$10.92	CG

You might notice that even within the same catalog, the Dewalt brand is described in two different ways - BLACK & DECKER/DWLT and DEWALT. To expand the perspective, there are more than one hundred variations of the Black and Decker name across all of the different catalogs available on GSA Advantage!, and more than fifty variations on DOD EMALL. Additionally, part number representations differ: DEWDW235G and BLADW235G are different ways to say "DW235G". Another layer of complexity is added when vendors start using their internal catalog numbers in the fields designated for a Manufacturer part number, as shown in the next table.

Mfr Part Number	Product Name	Description	Vendor Name	Vendor Catalog #	Price
908340	Part #DW235G By Dewalt	1/2" VSR Heavy Duty Drill 0-850RPM 3- Mfr: DEWALT – Mfr Part #DW235G	International Suppliers Inc.		\$115.52
N114R13	Extra Length Drill Bit	Black & Decker/DWLT DW1608: 135 split point. ...	Noble Supply & Logistics		\$11.13
07202906	3/8 HD VSR 0- 1200RPM Right Angle Drill	DeWALT,DW160V, Corded Electric Drills...	MSC Industrial Supply Co. Inc.	DW160V	\$162.86
385379	Wood Cutting Jigsaw Blade	T-Shank. High-carbon steel blades feature reinforced teeth...	RTD Hardware	DW3753H	\$12.33

What can be done to resolve this complicated matching process? An automated system needs to manage the process; one that can rapidly examine a large number of products and identify suspicious prices that require further inspection by the Contract Officer. **If that sounds like a data mining problem, that's because it is.** GSA and DOD EMALL recognized this situation early on and adopted an information-era perspective to address the problem. Both ended up licensing Price Point, a Web based automated price evaluation tool that collects data on tens of millions of products and their pricing and quickly identifies potentially problematic supplier pricing. This solution uses data mining technology coupled with a large knowledge base of company brands, jargon and abbreviations to overcome data quality issues that complicate item comparison and evaluation.

Does Price Point Work?

GSA identified \$135,000 in savings on the first contract they analyzed through Price Point. In November 2012, the agency issued guidance to the FAS (Federal Acquisition Service) workforce on the use of Price Point in evaluating the prices of existing and future GSA Advantage! product catalogs (Procurement Information Notice 2013-2).

As shown in the results table below, Price Point's analysis of the first set of catalogs submitted by DOD EMALL Contract Officers resulted in more than a **2000% productivity increase** (which is not surprising for process automation), **the coverage of products evaluated increased eight-fold, with a ten-fold increase in the number of over-priced products identified.**

287 Catalogs	Estimated Manual Assessment*	Price Point Assessment	Improvement	Benefit
Time to Evaluate	~ 8,000 hours	300 hours computer time	2000 +% productivity	Automated System Force Multiplier
# Items Checked	520K (10% of items)	4.3M (83% of items)	Eight fold increase	Majority of items can be evaluated
# of Competitive Prices Found	3	All identical items (~ 25 per record)	Eight fold increase	High statistical confidence
Over priced Items Found	~68K	707K	Ten-fold increase	Cost Savings Reduced Risk
Return on Investment				
Potential Overspend (Price Point):**		\$4M to \$5M		
Potential ROI		10:1		
* Based on results from DoD EMALL Pilot				
**Commercial Items only, not NSNs				

The solution implemented by GSA and DOD EMALL is not an all-purpose system. It addresses a specific requirement - commercial product price evaluation. Price Point does not reason on built-to-print parts or services as these have numerous, complex and often customized requirements. The benefits of automation however are apparent; Price Point automates laborious tasks, enabling the Contract Officer to focus on higher value contract evaluation issues. The result has been a tremendous improvement in efficiency and a reduction in total acquisition costs. How do other agencies approach price evaluation? Many so far seem to scale only on the human level...