Better Results with Should Be Cost Models

- ***Better Decisions***
- ***Better Results***

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Principal, Advanced Purchasing Dynamics

- >30 years manufacturing purchasing experience
- Founded APD in 2004
- Helps clients make their investment in purchasing a competitive advantage

Better Decisions
Better Results

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- Project Management Leadership for Consulting and ProcureForce Implementation
- Helps clients make their investment in purchasing a competitive advantage

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What to Do if Your Purchasing Practices Are Not Providing Should be Costs – Parts 1 & 2

- Available on demand:

http://www.procureforce.co/homepage-kc/on-demand-webinars/

Negotiating with Should-Be Costs

- Available on demand.

http://www.procureforce.co/homepage-kc/on-demand-webinars/

Making Purchasing a Competitive Advantage

Execution

Implementing projects that improve the bottom line

- Savings roadmaps with specific cost savings actions for each commodity
- Should-be cost model development
- Strategic sourcing implementations for sustainable savings

Technology

Unlocking cost data to enable Better Decisions\Better Results

- E-sourcing tool simplifies quoting and supplier management
- Develops should-be cost models for side-by-side quote comparison
- Identify opportunities for savings based on variance analysis of supplier quotes

People

Enhancing the capabilities of your purchasing team

- Purchasing Placement (direct hire or contract)
- Buyer skill development training:
  - Strategic negotiations
  - Commodity leadership
  - Understanding and managing costs

Customized solutions; There is no one size fits all approach.

We Help Clients Implement Knowledge-Based Cost Management in Three Ways . . .

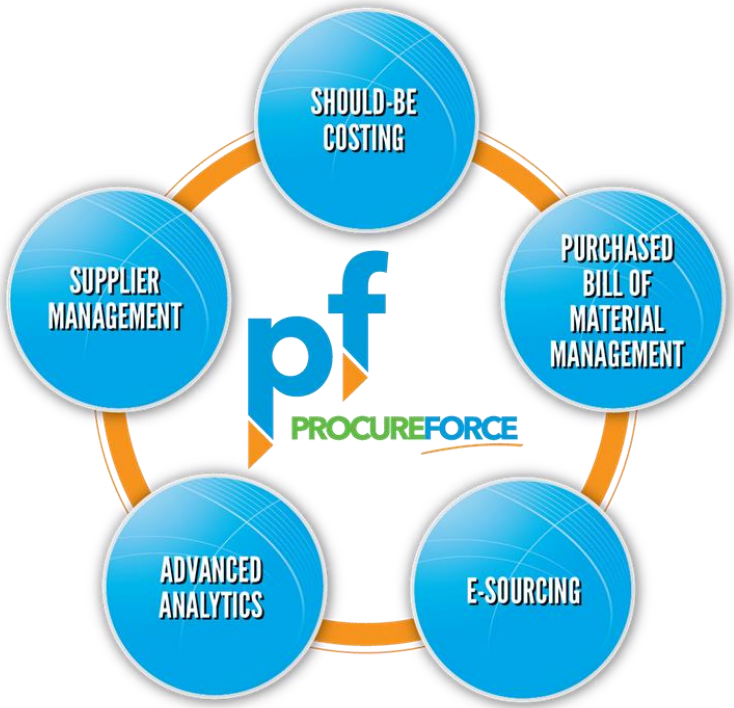
1. **Turn-key Projects** that provide the maximum leverage of our expertise and time

2. **Execute-and-Mentor** where we deliver the early stages and guide the client's staff to complete the project while internalizing capabilities

3. **Technology Transfer** approach that relies on the client organization to execute

ProcureForce: Built on Knowledge Gained from 14 Years of Cost Engagements

Better Decisions, Better Results



ProcureForce is the big data analytic tool that enables purchasing to make better decisions and achieve better results though:

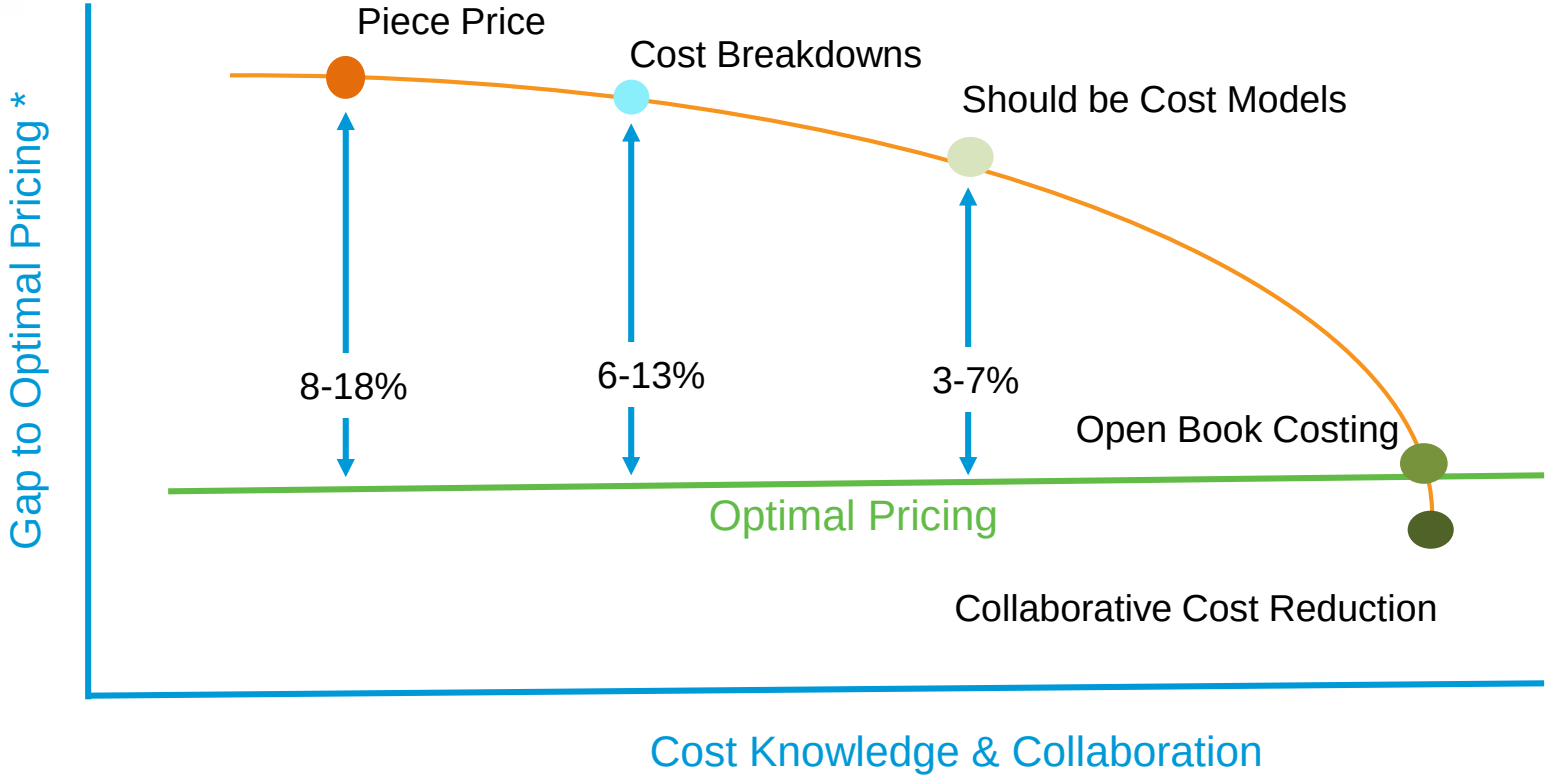
- The ability to build should be cost models to estimate and validate supplier pricing.
- Realtime monitoring of purchased Bill of Material costing.
- Efficient e-sourcing providing buyers with more time for analysis and management.

Better Decisions
Better Results

Today's Objectives

- Better Sourcing Decisions\Better Profits
- How Companies Progress To Better Sourcing Decisions

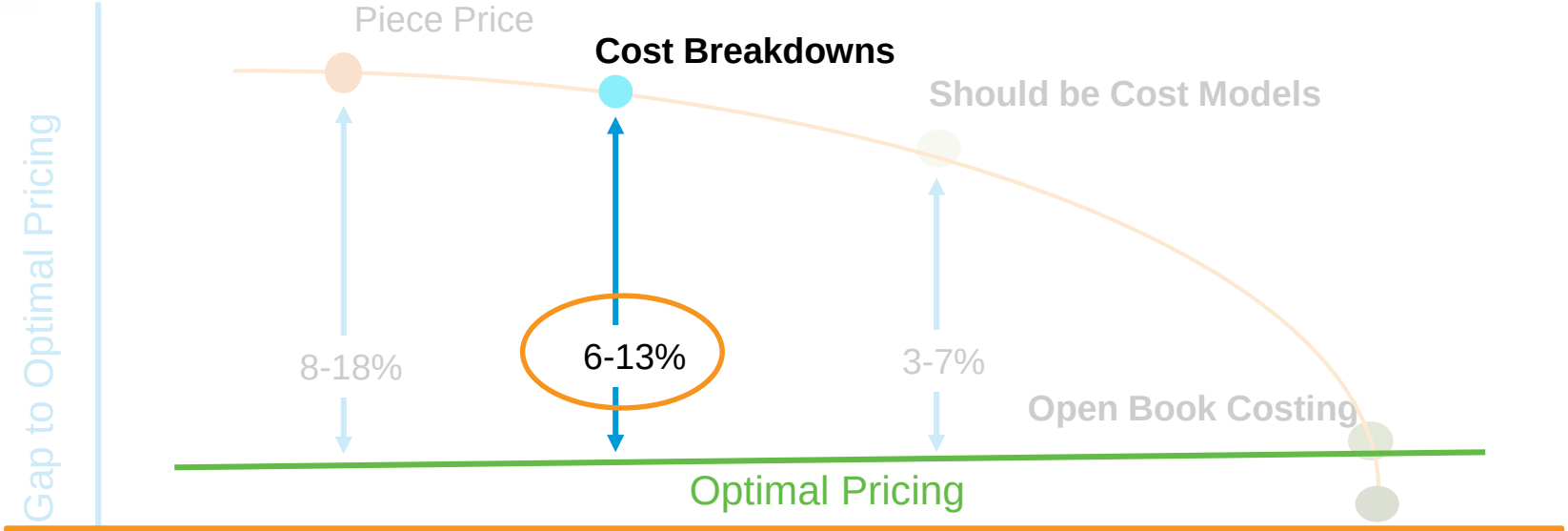
The Opportunity



* Based upon APD engagements 2004-2018

Better Decisions
Better Results

Cost Breakdowns



There is a wide variation in savings available for using cost breakdowns based upon implementing best practices.

Better Decisions
Better Results

ProcureForce Delivers

- Efficient e-RFQ
- Customer configurable detailed cost breakdowns
- Easy analysis of supplier quotations

Demo

- eRFQ
- Supplier Quote Entry
- Quote analysis
  - Piece price and 3 year total cost
  - Side by side comparisons
  - Excel download

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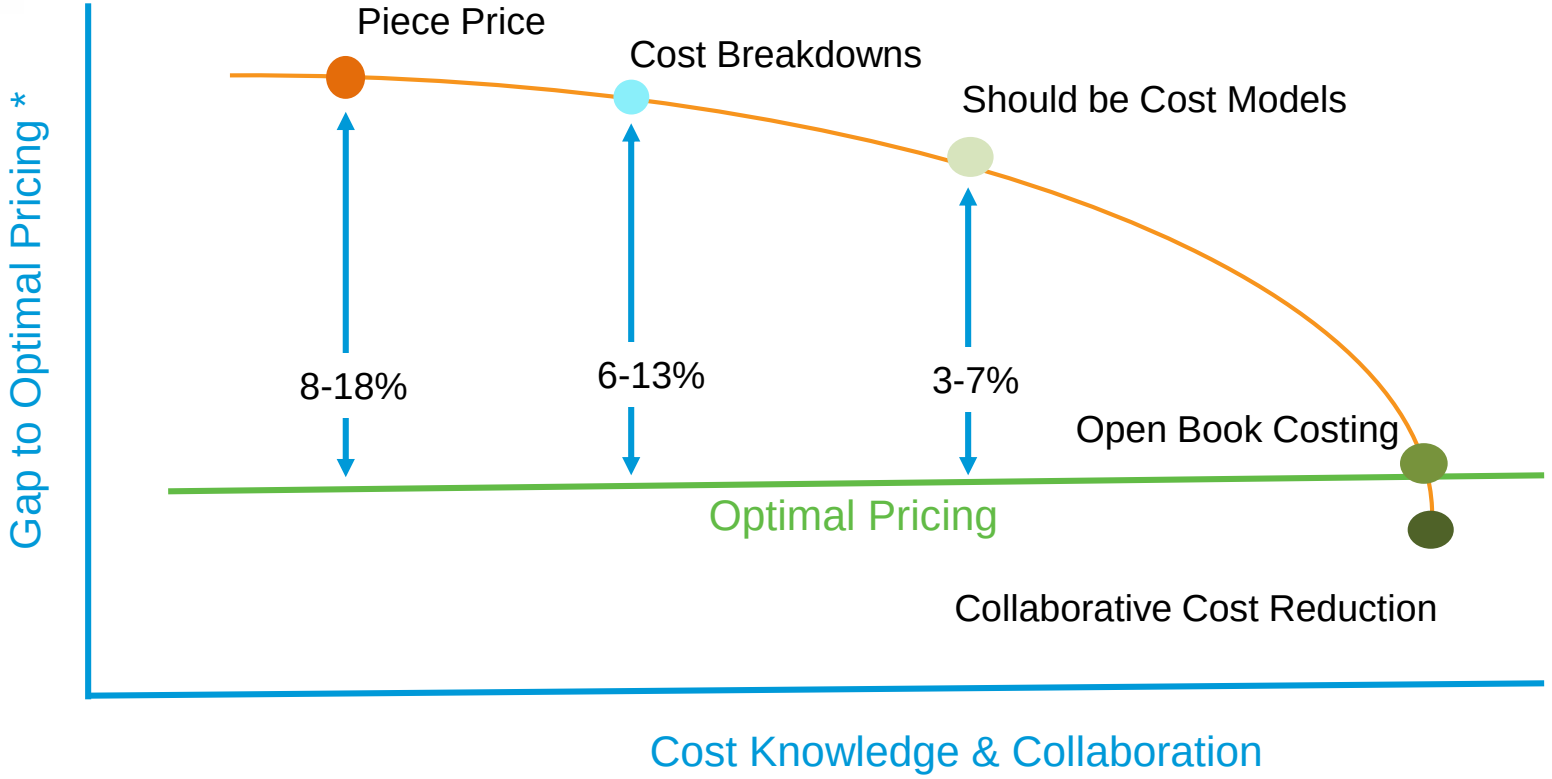
The Opportunity



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ProcureForce Builds Cost Data Pools

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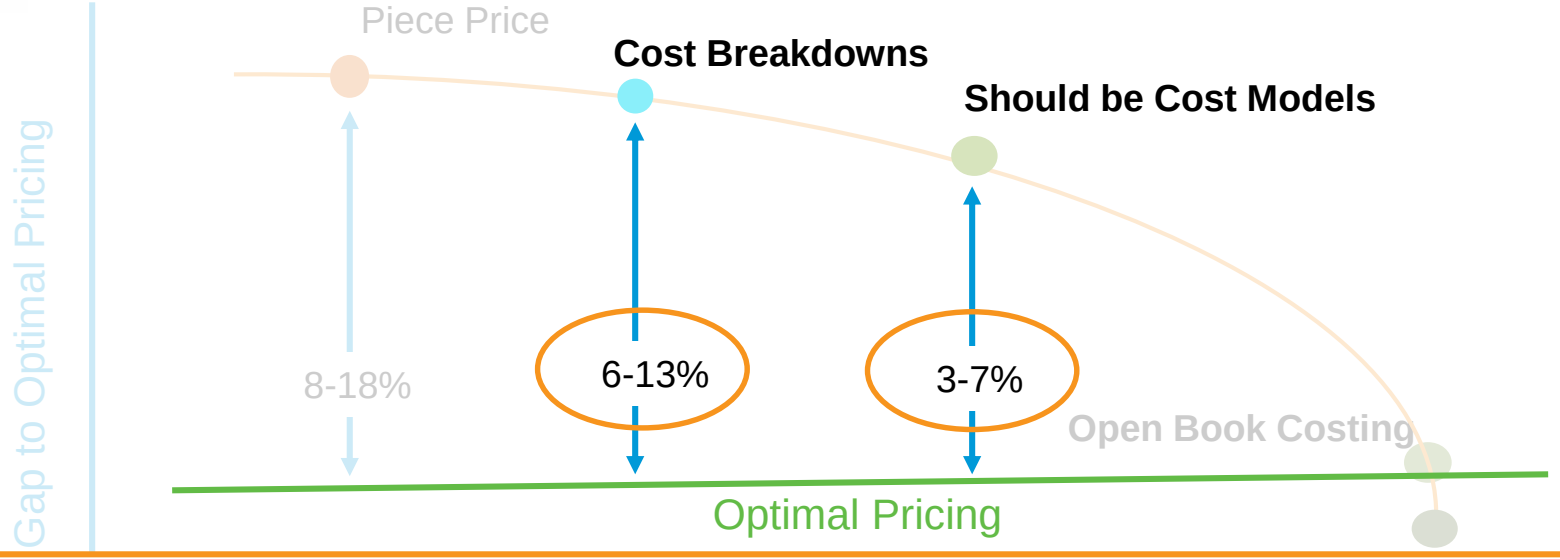
Data Pools Enable Should be Costing



Buyers can create credible should be cost models using data from supplier quotations.

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Types of Cost Models Supported

- Linear Pricing
- Multivariate
- Manufacturing Process Models using Statistical Data from Quote History
- Supplier Specific Open Book Cost Models

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Predictive Linear Model

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Multi Variable Regression Models

Attribute of Part Being Estimated		Regression Coefficient	Cost Impact
			$ 0.09
Net Part Weight (lbs)	3	0.22	$ 0.66
# of Machined Surfaces	2	0.14	$ 0.28
# of Times Washed	1	0.11	$ 0.11
Material Index Value	1.34	0.91	$ 1.22
Volume	100,000	-0.0000013	$ (0.13)
		Should be Estimate	**$ 2.23**

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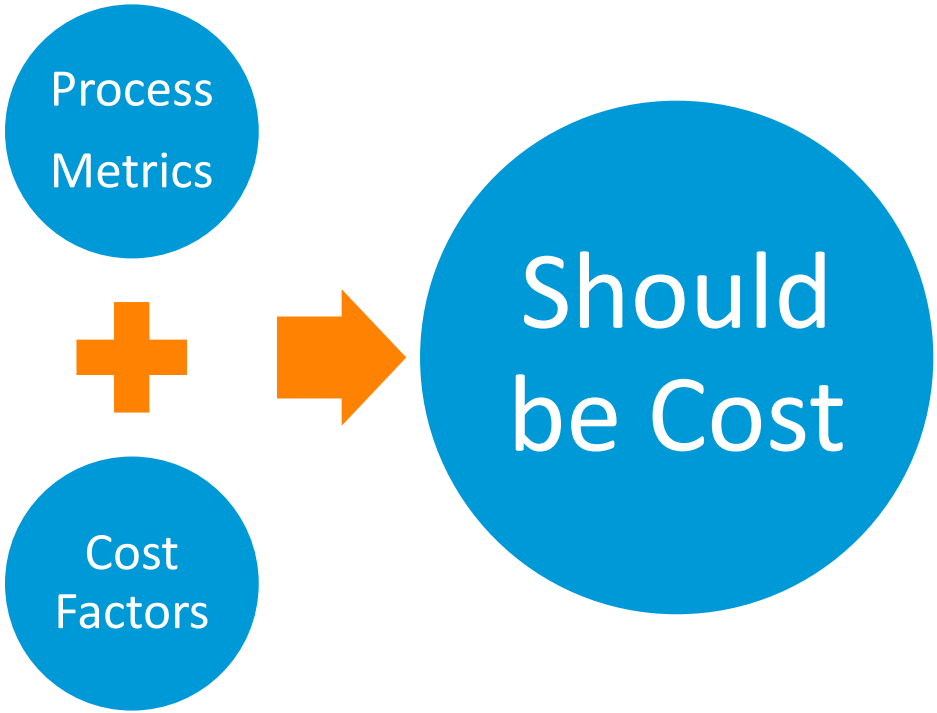
Manufacturing Process Should be Model



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Estimating Process Metrics

Process Metrics

- Machine sizes
- Cycle times
- Material usage rates
- Machine efficiency rates

Estimate with

- Linear
- Multivariant

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Multivariate Cycle Time Calculator

Attribute		Regression Coefficient	Cyle Time
			0.090
Net Part Weight (lbs)	2.5	0.222	0.555
Length (cm)	9	0.22	1.980
Width (cm)	5	0.165	0.825
Thickness (cm)	0.4	3.423	1.369
		Cycle Time	**4.82**

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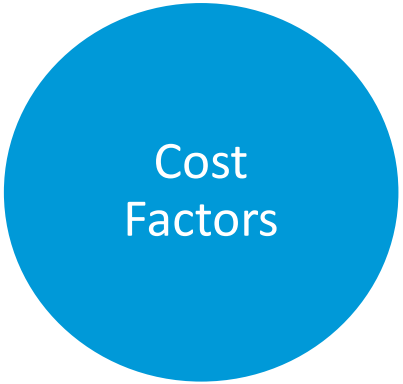
Estimating Cost Factors



- Labor Rates
- Overhead Rates
- Material Costs

Estimate from:

- Cost tables
- Statistics
  - 1st Quartile
  - Average

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Manufacturing Process Should be Model

Process Labor and Burden Cost

Labor Rate Per Hour	$18.50
# of Direct Operators Req'd	1
Cycle time in Seconds	4.82
Efficiency	85%
Pieces Produed per Hour	635
Total Labor Cost	$ 0.0291
Machine Size	200
Burden Rate Per Hour	$ 135.00
Burden Cost Per Part	$ 0.2126
Total Labor and Burden Cost	**$ 0.24**

Key:
Data from Cost Breakdown
Caclulated from Regression
Calculation

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Demo

- Comparing supplier quote to a cost model
- Using a manufacturing cost model to estimate
- Using a regression model to estimate

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From Price to Statistical Model – 14 Weeks

Wire Harnesses

Profile

- Specialty vehicle OEM
- Highly customized

Situation

- 12 suppliers – US and Mexico
- Short lead times on 30% of spend leaving no time for competitive sourcing
- No history of detailed cost breakdowns

Process

- Utilized multi round market test of 10% of total spend

Achieved

- $220k/16% savings
- Obtained and verified detailed cost breakdowns
- Identified 4 low cost producers
- Developed statistical models for Mexico and US

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From Limited Cost to Open Book – 20 Weeks

Metal Fabrications

Profile

- Specialty vehicle OEM
- Invested in metal fabrication when key supplier went out of business

Situation

- CEO questioned competitiveness of in-house mfg
- 12 fabrication suppliers
- Limited detail on cost breakdowns

Process

- Utilized multi round market test verified with open book costing of most cost competitive suppliers (6)
- Utilized Strategic Sourcing Process

Achieved

- Savings of $1.4 mils / 12%
- Established cost models to use with all fabrication suppliers to manage ongoing pricing for new and revised parts
- Reduced supply base from 12 to 4-5 BIC suppliers while closing internal manufacturing

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From No Price to Statistical Model – 22 Weeks

Powdered Metal Components

Profile

- Complex assembly powertrain manufacturer
- Refocusing business to core and non-core processes

Situation

- PM production viewed as non-strategic
- 100 components to source
- No supply Base
- No history of detailed cost breakdowns.
- Limited review of cost competiveness on 30% of spend

Process

- Utilized multi round market test in awardable lots
- Engaged 22 suppliers in first round

Achieved

- Achieved $182k/10% reduction
- Identified low cost supply base
- Developed statistical model for US

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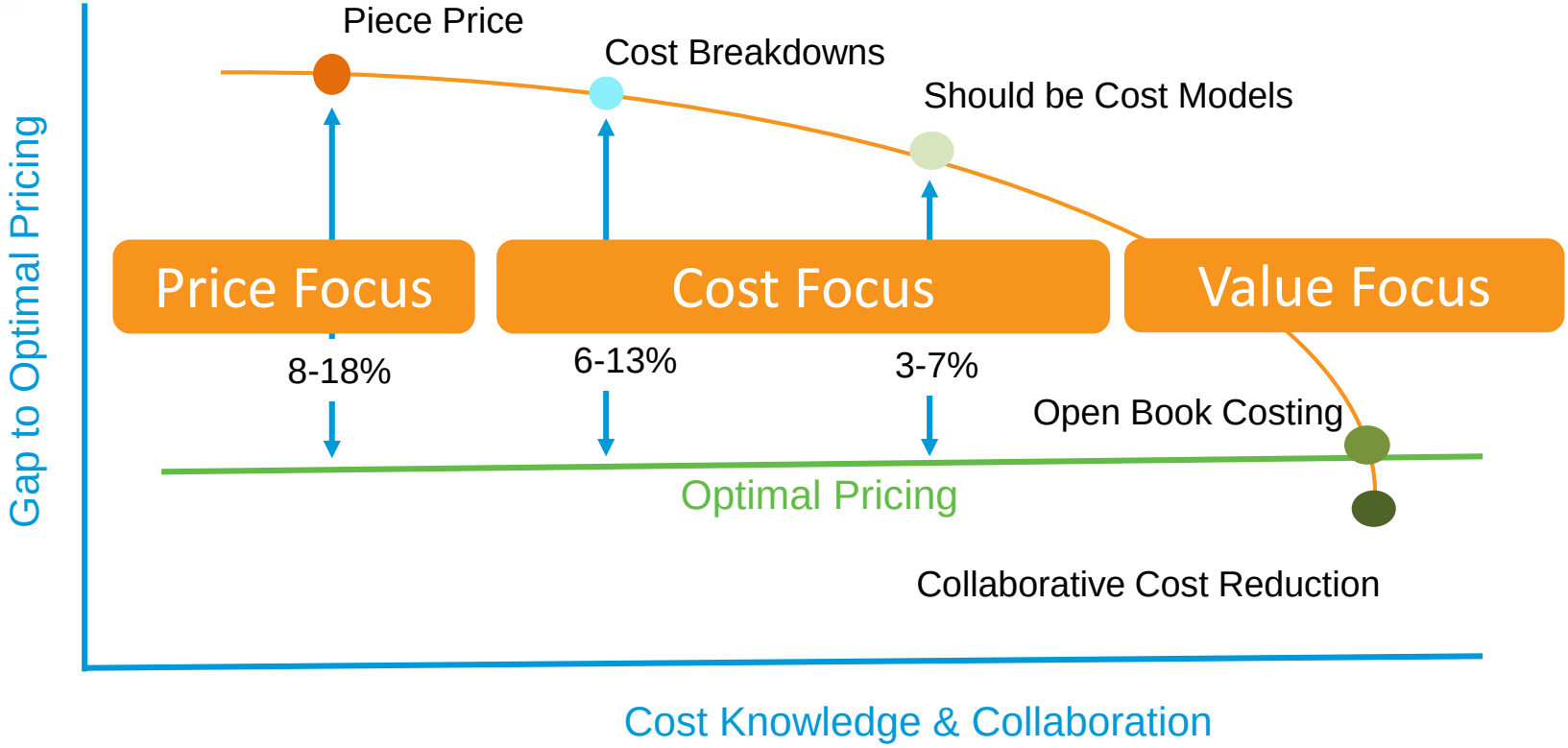
The Opportunity



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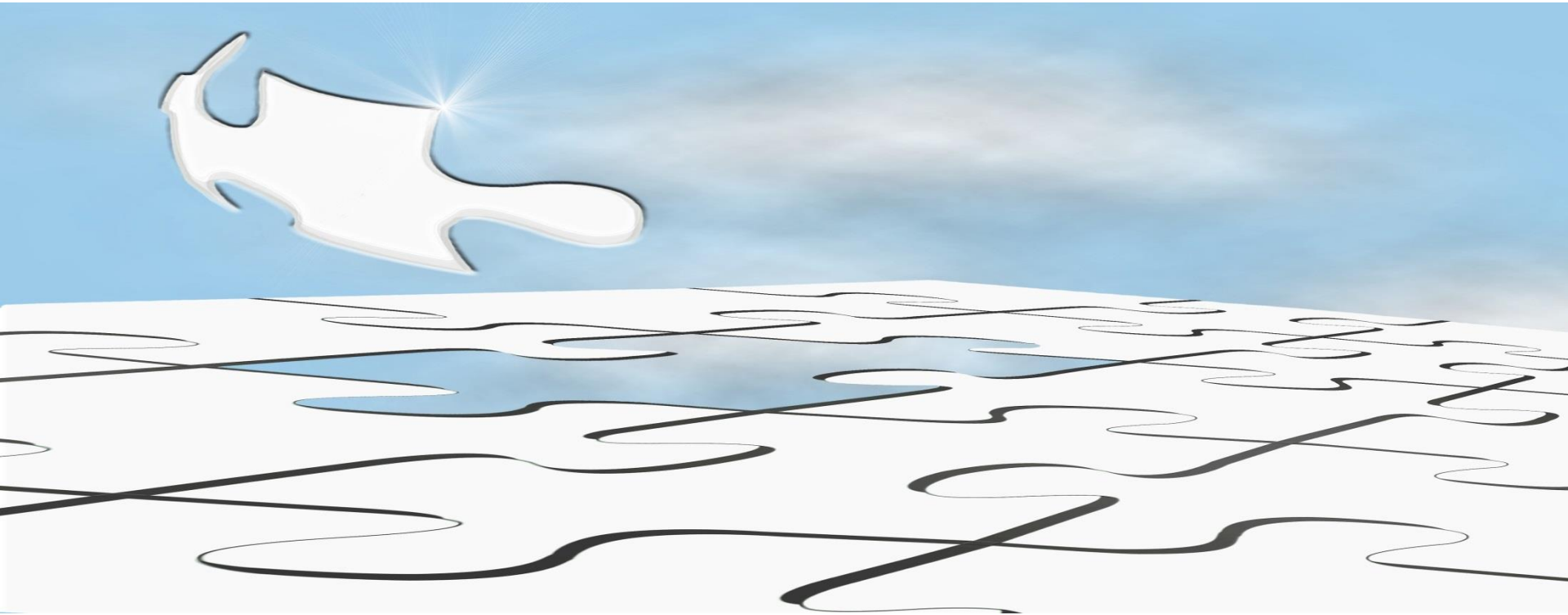
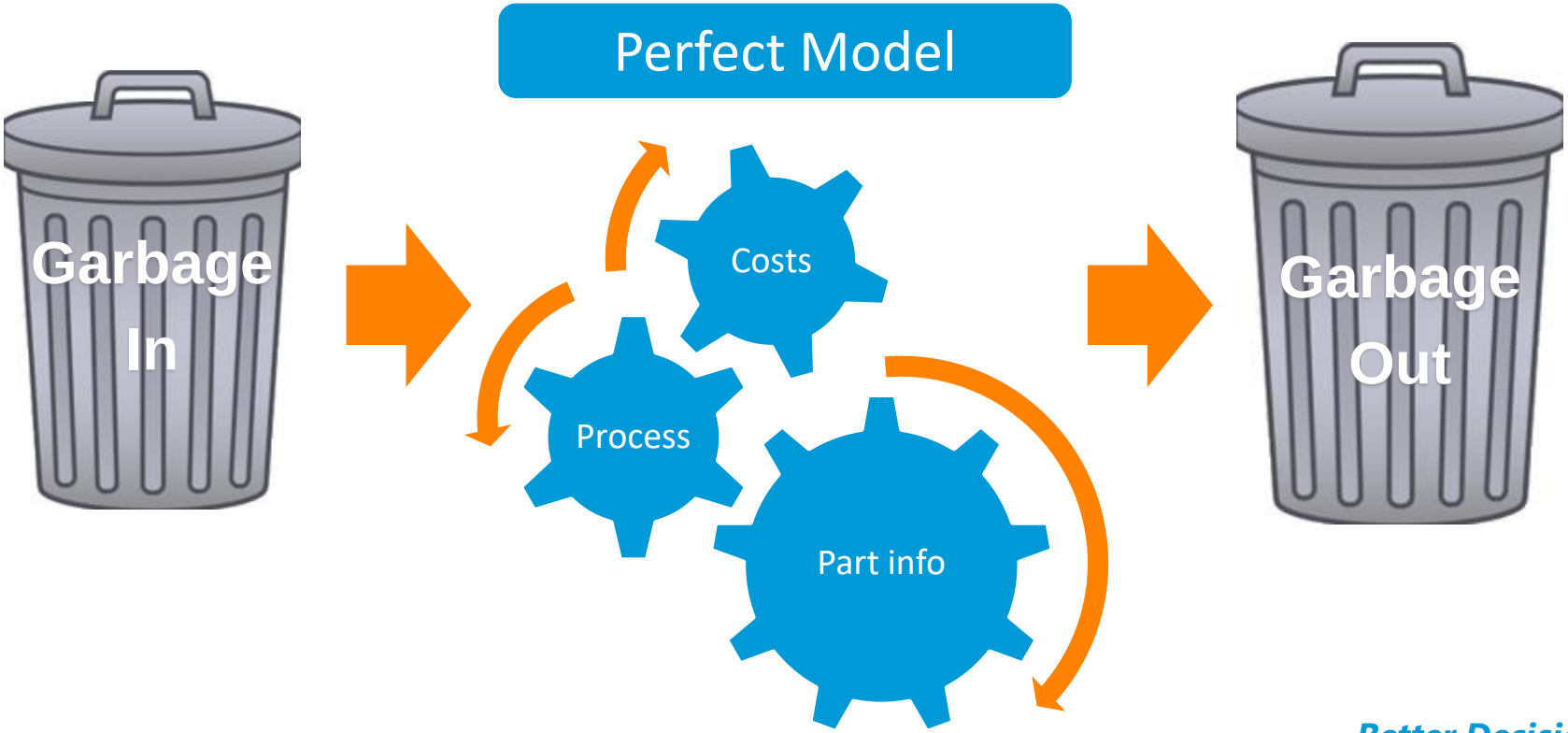
Final Questions



Ensure Quote Accuracy



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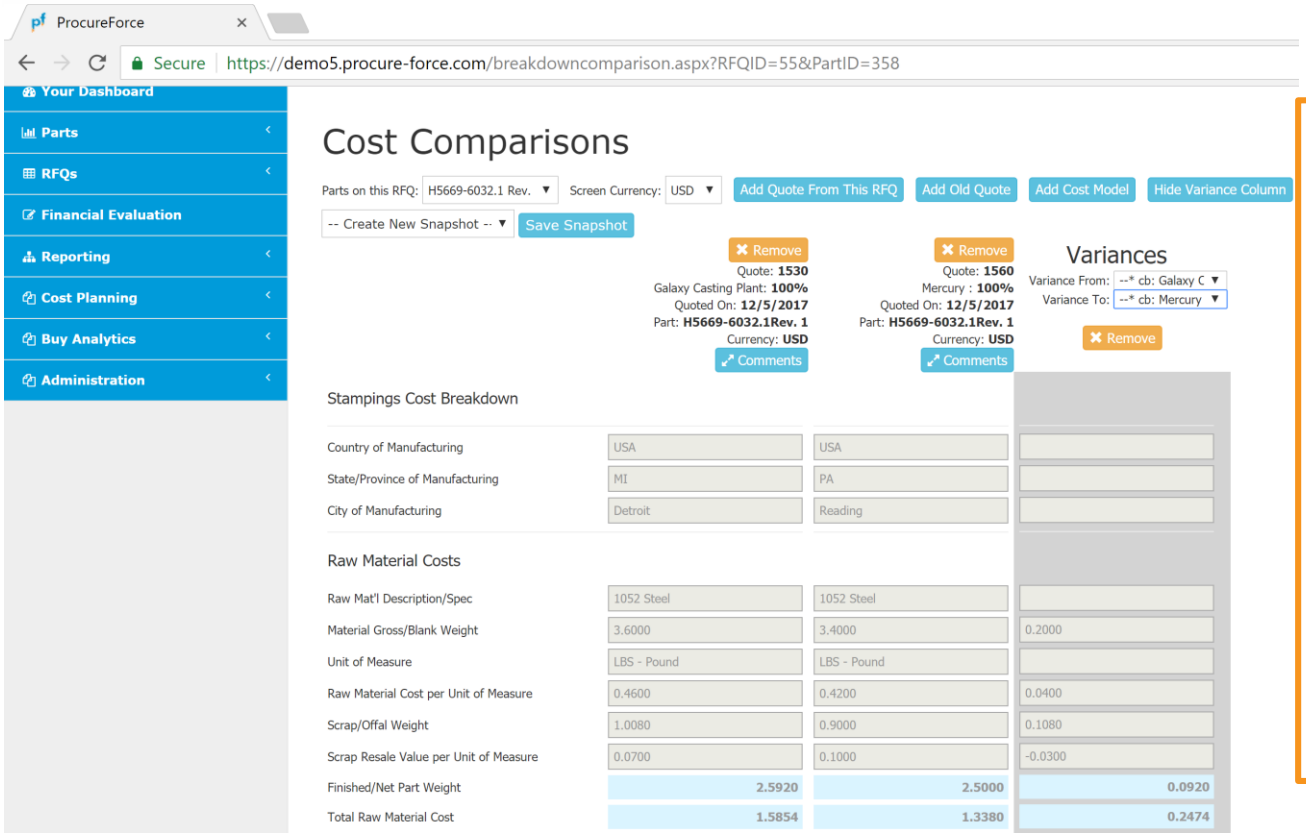
Cost Breakdown Best Practices



- Customers can create an unlimited number of commodity specific detailed cost breakdowns.
- Buyers can compare detail between suppliers and against any historical quote.
- Buyers can create a variance analysis between supplier quotes

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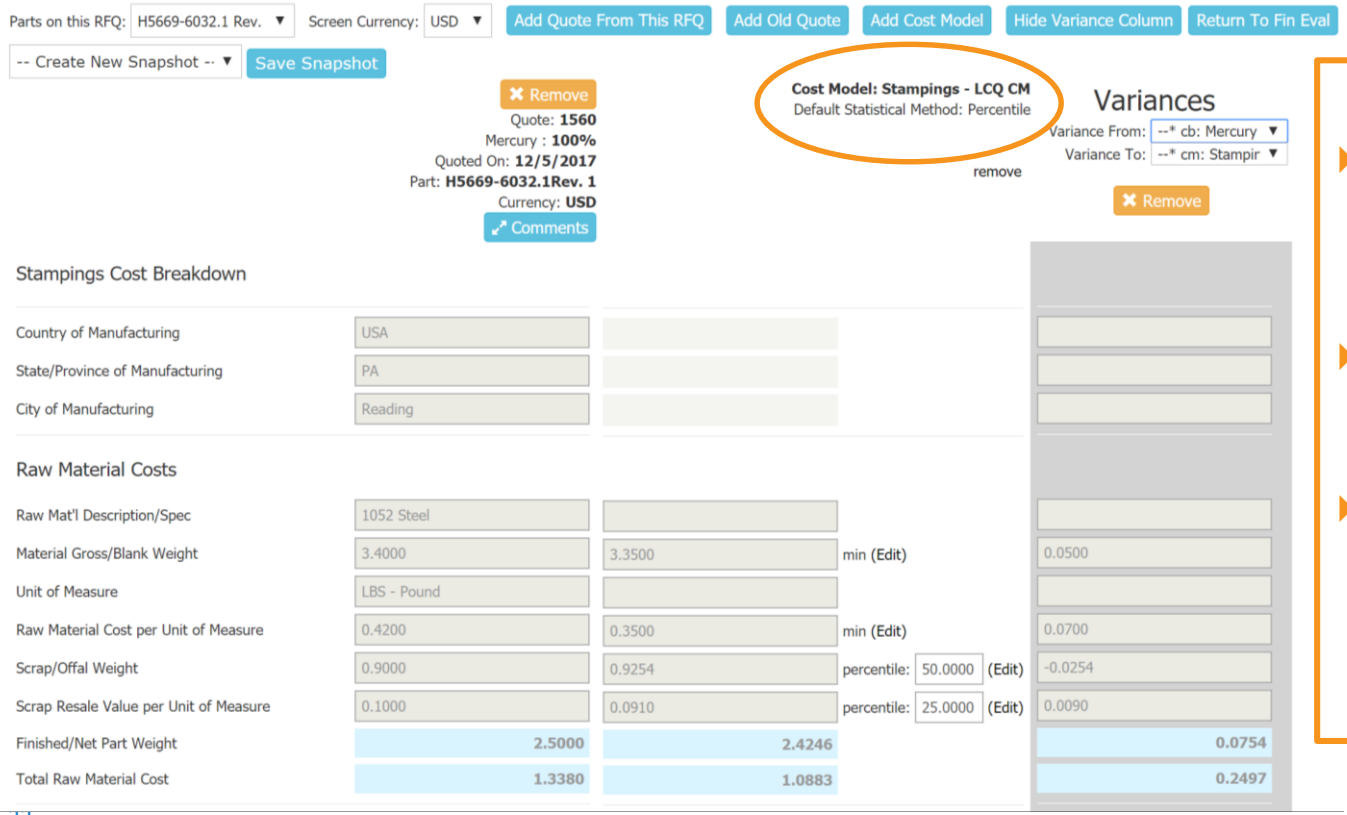
Cost Models



- Customers can create an unlimited number of should be cost models.
- Buyers can easily compare models to supplier quotes.
- Buyers can create estimates for new or redesigned parts using cost models.

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Model Development Method

- Use existing data
- Utilize a sourcing or resourcing event

Method	Time to complete (Existing data)	Sourcing / Resourcing Event
Variance analysis	1 week	4-8 weeks
Statistical Model	2 weeks	4-8 weeks
Regression Model	2 weeks	4-8 weeks

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