THE TREND TOWARD COST TRANSPARENCY IN THE SUPPLY CHAIN

WHY LEADING COMPANIES ARE GOING THERE AND THE TECHNIQUES THEY ARE USING

Ken Jones, Director of Educational and Consultative Solutions and ISM Faculty, WMU
Jeff Burris, Founder and Principal, Advanced Purchasing Dynamics
Robert Maks, V.P., Cost Engineering, Advanced Purchasing Dynamics
Objectives

- Presenters – Introductions
  - About WMU
  - About APD
- Understand why manufacturing cost knowledge is important for buyers in manufacturing
- Overview what we are seeing in the industry.
- Introduction to the cost transparency curve
- Learn how to determine buyer vs. supplier power using the Commodity/Product Matrix
- Introduce the group to the Commodity/Product excel tool
- Developing Open Book Cost Models
- Present self assessment tool
Agenda

- Introductions
  - APD
  - WMU
Transformation/History

- Joff Burris
  - Founder and Principal
  - Ford Motor, Metaldyne, Intier
  - Purchasing Industry Leader with Substantial P&L Experience
- Knowledge based approach to purchasing
- Data driven approach to purchasing
- Make solutions broader to manufacturing
BUILT BY PURCHASING

SPECIALIZED FOR MANUFACTURING
Fact and Figures

175+ CUSTOMER ENGAGEMENTS

850+ OPEN BOOK COST MODELS

300+ YEARS OF MANAGEMENT EXPERIENCE

200+ PLACEMENTS

10 YEARS IN BUSINESS
Provide all essential tools for a knowledge based collaborative approach to purchasing

Enable organizations to take ownership of proven purchasing processes

Tailored sequence and delivery of tools with support for each customer to maximize ROI

Processes designed for minimum disruption and easy adoption
WMU supply chain program is No. 5 in the nation

by Stacey Markin
August 26, 2014 | WMU News

KALAMAZOO, Mich.—Western Michigan University’s integrated supply management program is heralding a national accolade that puts it among the top such programs in the country.

The celebrated WMU program has been ranked No. 5 on Gartner’s Top U.S. Supply Chain Undergraduate University Programs, 2014. In addition to the overall No. 5 ranking, Gartner lists WMU as the leader in its program scope category, a nod to ISM’s unique combination of supply chain management, engineering, information technology and business education that prepares graduates for challenging and high-paying careers.

"Program rankings such as Gartner’s have a very positive and long-term impact on our supply chain program," says Dr. Robert Reck, professor of marketing and co-founder of the program, which was established in 1993. "Employers use the rankings to identify the best programs in order to recruit the best supply chain talent, and managers use the rankings to determine where to develop industry relationships, send their employees to complete their education and invest in scholarships."

According to Reck, more interest in the program will impact the number of opportunities available to the students and faculty. "The quality of our students continues to improve as we move up in the rankings and more recruiters and companies are coming to campus," he says.
ISM Center

By “association”

Undergraduate ISM Program

Promise of the Promise

Educational Solutions

Solutions Teams

Applied Research

Est. November 2013
Fundamental objectives of strategic sourcing:

- **Understand** – Analysis of needs, markets, suppliers, competitors, capabilities
- **Decide** – Determine opportunity to pursue, develop sourcing strategy, evaluate suppliers, negotiate, analyze results
- **Manage** – Award business, complete contract, establish expectations, monitor performance

DRIVES **VALUE** INTO THE BUSINESS!
### Supplier/Commodity Segmentation

**Wave 1**
- Assembly Equipment, $700,000
- Injection Mold, $500,000
- Ductile Castings, $500,000
- Fine Blanks, $75,000
- Rubber, $800,000

**Wave 2**
- Steel Rod, $2,200,000
- Forgings, $1,600,000
- Al Castings, $400,000
- Fasteners, $1,000,000

**Wave 3**
- Steel, $3,000,000
- Stampings, $1,200,000
- Wiring, $200,000

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**Buyer's Supply Market Complexity**

- Buyer has many options
- Buyer has few options

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*Note: The diagram illustrates the impact on the buyer's business and the segmentation of suppliers/commodities across different waves.*
DETROIT – General Motors has named Grace Lieblein Vice President, Global Purchasing and Supply Chain, effective immediately. In her new role, Lieblein will be responsible for GM’s purchasing activities and supply chain and logistics operations worldwide.

Grace’s track record is a diverse and very successful one that has prepared her well for this critical role,” said Girsky. “Her wealth of experience in product development, manufacturing and general management gives her the insight needed to lead our Global Purchasing and Supply Chain organization and develop mutually beneficial and productive relationships with our suppliers.”

Lieblein, 52, joined GM in 1978 as a co-op student at General Motors Assembly Division in Los Angeles. Since then, she has held a variety of leadership positions in engineering, product development and manufacturing.
Lieblein said. "I don't want to be talking to CEOs about terms and conditions. I want to be talking to them about technology and quality and driving waste from the system."

"We're not just saying, 'This is in your contract, you go figure out how to do it,'" Lieblein told Automotive News last week. "Let's work together to understand the cost drivers in your business."
Mark L. Reuss is responsible for the design, engineering, program management and quality of General Motors vehicles around the world. He also oversees GM’s Global Purchasing and Supply Chain organization, and is a member of the GM Executive Operations Committee, as well as a member of the Opel Supervisory Board and the board of Shanghai General Motors (SGM).

**Goal:** Have stronger collaboration between the organizations.
Succeeding Tony Brown as group vice president, Global Purchasing is Hau Thai-Tang, who will report to Mark Fields, Ford’s chief operating officer. Thai-Tang currently is vice president, Engineering. His extensive global experience leading the company’s global engineering operations in North America, South America and Europe will enable him to bring the same One Ford approach to Ford’s purchasing, the company said.
Scott G. Kunselman
Senior Vice President - Purchasing and Supplier Quality, Chrysler Group LLC

Scott Kunselman was named Senior Vice President - Purchasing and Supplier Quality, Chrysler Group LLC in April 2012. He is responsible for all purchasing and supplier quality activities, including both product-related components and indirect suppliers and services.

Previously, he held the position of Senior Vice President - Engineering since June 2009. In this position, Kunselman oversaw all systems and component engineering, vehicle line platform programs, international engineering, advance vehicle development and innovation, powertrain product engineering, product technical planning and regulatory affairs. He was also responsible for vehicle testing, validation and all product development processes in support of a world class product development factory.
Scott R. Garberding was appointed Fiat Chrysler Head of Group Purchasing and named a member of the Group Executive Council (GEC) in September 2013.

In December 2009 he was appointed Senior Vice President of Manufacturing/World Class Manufacturing, Chrysler Group LLC. In this position, he was responsible for all assembly, stamping, and powertrain manufacturing operations worldwide as well as implementation of the World Class Manufacturing system at all Chrysler Group manufacturing facilities.
Industry Buzz

- Transparency
- Pre Sourcing Concepts
- Open Book
- Analytics
- Lead Buyer Concept
- Strategic Supplier
- Should Be Cost Models
Cost Transparency Curve

Level of Transparency and Savings

- Very High
- Medium
- Very Low

Time

- Open Cost
- Should-be Cost
- Cost Estimates
- Cost Breakdowns
- Piece Price

Very High

Levels of Transparency and Savings

- Very High
- Medium
- Very Low

Cost Transparency Curve

24
Pragmatic Application of Tools

Level of Transparency and Savings

Very High

Medium

Very Low

Time

Open Cost

Should-be Cost

Cost Estimates

Cost Breakdowns

Piece Price

Commodity Segmentation

Very High

Medium

Very Low
Commodity Segmentation

- Injection Mold, $500,000 (High, Many Suppliers)
- Steel, $2,000,000 (High, Few Suppliers)
- Stampings, $1,500,000 (High, Many Suppliers)
- Forgings, $1,200,000 (High, Few Suppliers)
- Al Castings, $400,000 (Low, Many Suppliers)
- Ductile Castings, $500,000 (Low, Many Suppliers)
- Assembly Equipment, $700,000 (Low, Many Suppliers)
- Rubber, $500,000 (Low, Few Suppliers)
- Fine Blanks, $75,000 (Low, Few Suppliers)
- Fasteners, $90,000 (Low, Few Suppliers)
- Wiring, $200,000 (Low, Few Suppliers)
- Steel Rod, $1,000,000 (Low, Few Suppliers)

Buyer’s Supply Market Complexity
Far too Often Application of Tools
Far too Often Application of Tools
Management of Pricing

Piece Price Only

- Positives
  - Straightforward supplier participation
  - Swift results
  - Simple analysis
  - Usable for most commodities

- Negatives
  - Limited understanding of cost drivers
  - Struggle to understand pricing validity
  - Inconsistent supplier pricing
  - Difficult to control price over time

Moving up the Curve

- Positives
  - Detailed understanding of cost drivers
  - Ability to validate quote
  - Establish methodology for pricing adjustments
  - Standardize cost
  - Basis for collaborative relationships and tools

- Negatives
  - Involved Supplier Participation
  - Usable for select commodities
  - More time spent in preparing and analysis
Management of Pricing

What determines when a buyer moves to a cost based approach?

Interest

Ability
Buyer Interests

Market Based Pricing

- Supplier controls the design; buyer has no input.
- Product has limited impact to buyer’s profit.
- Manufacturing costs of the product are insignificant.

Moving Up the Curve

- Buyer controls the design of the product and therefore can influence costs.
- Product pricing has a significant impact to buyer’s profit.
- Manufacturing costs of the product are significant.
Buyer Ability

**Market Based Pricing**
- Suppliers hold the balance of power.
- Few suppliers controlling the market.
- Buyer has only market based tools, knowledge or resources.
- New evolving product.

**Moving Up the Curve**
- Buyer holds the balance of power.
- Many suppliers.
- Buyer has cost based tools, knowledge and resources.
- Mature product.
Ability is determined by who has the power in the relationship, most often times determined by whether the item being purchased is a commodity or a product.
Purchasing vs. Sales

Eddie Maxie vs. the Supplier CEO

“The buyers strategic responsibility is to turn purchases into grains of salt”   Eddie Maxie

“We will not pursue a customer unless we can be one of 2-3 suppliers”   CEO
<table>
<thead>
<tr>
<th>Product</th>
<th>Commodity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Few Competitors</td>
<td>Many Suppliers</td>
</tr>
<tr>
<td>Unique Technology</td>
<td>All Capable</td>
</tr>
<tr>
<td>Highest Quality</td>
<td>All Capable</td>
</tr>
<tr>
<td>Supports Production</td>
<td>All Capable</td>
</tr>
<tr>
<td>Unparalleled Service</td>
<td>All Capable</td>
</tr>
</tbody>
</table>
### Power and Importance

#### Impact on Buyer’s Business

<table>
<thead>
<tr>
<th></th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Commodity</strong></td>
<td>(Leverage)</td>
<td>(Non-Critical)</td>
</tr>
<tr>
<td><strong>Product</strong></td>
<td>(High Attention)</td>
<td>(Low Attention)</td>
</tr>
</tbody>
</table>

- **Buyer has Many Options**
- **Buyer has Few Options**

**Buyer’s Supply Market Complexity**
Impact on the business –

What effect the commodity can have on the business’s ability to deliver desired outcomes.
Items that impact Complexity / Options –

- Unique materials, processes
- Degree to which commodity is engineered into a product or process
- Patents
- Barriers to entry for competitors
- Only available in specific regions
- Others: __________________________
  __________________________
### Power and Importance

<table>
<thead>
<tr>
<th>Impact on Buyer’s Business</th>
<th>Commodity (Non-Critical)</th>
<th>Commodity (Leverage)</th>
<th>Product (Low Attention)</th>
<th>Product (High Attention)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Low Complexity** – Buyer has Many Options
- **High Complexity** – Buyer has Few Options

*(Source A.T. Kearney, Inc.)*
### Power and Importance

<table>
<thead>
<tr>
<th>Impact on Business</th>
<th>Supply Market Complexity</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Low Complexity – Many Options</td>
</tr>
<tr>
<td>Commodity (Leverage)</td>
<td>Product (High Attention)</td>
</tr>
<tr>
<td>Commodity (Non-critical)</td>
<td>Product (Low Attention)</td>
</tr>
</tbody>
</table>

Product (High Attention) – High Value where the supplier is difficult (i.e., the supplier has the negotiating advantage due to the supply market characteristics).

(Source A.T. Kearney, Inc.)
Product – Low Attention

Product (Low Attention) – Low Value where the supplier is difficult (i.e., the supplier has the negotiating advantage due to the supply market characteristics).

(Source A.T. Kearney, Inc.)
Commodity -- Leverage

Commodity (Leverage) – High Value where there is low complexity and many options for supply.

<table>
<thead>
<tr>
<th>Impact on Business</th>
<th>Commodity (Non-critical)</th>
<th>Product (High Attention)</th>
<th>Commodity (Leverage)</th>
<th>Product (Low Attention)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Low Complexity – Many Options</td>
<td>High Complexity – Few Options</td>
<td>Low Complexity – Many Options</td>
<td>High Complexity – Few Options</td>
</tr>
</tbody>
</table>

Supply Market Complexity

(Source A.T. Kearney, Inc.)
### Commodity – Non-Critical

<table>
<thead>
<tr>
<th>Impact on Business</th>
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<th>Product (High Attention)</th>
<th>Commodity (Non-critical)</th>
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<tbody>
<tr>
<td>High</td>
<td>Commodity (Leverage)</td>
<td></td>
<td>Product</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td>Low Complexity – Many Options</td>
<td>High Complexity – Few Options</td>
<td></td>
</tr>
</tbody>
</table>

**Commodity (Non-Critical) – Low-value, non-critical**

(Source A.T. Kearney, Inc.)
### Increasing Commodity Power

<table>
<thead>
<tr>
<th>Sellers</th>
<th>Buyers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work with engineering to get their design or product specified.</td>
<td>Work with engineering to ensure specifications are performance based not solution based.</td>
</tr>
<tr>
<td>Develop strong relationships with operations.</td>
<td>Understand needs of operations and ensure that all suppliers are capable of delivering them.</td>
</tr>
<tr>
<td>Try and outperform competition on Quality, Delivery and Service.</td>
<td>Works to ensure all suppliers meet requirements for Quality, Delivery and Service.</td>
</tr>
</tbody>
</table>
## Increasing Commodity Power

<table>
<thead>
<tr>
<th>Sellers</th>
<th>Buyers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have multiple salespeople call on clients to “unbundle” negotiations.</td>
<td>Unify buyers and stakeholders across their company and ALWAYS approach from a unified front.</td>
</tr>
<tr>
<td>Other ways sellers can increase Power.</td>
<td>Other ways buyers can increase Power.</td>
</tr>
</tbody>
</table>
Buyer’s Objective - Strategic Sourcing

How to maximize results – especially costs

Work opportunities in Commodity (Leverage).

Identify easy to achieve savings in the other quadrants.

Identify strategies to move commodities to Commodity (Leverage).

Impact on Business

High

Low

Commodity (Leverage)

Product (Low Attention)

Commodity (Non-critical)

Product (High Attention)

Supply Market Complexity

Low Complexity – Many Options

High Complexity – Few Options
Assignment: Assume that you are trying to reduce costs. Identify approaches for 4 of the commodities you placed on the Power and Importance matrix.

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Matrix Position</th>
<th>Approaches to Change the Quadrant</th>
<th>Approaches for living with the Status quo</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Status Quo</strong></th>
<th><strong>Product (High Attention)</strong></th>
<th><strong>Product (Low Attention)</strong></th>
<th><strong>Product (Non-Critical)</strong></th>
<th><strong>Commodity (Leverage)</strong></th>
</tr>
</thead>
</table>
| **Change** | Long term agreements, share cost and quality targets, leveraging the supplier’s expertise, optimizing operational and administrative processes. | Long term agreements, share cost and quality targets, leveraging the supplier’s expertise, optimizing operational and administrative processes. | Outsource, p-cards, ignore | **Market – Price Driven**  
**Cost Driven**  
Cost Modeling  
Long term agreements, share cost and quality targets, leveraging the supplier’s expertise, optimizing operational and administrative processes. |
| **Quadrant** | Encourage new entrants, develop new capabilities, find substitutes, establish buying consortiums | Encourage new entrants, develop new capabilities, find substitutes, establish buying consortiums | Bundle with Leverage Commodities  
Bundle with other non-critical (NOT Product (Low Attention))  
Eliminate use. | |
Commodity Segmentation

Supply Chain Complexity
- Number of suppliers capable of meeting commodity/product requirements
- Cost to move a new supplier
- Integration into operations

Rating Criteria (Scale of 1 to 10, 10 is more complex/fewer options for the buyer):

<table>
<thead>
<tr>
<th>Rating</th>
<th>0</th>
<th>5</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td># of suppliers capable of meeting requirements</td>
<td>4.5</td>
<td>2.3</td>
<td>2.1</td>
</tr>
<tr>
<td>Cost to move a new supplier</td>
<td>&lt; $100,000</td>
<td>$100,000 to $499,999</td>
<td>over $1,000,000</td>
</tr>
<tr>
<td>Integration into operations</td>
<td>None</td>
<td>JIT sequenced delivery</td>
<td>Supplier is fully integrated into our manufacturing operations operating a plant within a plant</td>
</tr>
</tbody>
</table>

Buyer Entered Ratings based on Rating Scale:

<table>
<thead>
<tr>
<th>Spend</th>
<th>Stamping</th>
<th>Injection Mold</th>
<th>Fasteners</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,200,000</td>
<td>$500,000</td>
<td>$1,000,000</td>
<td></td>
</tr>
</tbody>
</table>

- # of suppliers capable of meeting commodity/product requirements
- Cost to move a new supplier
- Integration into operations
- Rating D
- Rating E
**Competitive Tactic**

- How to spot:
  - Buyer is ok with all the inconsistencies identified above.
  - Buyer asks for price reduction and accepts revised quote without questioning: How did you get there?

**Collaborative Tool**

- How to spot:
  - Buyer provides feedback on cost structure competitiveness.
  - Cost breakdowns and the data they provide are used as objective criteria in future pricing discussions.
Pragmatic Application of Tools

Level of Transparency and Savings

- Very High
- Medium
- Very Low

Time

- Open Cost
- Should-be Cost
- Cost Estimates
- Cost Breakdowns
- Piece Price
Collaborative vs. Competitive

**Level of Transparency and Savings**

- Very High
- Medium
- Very Low

**Time**

**Collaborative Curve**
- Open Cost
- Should-be Cost
- Cost Estimates
- Cost Breakdowns
- Piece Price

**Competitive Curve**
Cost Transparency

Stamping Overhead Burden

Tooling Cost vs. Press Size

Hourly Rate by Region

APD - Transparency as a Service
Open Book Cost Modeling – Quick Summary

Bob Maks, Vice President Cost Engineering
rmaks@apurchasingd.com
248-701-2839
March 11, 2015
Background

Robert Maks

- Vice President, Cost Engineering
- +25 years Sales and Supply Chain with Large Tier I’s
- Global Experience: Direct and Indirect Procurement
Collaborative vs. Competitive

Level of Transparency and Savings

- Very High
- Medium
- Very Low

Cost Estimates
Cost Breakdowns
Piece Price
Should-be Cost
Open Cost

Time →

Collaborative Curve
Competitive Curve
Competitive Model

- Many Suppliers
- Uncertainty
- Constant Market Test for all costing needs = “uncertainty”
- Low Price, Profitability is not clearly known with suppliers
- Future Product sourced through market testing after design

Collaborative Model

- Few suppliers
- Stronger predictability within the supply chain
- Less Market Tests, more focus on cost drivers & cost modeling
- Low cost, healthy profit
- Future Product awarded up front, supplier design collaboration, intense focus on cost drivers
Open Book Cost Models

The Road to Strategic Relationships

- In the past customers exerted more of their demands and considered less of the suppliers' needs.

- But the need to get more out of the supply chain has changed the relationship to more collaborative.
  - Technology
  - Speed to market
  - Reduced warranty & recalls
  - Cost improvements
Open Book Cost Models

Collaborative Tool Jointly Developed

- Designed to understand a supplier’s cost structure
- Enhance transparency between customer and supplier
- Determine/form long-term relationships
- Identify risks and opportunities

Open Book Used to:

- Facilitate transparent cost related discussions with suppliers (driven by data)
- Identify and eliminate waste
- Become the baseline for any pricing related discussions
Open Book Cost Models

**Open Book Is..**
- Supplier/Plant specific Models
- Understanding true costs to manufacture a product
- Activity based Costing – features and process are linked to cost
- Collaborative

**Open Book Is Not...**
- One and done...
- Generic “one size fits all” modeling
- Audit tool
Open Book Cost Models

Customer
- Buyer
- Value Chain Engineer
- Cost Engineer
- Others as needed

Supplier
- Costing
- Controller
- Manufacturing
- Engineering
- Purchasing
Open Book Cost Elements

- Material Cost
- Labor
- Burden
- SG&A
- Profit
APD Open Book Cost Model Process

Visit Supplier
- Capabilities
- Manufacturing Metrics (data collection)
- Production Equipment
- Review Capacity Utilization
- Sales
- Customers
- Review Costs
- Continuous Improvement

Process Data, Generate Model
- Generate 1st draft with supplier
- Make any required changes to the model working with the supplier
- Work thru 2nd, 3rd iterations
- Set the model – mutual agreement

Identify Potential BIC Suppliers
- Test the application of the model on initial RFQ
- Understand commodity impact
- Determine Rankings
- Strategic Supplier Identification

Business Alignment w/ Strategic Suppliers
- Customer to generate strategies to work together with Best In Class supplier
- Customer & Best in Class Supplier to model many parts
- Customer takes advantage of suppliers cost structure thru business alignment with Strategic Suppliers

Continuous Cost Improvement
- Visibility into the cost drivers
- Benchmark Cost Divers = Waste Identification
- Reduce Waste
- Understand Financial Impact of Waste Reduction
Stampings Example
## 1. General Information

<table>
<thead>
<tr>
<th>Agreed to Utilization (Current Utilization)</th>
<th>Agreed to SG&amp;A %</th>
<th>Currency of Rates in Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agreed-66%</td>
<td></td>
<td>SG&amp;A- 5%</td>
</tr>
</tbody>
</table>

## 2. Labor Rates

<table>
<thead>
<tr>
<th>Job Classification</th>
<th>Typical Job Responsibilities</th>
<th>Agreed Rate - Fully Fringed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production Associate - Production Department</td>
<td>sorting, rework, packaging product at the press or offline(hand transfer)</td>
<td>$15.97</td>
</tr>
<tr>
<td>Low tonnage Press Operator</td>
<td>performs all setup, first off, of progressive, transfer dies (100 - 250 ton)</td>
<td>$18.17</td>
</tr>
<tr>
<td>High Tonnage Press Operator</td>
<td>performs all setup, first off, of progressive, transfer dies (600 - 800 ton)</td>
<td>$23.08</td>
</tr>
<tr>
<td>Production Associate - Weld Department</td>
<td>assist in the set up and operation of resistance robotic welding</td>
<td>$15.76</td>
</tr>
<tr>
<td>Rework Welder</td>
<td>operates manual mig welding</td>
<td>$19.41</td>
</tr>
<tr>
<td>Final Assembly welder</td>
<td>operates mig welding equipment - independantly</td>
<td>$20.95</td>
</tr>
</tbody>
</table>

## 3. Raw Materials & Outside Processes

<table>
<thead>
<tr>
<th>Name of Operation</th>
<th>Unit of Measure for cost</th>
<th>Rate per Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Materials</td>
<td>Per Actual thru Invoice Review</td>
<td>Actual Thru Invoice Rate</td>
</tr>
</tbody>
</table>

## 4. Projections Weld Cell

<table>
<thead>
<tr>
<th>Name of Operation</th>
<th>Unit of Measure for cost</th>
<th>Rate per Unit of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projections Weld Cell Press Welder</td>
<td>8' x 5'</td>
<td>$6.00</td>
</tr>
<tr>
<td>Projections Weld Cell Press Welder</td>
<td>8' x 5'</td>
<td>$6.00</td>
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<tr>
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<td>$6.00</td>
</tr>
</tbody>
</table>

## 5. Equipment Burden Rates

<table>
<thead>
<tr>
<th>Machine Number / Identifier</th>
<th>Machine Make &amp; Model</th>
<th>Machine Size (Tonnage)</th>
<th>Burden Rate Per Hour</th>
<th>OEE</th>
<th>Avg Set-up time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Punch Press</td>
<td>Erfurt</td>
<td>100 Ton</td>
<td>$8.68</td>
<td>90%</td>
<td>1/2 hour</td>
</tr>
<tr>
<td>Punch Press</td>
<td>Stanko</td>
<td>100 Ton</td>
<td>$8.68</td>
<td>90%</td>
<td>1/2 hour</td>
</tr>
<tr>
<td>Punch Press</td>
<td>P &amp; W</td>
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<td>$8.68</td>
<td>90%</td>
<td>1/2 hour</td>
</tr>
<tr>
<td>Punch Press</td>
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<td>135 Ton</td>
<td>$22.00</td>
<td>90%</td>
<td>3/4 hour</td>
</tr>
<tr>
<td>Punch Press</td>
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<td>200 Ton</td>
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<td>Punch Press</td>
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<td>Punch Press</td>
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<tr>
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<td>Bliss</td>
<td>400 ton</td>
<td>$46.80</td>
<td>90%</td>
<td>3/4 hour</td>
</tr>
<tr>
<td>Punch Press</td>
<td>Brown Boggs</td>
<td>400 ton</td>
<td>$46.80</td>
<td>90%</td>
<td>3/4 hour</td>
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<tr>
<td>Punch Press</td>
<td>W &amp; M</td>
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<td>90%</td>
<td>3/4 hour</td>
</tr>
<tr>
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</tr>
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<td>Punch Press</td>
<td>PTC</td>
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<td>3/4 hour</td>
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<tr>
<td>Punch Press</td>
<td>Blow</td>
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<td>90%</td>
<td>3/4 hour</td>
</tr>
<tr>
<td>Punch Press</td>
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<td>3/4 hour</td>
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<tr>
<td>Punch Press</td>
<td>PTC</td>
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<td>$82.31</td>
<td>90%</td>
<td>3/4 hour</td>
</tr>
<tr>
<td>Robotig Weld Cell</td>
<td>ABB 10' x 10'</td>
<td>$19.67</td>
<td>90%</td>
<td>1/6 hour</td>
<td></td>
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<td>90%</td>
<td>1/6 hour</td>
<td></td>
</tr>
</tbody>
</table>

## Additional Notes

- **Projections Weld Cell**: Press Welder: 8' x 5'
  - Rate: $6.00 per hour
  - OEE: 90%
  - Average Set-up Time: 1/6 hour

- **Manual Mig Weld Cell**: Lincoln 10' 5'
  - Rate: $5.80 per hour
  - OEE: 90%
  - Average Set-up Time: 1/6 hour

- **Manual Mig Weld Cell**: Lincoln 10' 5'
  - Rate: $5.80 per hour
  - OEE: 90%
  - Average Set-up Time: 1/6 hour

- **Manual Mig Weld Cell**: Lincoln 10' 5'
  - Rate: $5.80 per hour
  - OEE: 90%
  - Average Set-up Time: 1/6 hour

- **Manual Mig Weld Cell**: Lincoln 10' 5'
  - Rate: $5.80 per hour
  - OEE: 90%
  - Average Set-up Time: 1/6 hour
In this case the improvement is **14% vs. the standard quote**

Healthy Profit = **Healthy Supply Chain vs. just low price**
What Companies Need to Do to Prepare

- Make sure your internal costing system is tracking actual costs to the processes/work cells.
- Understand if there are proprietary processes and their costs – customer/suppliers should be sensitive to these.
- Understand the walk from actual costs to historical customer quotes.
- Plan the negotiation and define what you are willing to do:
  - Past pricing
  - Future Pricing
Getting Started

Choose the right commodity
- Stronger Spend
- Ability to realign the spend to low cost strategic suppliers
  - Supply Base Reduction or Realignment/Rationalization
  - Leveraging new business awards
- Moving to Fewer Strategic Suppliers

Choose the right suppliers
- Quality
- Capabilities
- Delivery
- Financially Healthy
- Potential to Grow the supplier
- More Progressive and Adaptive to an evolving relationship
Engaging Suppliers for Open Book Cost Modeling

- Tie *Strategic Supplier Status* to Open Book Cost Modeling
- Tie *Early Sourcing* to Open Book Cost Modeling
- Tie *supply base reduction/rationalization* to Open Book Cost Modeling (resourcing to proven low cost producers)
- Supplier has *final approval* to cost model
- Ultimately we need to tie *current and future business* to open book cost modeling program
Cooperative Process

Don’t go below the supplier’s costs

Supplier has direct input into the cost model

Supplier has final approval of the cost model

Must be based on actuals

Key is to be among the proven low cost producers
## Cost Transparency Self Assessment

### Scores

<table>
<thead>
<tr>
<th>Positive Environment</th>
<th>4 Points</th>
<th>3 Points</th>
<th>3 Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive-level support and cross-functional collaboration prevalent. Initiatives typically view suppliers as partners, and take a long-term focus. Willing to move the business to new partner suppliers, as business case dictates.</td>
<td>Buyers and/or cost engineers have thorough understanding of cost breakdown details as it relates to various manufacturing processes. Buyers, in particular, are skilled at collaborative negotiations. Company invests in training and additional resources as needed.</td>
<td>Robust level of data capture on both internal (make) and external (supplier) cost breakdown details: • Material • Labor • Overhead Burden • SG&amp;A • Profit</td>
<td></td>
</tr>
<tr>
<td>2-3 Points</td>
<td>2 Points</td>
<td>2 Points</td>
<td></td>
</tr>
<tr>
<td>Middle Ground</td>
<td>0-1 Point</td>
<td>0-1 Point</td>
<td>0-1 Point</td>
</tr>
<tr>
<td>Top-level support, but limited understanding of the role senior management plays in strategic cost management. Some level of success to date with “flavor of the month” cost reduction initiatives. Support from cross-functional teams only as the business needs dictate periodic financial improvement. Limited desire to change suppliers.</td>
<td>Buyers have some training and cost breakdown analysis capability. Generally conduct competitive negotiations with occasional ventures into collaborative approaches. Willing to invest in additional resources and skill sets where needed.</td>
<td>Internal (make) cost breakdown details available. Limited external (supplier) cost breakdown details available.</td>
<td></td>
</tr>
<tr>
<td>0-1 Point</td>
<td>0-1 Point</td>
<td>0-1 Point</td>
<td></td>
</tr>
<tr>
<td>Negative Environment</td>
<td>Limited or no executive support. Limited or no cross-functional willingness to collaborate with purchasing and/or suppliers. Historical cost reduction efforts largely unsuccessful.</td>
<td>Buyers have little or no training in cost breakdown analysis. No cost engineers on staff. Not willing to invest in needed skill sets or consulting support, in the absence of internal capability.</td>
<td>Limited internal (make) and no external (supplier) cost breakdown details available.</td>
</tr>
</tbody>
</table>

### Cost Transparency Readiness Rubric

- **8-10 points:** Ready to move toward culture of cost transparency and collaboration
- **4-7 points:** 1-2 enabling events needed for true cost transparency approaches to embed
- **0-3 points:** Not ready for cost transparency approaches