Hudson Valley Manufacturing Forum

Modernization & Future Supply Chains

September 21, 2012
Hudson Valley Manufacturing Forum: Agenda

Presenters:

Joanne Wright
Vice President
IBM Integrated Supply Chain

Chet Karwatowski
Senior Technical Staff Member
Supplier Connection CTO & Business Architecture

TOPICS:

- IBM Supply Chain Overview
  - Transformation, Globalization & Integration

- Future Trends of the Global Supply Chain

- Innovation and the Smarter Supply Chain

- Global & Local Supplier Collaboration

- Supplier Connection
The Evolution of the Enterprise

20th Century

The international era -- exporting

21st Century

The multinational era -- replicating

A globally integrated enterprise -- business in a smart, connected world

A **Globally Integrated Enterprise (GIE)** is an open, modular organization .... integrated into the networked economy ... with an operational and business model that capitalizes on the new global landscape.

The world is becoming **INSTRUMENTED**

The world is becoming **INTERCONNECTED**

All things are becoming **INTELLIGENT**

**Global Supply Management**

**Global Production Optimization**

**Global Demand Capture**
IBM Integrated Supply Chain

Why?

- Today the ISC is accountable for $36 billion, or roughly half, of IBM’s total cost and expense
- ISC was a fragmented cost center and not mission critical
- Distributed and hard-wired to business units
- Pockets of integration in functional silos but no enterprise-wide common processes

What We’ve Done

- Established online links to suppliers, partners and clients, cutting processing time for average PO from a month to less than a day
- Over 90% of business partner orders now “touchless”
- In 2002, formed the Integrated Supply Chain as a single business unit
- Manage entire ISC – from procurement and logistics to strategy and planning -- on a global basis (moved procurement HQ outside the U.S.)
- Consolidated transaction processing in global delivery centers in Malaysia, Bratislava, Spain and Brazil

The ISC Today

- Manages $36B of spend for IBM
  - HW, SW, Services, Solutions
- Plus $20B spend on behalf of clients
- Cash collection of $100.6B
- 23,000 suppliers connected online in 100 countries
- 100,000 Business Partners
- 90+% of Business Partner orders “touchless”
- 93% of invoices are electronic

"IBM has been on the forefront of globalizing the supply chain...the interesting thing is the strategic implications. For IBM it says we are shifting, yet again, from being a traditional manufacturing business, to a solutions business.”  - Kevin O’Marah, AMR Research
ISC Delivers Impressive Business Results

**Financial Results**

$7.3B
COST & EXPENSE SAVINGS IN 2011

$30M
Warranty savings via Early Warning System advanced analytics

**Operational Results**

$57.1 Billion
2011 IBM managed global spend (internal and client)

OVER 23K suppliers
enabled for electronic invoicing in 100 countries

Electronic Invoices 93%

>99%
Spend compliance

**Partner Facing Results**

SINGLE POINT OF ENTRY
supplier e-procurement collaborative portal

Partner self-service

300 → 6
Ops Centers consolidated global

Vastly improved buy recommendation for downstream partners with 50% fewer returns (iBAT implementation)

Record NET INCOME of $16.3B in 2011
Up 9% from 2010

**COST REDUCTION** per Invoice
$9 → $3 paper to electronic

Annually saved globally:
242 TONS of paper
210 TONS of Carbon emissions

Inventory turn improvement of 13% on Systems/Server business with $900M inventory
IBM Manufacturing Locations: Global & Local Presence

IBM Globally Integrated Manufacturing Network

IBM’s Local Hudson Valley Presence

- 300mm - Fishkill
- LPAT - Poughkeepsie
- Mainframe Fulfillment - Poughkeepsie

Critical component of IBM’s Systems & Technology Group

- Enterprise Server Assembly & Test
- Semiconductor Packaging
- Chip Technology Fabrication
- Panel and Planer Build & Test

>70 years of Mfg History & >1300 acres and 90 buildings in the Hudson Valley
Key Trends in the Supply Chain of the Future

- **The Evolution from Supply Chain to Value Chain**
  - Providing Integrated Solutions to Clients
  - Optimizing Seller and Partner Effectiveness
  - Creating Dynamic & Global Skills — Problem-solving skills are in high demand

- **The Requirement for Global Resiliency and Sustainability**
  - Anticipating disruptions and driving seamless responses

- **The Acceleration of Technology & Social Media**
  - Simulate, describe, model, execute and manage business processes
  - Flexible and Real Time collaboration — Instrumented, Visible, Cloud Based
  - Using Big Data in Novel ways

- **The Essential Nature of Innovation — Smarter Supply Chains**
  - Predictive Analytics driving agility, visibility and recommendations
  - Simplifying the growing complexities of the Global Supply Chain
  - Collaborative Manufacturing
Deriving the greatest benefit from information requires finding not just what happened. Discerning patterns that may provide insight into what is likely to happen enables optimal business decisions to be made.

**Descriptive**

What happened?
Get in touch with reality.
- Savings targets were exceeded.
- Supply shortages were experienced.
- Supplier quality levels were met.

**Predictive**

What will happen?
The future may be predictably different from the past.
- Trends show market conditions are likely to reduce savings opportunities.
- Analysis indicates that supply shortages will continue.
- Analytics helps predict quality problems faster than traditional approaches.

**Prescriptive**

What should we do about it?
Make the best use of scarce resources.
- Given the information, what strategy should we employ based on the information at hand to deal with these cost, supply, and quality challenges?
Quality Early Warning System
accurately and quickly detects and prioritizes quality problems, linked with automated alerts to manage issues

- Predict defect trends before cumulative evidence is available & before SPC
- Deployed to Power Systems, RSS, Storage Systems, System x, System z
- Cumulative savings of ~ $30M since 2008
- Identify and resolve issues before they become problems, up to 6 weeks earlier than traditional tracking systems

Critical Parts Management Tool
provides visibility, management & optimization of critical parts across all upstream tiers of supply chain, with analytics & alerts

- Visibility across all tiers of supply chain, including 60K SKUs & 100+ suppliers
- Save 10%+ of costs due to managing shortages
IBM Buy Analysis Tool (iBAT)
combines demand sensing with buy analysis & configures supply to meet customer demand requirements

- Price protection expense reduced by 80%
- Inventory reduced 30%
- Returns reduced by over 50%

*iBAT enabled IBM’s System x to be recognized by the industry with multiple awards; Tech Data 2010 Inventory Optimization award, CRN Channel Champion award. iBAT won 2011 IBM Research “Outstanding Accomplishment” award*
A Vision of the Future Supply Chain...

"On Demand" has become "Before I even ask"

The ISC has become a collaborative, end-to-end, intelligent network focused on client value and cash conversion.
Partnering with Local Suppliers fosters Innovation and engages thought-leaders in the complex Supply Chain of the future.

**Collaborative Opportunities:**

- Leverage Local skills to drive the Global Supply Chain
- Collaborative Supply Chain Research and Analytics
- Resiliency and Contingency Planning
- Shared Resources
Collaborating to Create the Skills and Supply Chain of the Future

**Smarter Cities Challenge**
- Syracuse collaborating on a Smarter Cities Challenge Grant, using predictive analytics in city development

**SME Toolkit**
- Entrepreneur and Small business toolkit for Minority, Women and Veteran-owned businesses

**Pathways in Technology**
- Innovative partnership with NYC Dept. of Education & City Tech to equip graduates for entry in tech industry

**Supplier Connection**
- Cloud-based social business consortium of 17 large companies and >4,000 small businesses that facilitates supplier connections
Hudson Valley Manufacturing Forum; 
Agenda - Supplier Connection

Economic Crisis – Jobs perspective

IBM Global Foundation – Call to Action

Progress

Possibilities…..
Small Businesses – Essential to US Economy

Creating job growth in the United States requires more than the efforts of any one company, or even any one industry… Small businesses are crucial to the vitality of the U.S. economy, as they accounted for two-thirds of net-new jobs created in the United States between 1993 and 2008 according to the Small Business Administration.

8.1%  US unemployment rate
August 2012

8.9% Unemployment rate for 2011
Source: U.S. Bureau of Labor Statistics

9.6% Unemployment rate for 2010*
Source: U.S. Bureau of Labor Statistics

15.6% estimated when including other labor underutilization factors

* Worst unemployment % in over 25 years.
Supplier Connection Announcement, Sept. 2010

Create opportunities for job growth in the United States by connecting US Small Businesses to the supply chains of large corporations. Global corporations committed to acting locally.

Bloomberg: IBM, Citigroup, AT&T to Start Website for Potential Suppliers
By Katie Hoffmann - Sep 14, 2010
International Business Machines Corp. is joining six companies, including Citigroup Inc. and AT&T Inc., to create a website that streamlines applications by small businesses seeking to become suppliers to the group.
Supplier Connection – Call to Action

- Focused uniquely on job growth in the US.

- Member companies make individual commitments to buy from US Small Businesses. Executive level policy and process commitments with measurements.

- Free to Small Businesses and large enterprise members.

- Not just a listing service; Small Business to Small Business collaboration and community building utilizing social business technologies.

- Knowledge transfer and training.
Supplier Connection – Buyers Seeking Suppliers

**Identify** and *grow new small business supplier capacity* for large corporations.

**Enable** Small Businesses to *document core and common data* required by large corporations, creating a cross-industry common application process…simplified and *automated*.

**Connect:** *Discovery and match-making social business utility*
- Small Businesses to large enterprise supply chains
- Small Businesses with other Small Businesses
- Small Business training and development-related tools
- Free for all participants
Collaboration & Analytics in the Supply Chain

Using collaboration and analytics to connect small business suppliers to large business buyers for economic opportunities and job growth.

The need:
In order for small businesses to succeed, they need a more effective and efficient way to connect with large corporations. Large multinational businesses need a streamlined way to connect with their local supply chains...Thinking globally & committed to acting locally.

The solution:
Supplier Connection uses IBM SmartCloud solutions to make it easier for small businesses to become recognized as potential suppliers to large companies and for large companies to identify small companies with whom they would do business.

Tim Harden,
President – Supply Chain & Fleet Operations, AT&T

Benefits:
- Collaboration has increased membership and small business spending
  - 17 corporate members
  - 4000+ small business suppliers
- $350B+ purchasing power
- Analytics used to link buyers with suppliers
- Match recommendations based on needs and preferences
- Increased exposure and economic growth opportunities
- Increased social business profile activity
Supplier Connection – Eligibility Criteria

Current Eligibility Criteria

The Supplier Connection portal is open to U.S. Small Businesses with either:

1. Less than $50M in Revenue OR
2. Less than 500 employees

AND that provide the following goods or services:

- **Facilities Support**
  - Chemicals
  - Connectivity
  - Construction and Outside Plant work
  - Facilities Maintenance & Design
  - IT Products, Services and Maintenance
  - MRO / Supplies / Office Supplies
  - Packaging Materials and Services
  - Security / Security Systems / Security Services
  - Other Facility Area

- **Food and Beverage Manufacturing**
  - Beverage
  - Dairy Products
  - Fruits
  - Vegetables
  - Seeds & Nuts
  - Grains
  - Oils
  - Protein
  - Other Food Manufacturing

- **Industrial Manufacturing**
  - Castings
  - Drivetrain Assemblies & Components
  - Electrical Components
  - Engines & Engine Components
  - Ferrous Parts
  - Heat Transfer Products
  - Hydraulic Components
  - Non-Ferrous Components
  - Operator Station Components
  - Outside Manufactured Products
  - Plastics
  - Raw Steel
  - Tires, Wheels and Track Assemblies

- **Lab Supplies and Equipment**
  - Lab Supplies
  - Lab Equipment and Services

- **Logistics**
  - Fleet / Auto Parts
  - Logistics

- **Professional, Marketing and Technical Services**
  - Consulting Services
  - Educational Services
  - Financial Services
  - HR Services
  - Legal
  - Market Intelligence / Research
  - Marketing / Communications
  - Printed Material and Services
  - Temporary / Complementary / Sub Contractor
  - Workforce
  - Other Service

- **Service Parts**
  - All providers of service parts, also known as after-market, maintenance, repair, replacement or spare parts

- **Software**
  - All types of Software
Supplier Connection - *First-Half 2012 Results*

Significant support from academics, analysts and the press
- Clinton Global Initiative, Time Magazine and Harvard Business Review
- Coverage in 24 major articles
- Social media presence in Facebook, Twitter, LinkedIn, YouTube, blogs, etc.

Among the 17 Corporate members:
- **Billions** spent with US Small Businesses, ahead of targets & up year-to-year
- Over 450 buyers registered and active
- Over 150 Supplier Connection (SC) suppliers considered in sourcing opportunities
- Corporations are changing their policies, processes and behavior
- One corporate member reported that suppliers registered in SC grew 83% year-to-year compared to a growth of 39% for non-SC registered US small suppliers

Over 5,000 registered users of Supplier Connection:
- Over 2,500 applications available to buyers
- Growth in Commodities from 12 to 20, including Industrial Mfg., etc.
- Over 50 small business, education and outreach events in 1H2012
Supplier Connection – *Next Steps*

**Opening the Aperture:**
- Additional commodities in response to member company requests. Service Parts and Lab Supplies recently added.
- Considering other commodities based upon commitments from buyers.

**Outreach to Add Corporate Members:**
- Conversations with 15+ companies: Pharma, Services, Software, Office Equipment, Consulting, Aerospace, Chemicals and Financial Services
- Interest from local, regional and federal governmental sourcing agencies

**Registered User Growth:**
- Pfizer invited 1,600 suppliers to join Supplier Connection
- John Deere invited 3,500 suppliers to join Supplier Connection
- Facebook, Merck and Kellogg committed to inviting more suppliers
- Supported by the DoC and SBA and many other organizations
Thank you!