Theory&Practice

Manufacturing Insights
An IDC Company

Welcome to the October 2, 2006 issue of Theory and Practice. We publish every two weeks, examining recent events and offering opinions on key trends in manufacturing, wholesale, and retail processes. Please feel free to forward this newsletter to colleagues or others who might find it relevant.

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Motorola Acquires Symbol

Pete Abell

The acquisition of Symbol by Motorola is a reasonable marriage of a solid horizontal communications technology company with a vertically oriented company focused on mobile computing. This $3.9 Billion acquisition appears to be good for both sets of shareholders and makes the Motorola/Symbol combination a very significant RFID capable company.

The open auction of Symbol was not a well-kept secret in the industry. Accounting issues at Symbol have been rectified, but absorbed too much management attention. Aggressive investment in RFID had even more impact on the company's decision to sell. The company made significant investments in RFID, including the $230M acquisition of Matrics, without an adequate return given the disappointing adoption rates to date. The sale to an established technology company was the best possible outcome for the company.

The recent difficulties at Symbol doesn't mean that Motorola is getting a white elephant. As we said, the accounting situation is resolved and, despite the slow market uptake, the company is well positioned to lead in RFID as it has historically in identification technology and hardware. Retail has been a particularly strong vertical industry for Symbol going back to when they consolidated the market with the acquisition of Telxon. Symbol has been able to gain penetration in other industries as well, competing with Intermec in the manufacturing segment.

Motorola may have been more enamored with Symbol's wireless network technology. Necessity is indeed the mother of invention and Symbol, in the process of building out its mobile computing vision, has created a solid set of utilitarian access points and management tools. The roadmap includes what they call "WI-NG" or wireless next generation. Motorola divested itself of much of its low end network gear on the wired side (they acquired and subsequently divested Codex) and Symbol gets them back in the game for wireless product. For Symbol, they get a parent with marketing clout and the ability to take the wireless product line beyond just supporting handheld devices.

The combination of a well known industry and consumer horizontal brand in Motorola and a focused vertically oriented company with strengths in Retail and RFID and with a stated goal of enterprise mobility will make for some very interesting synergies. This combination could leverage each other's strengths to achieve a powerful presence in the emerging RFID space which will eventually cross over into a significant number of verticals. (The bar code is a standard for 23 different industries that vary from Food and Drugs to Aerospace and Automotive.) The immediate outlook will take about three months for the market and product strategies to emerge but certainly expect to see Symbol's ruggedized mobility products to show up in adjacent markets where Motorola has presence such as Government and Telecommunications.

Long term the outlook is cloudier as it will be difficult for Motorola to execute the vertical strategies that will allow it to dominate additional verticals beyond the retail and wholesale distribution industries. If your company has standardized on Symbol for identification technology on the store floor or shop floor, there is no cause for any concern. Longer term, be sure to have a clear picture of the roadmap and field support of Symbol's devices.

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Building a Better Decision

Bob Parker

We recently published a series of reports on creating intelligent decision models in the areas of demand management, supply chain, and product lifecycle economics. Each of the reports laid out how companies need to link strategic, tactical, and operational decision making to create complete closed loop systems. The software applications that are available to support these systems are very specific to a particular problem (e.g. advanced supply chain planning or inventory optimization) and there is a dearth of complete decision suites.

Part of the issue is the unique nature of the tactical optimizations that companies attempt to tackle. Optimization engines require operations research PhDs to program and traditional software development environments lacked advanced optimization tools. Armed with two lighthouse accounts - one in transportation and another in process manufacturing – ILOG has bridged this gap with the introduction of its Optimization Decision Management System (ODMS). Underpinned with its highly regarded optimization engines for both mathematical and constraint solving, ODMS generates decision models that can be used by business people to solve complex business problems.

There are four key concepts behind the ODMS product:

- Scenario Management – different scenarios can be evaluated for each model. This allows the business person to conduct what-if analysis
- Comparison Analysis – the results of various scenarios can be easily compared to evaluated the impact of different assumptions.
- Goal Driven Optimization – the business user can set specific targets and the model will balance conflicting goals and set limits.
- Controlled Relaxation of Constraints – based on priorities set by the user, constraints can be selectively relaxed until the problem is solved. This allows the company to adjust factors that are most controllable.

The early customers have used the system to optimize the routing of transportation assets with a large number of variables and to schedule an asset intensive factory making products involving long running staged states.

License fees for the software will be around $150,000 and professional services, if the company uses ILOG to initiate the underling engines, will be about the same. Future releases will include advanced sensitivity analysis. Manufacturing companies are anxious to put their information to work with advanced decision management, but haven't had the right tools to rapidly evaluate options and involve the business experts. ILOG ODMS addresses that need directly.

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Collaboration and Fast Decision Making Processes are the Key to Survival in the Manufacturing Industry

Pierfrancesco Manenti

During the 16th edition of the European IT Forum 2006, the flagship event of IDC in Europe taking place in Paris last week, Manufacturing Insights had the opportunity to host a breakout session with a small focused group of thought leaders from European manufacturing companies as well as from IT vendors who serve the manufacturing industry.

The panel was quite well balanced as it included the CIO from a White Goods firm, holding 20% of global market share in its particular product segment, the Supply Chain Manager from a mid-sized European multinational company active in the manufacturing of Air Conditioning systems, striving to gain leadership in Europe in a very competitive market dominated by large non-European giants, and yours truly, a European based analyst for Manufacturing Insights and a veteran of supply chain management implementations.

The topic of the panel was **Enabling Innovation in Manufacturing**, seen from a higher perspective that goes beyond new product introduction to encompasses business model and process innovation.

The line of discussion has been around the following themes:

Collaboration along the supply networks

Collaboration is a key element to enable further productivity gains, companies need to extend their business processes outside the four walls of their factories.

From the panellist discussions it was evident that manufacturing companies, especially the ones that are acting in a B2B context, are heavily pressed by their customers to be able to confirm quickly a reliable delivery date to their demand. More, their customers are expecting them to be flexible and agile in responding quickly to unforeseen changes in the demand signals.

Traditional organizations aren't really able to connect market demand to their supply network due to the lack of real-time visibility throughout their multi-echelon supply network, including their own manufacturing plants, sub-contractors and suppliers. Clearly this ability to connect demand with supply networks in real time is becoming a strong differentiator with respect to competition and thus initiatives in this direction are on top of manufacturing companies' agendas. However, this is a major change in manufacturers' organization and execution requires strong commitment, change management, and the adoption of new enabling technologies.

Many examples came from the panelists:

- One company has implemented a collaboration portal that enables the integration of trading partners that enable it to raise orders in real time by checking inventories around the distribution chain. However this portal is not yet integrated with manufacturing execution processes.
- Another company has, on the other hand, implemented a supply chain planning system that enables it to plan manufacturing volumes and sequences not only in their internal plants but also within sub-contractor's manufacturing.

Fast decision making processes

A company that is able to make decisions quickly due to visibility over the operations and with a connection to strategic goals is a company that has a competitive advantage as it is able to quickly react to unforeseen events.

However most of the large multinational enterprises are still organized horizontally by function and this largely prevents the implementation of intelligent decision models that can enable a fast decision process. More, many companies are still measuring their horizontal processes alone and therefore they are considering their process to be good "enough" without really measuring the companies' performance as a whole.

The use of IT technology is clearly an enabler of this and an example related to a recent and very successful supply chain management implementation came from the panelists:

- At the very beginning the company thought that a large part of its supply chain issues were originated in the manufacturing execution process. During the analysis phase it became evident that the real issue was bad tactical planning and by lack of connection with the manufacturing execution processes. The project shifted from a deployment of a manufacturing scheduling application for each factory, to an enterprise level planning system able to integrate tactical and operational processes, creating visibility.

- In addition to the great improvements that the company experienced around productivity gains, the most outstanding result was the ability to a speed the decision making process.

Alignment of business and IT processes

Today, the Line Of Business (LOB) managers have a great deal of expectation in strategic technologies that accompany supply chain processes best practices adoption. A great pace of innovation is taking place in business process optimization, but many times these changes outpace the adoption of technology.

In fact the experience that was shared by the panellists is that in many large multinational enterprises, there isn't a coordinated effort among LOB and IT department as the main driver of CIOs was standardization of IT systems, reduction of IT providers, and IT staff efficiency rather than business process support.

The outlook changed when discussing mid-sized and fast-growing enterprises. Companies in this segment are much more dynamic and the competitive pressure is pushing a great pace of new technology adoption supporting business needs. In these companies CIOs are normally more focused on the business results of IT implementations and thus the implementation of best-of-breed applications which can support the needs of LOB managers is more common.

Again, an example from a mid-sized and fast-growing enterprise came from the panelists:

- When it came time to launch a company wide process innovation initiative, the CIO and the LOB managers agreed to adopt a best-of-breed application for supply chain management, integrated with the existing ERP system.

- Even though it took more time than expected to implement the application, the results in terms of business process gains were outstanding.

- The implementation approach was to implement the minimal requested functionalities but during the project it became evident that the packaged software already provided vertical specific business processes support, included best practices and additional functionalities that helped significantly in gaining business improvements.

- The key issues encountered during the implementation were mainly related to the bad quality of available data around the company and the ERP integration efforts.

- The implementation has been a very complex project as it encompassed changing the supply chain processes while using quite complex software. In the end the project was very successful, as the company obtained great improvements in many KPIs such as productivity, shorter lead-times, reliability in meeting promised delivery dates, and stock reduction.

Manufacturing Insights Opinion

Manufacturing Insights findings from this industry-focused discussion can be summarized as follows:

- What's happening in Europe is that the strong global competition from low-cost manufacturing countries is pushing a strong pace of innovation, with greater attention on profitable growth, and a continuous need to attain additional productivity gains.

- Competitive advantage for European manufacturers demands customer value creation, which is driving a clear focus on innovating key business process.

- Process innovation must continue to push the envelope on productivity gains and whole new business models are necessary for manufacturing firms to compete in increasingly global marketplaces.

- The pressure to achieve profitable growth through innovation is putting a renewed emphasis on IT as a key enabling mechanism.

- Successful deployment of these initiatives depends on an alignment of business and IT processes and effective communication of objectives between CIO and Line of Business heads.

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Noteworthy

- Autonomy, a provider of content organization and search tools, and Agile Software, a provider of product lifecycle management applications, announced a partnership to jointly market a product that enables companies to discover product content throughout the enterprise. The software combines Product Lifecycle Management and Information Discovery and allows users to securely discover and understand the relationships between information components managed within Agile and other enterprise systems such as ERP, CRM, Requirements Management and content management.

- Planned Storage Systems (PSS), a UK based manufacturer of storage products, is to deploy Epicor Software's Vantage 8.0 manufacturing enterprise resource planning (ERP) application to help improve its business processes as it expands its manufacturing capability into Eastern Europe. The implementation will replace the company's current transaction backbone, Tetra CS3.

- BUNKSPEED, a provider of visualization software and services, announced that Ford Motor Company has decided to implement BUNKSPEED's products globally in the product design and

development process. The initial agreement is for 150 licenses for Ford and all its subsidiaries including Volvo, Land Rover, Jaguar, Aston Martin as well as Mazda.

- Scene7 announced that JustBlinds.com, an independent window covering retailer in the U.S., is utilizing Scene7 Product Configurators to support the JustBlinds.com visualizer that enables customers to visually configure custom window treatments.

- Unilever has awarded BT a contract for the provision of a managed firewall service. The $19.7 million global agreement will run over a six and a half year period and follows the recent extension to its original seven-year service contract with Unilever. The new deal will involve BT taking over full management responsibilities for Unilever's existing estate of 256 firewalls spread across 68 countries. BT will transform Unilever's regionally managed firewall model into a single, consolidated global management structure in line with the rest of its networked IT services.

- Sterling Commerce announced Sterling Supply Chain Visibility, a new application that automates and provides collaborative execution of the supply management process. Sterling Supply Chain Visibility combines visibility of supplier information with exception management to enable companies to better manage the performance of their inbound supply chain. This combination is designed to improve inventory allocation, customer satisfaction, and operational costs.

- Sipex announced the addition of a downloadable simulator and Spice models for its PowerBlox integrated circuits, allowing the designer to conduct simulations without the requirement of an internet connection. The Spice models can also be integrated into the customer's existing simulator enabling the simulation of the complete system.

- Total Parts Plus, a provider of obsolescence and environmental compliance management services, announces the release of Parts Plus Content Complete. Parts Plus Content Complete is a hybrid of Total Parts Plus' supply chain management tools and custom engineering services. The user benefits from a web-based application that provides environmental compliance data and obsolescence management information to include all board-level components. The data supporting Parts Plus Content Complete includes RoHS Compliance Analysis with IPC-1752 reporting files, Berry Amendment Analysis, PCN/PDN Alert Services, and Lifecycle forecasting with Alternate Component sourcing.

- Synchris announced that it has reached an agreement with Centurion Research to integrate Centurion's COMPASS^GS government contract intelligence tool into a newly upgraded version of Synchris' Privia 4.2. The Synchris product is used by customers engaged in government contracts, bid proposals, and task order management under multiple award task and delivery contracts (ID/IQs) and Government-wide Acquisition Contracts (GWACs).

- Informatica announced that O'Neal Steel, Inc., the largest family-owned metals service center in the U.S., has standardized on the Informatica PowerCenter data integration platform and PowerExchange data-access software to provide data to its strategic and operational decision makers. By using PowerCenter and PowerExchange to consolidate data across multiple subsidiaries and create unified dashboard views, O'Neal Steel will heighten management visibility into customers and field operations, streamline reporting, and accelerate its sales and product delivery cycles.

- Penske Logistics and ABX LOGISTICS announced the formation of a strategic alliance focused on providing supply chain offerings for multinational corporations. The alliance combines Penske Logistics' strengths in logistics execution with ABX LOGISTICS' freight forwarding capabilities.

- 3PL Central announced the immediate availability of 3PL Warehouse Manager, an on-demand Warehouse Management System (WMS) designed to provide small to mid-size warehouse operators with warehouse management functionality at an affordable price. Additionally, 3PL Central

announced its first live customer of 3PL Warehouse Manager, JAM'N Logistics. This multi-warehouse operation with over 55 customers based in Los Angeles, selected 3PL Central to supply a web-based WMS application that could be deployed to new warehouses and provide advanced billing management functionality through 3PL Warehouse Manager's Billing Wizard.

- SoftBrands, a supplier of enterprise application software, has partnered with CP CIM-POOL to become the exclusive worldwide distributor of CIM-POOL's PPS One manufacturing add-on for SAP Business One. SoftBrands is a global ISV partner of SAP. CP CIM-POOL, based in Baar, Switzerland, has developed its PPS One system as an add-on for SAP Business One that is designed specifically for small and midsize manufacturers primarily in make-to-order industries like sheet metal fabrication and machining. Through this partnership, SoftBrands gains access to a large portion of the small and midsize discrete manufacturing sector not served by its Fourth Shift Edition for SAP Business One system, and CIM-POOL gains global reach through SoftBrands' existing worldwide infrastructure. The product will be marketed as Fourth Shift Edition PPS One.

- UGS announced that Siemens Gas Turbine Parts Limited (SGTP), a company in the Siemens Power Generation Group, has selected and successfully implemented Teamcenter Express as a PLM backbone. Teamcenter Express is the collaborative product data management component of the UGS Velocity Series portfolio that includes digital product design, analysis, manufacturing, and data management software for the PLM mid-market.

- Symbol Technologies announced that it has launched the RD5000, a mobile Gen 2 RFID reader that can be integrated with forklifts, pallet jacks, stretch wrappers, and other material handling equipment, and utilized in various space-constrained environments. Symbol also introduced the DS6707 handheld digital imager scanner designed for bar code scanning and image capture in a multitude of environments. The DS6707 is a handheld scanner with a 1.3 Megapixel imager capable of capturing and transferring images up to 8.5 X 11 inches. Pharmacies, retailers and manufacturers can use the device to scan bar codes and capture, store and recover documents and images.

- Oracle announced the general availability of Oracle Content Database and Oracle Records Database. These options to Oracle Database Enterprise Edition enable secure content management that can be deployed broadly to users dealing with content in all enterprise business processes and applications.

- Genpact, a provider of technology services, announced it has formed a strategic global alliance with Applimation, a provider of application management products, to jointly provide Oracle deployment products for Oracle E-Business customers. Under the alliance, Genpact will integrate its Appready platform with Applimation's Integra product line to provide Global 2000 businesses with Oracle deployment products.

- SAP announced that ABP Corporation, doing business as Au Bon Pain, the Boston-based chain of cafés, has selected mySAP ERP. Au Bon Pain will replace multiple enterprise resource planning (ERP) systems with the newest release of mySAP ERP to provide transaction support to employees and management across cafes and franchisees.

- TrueDemand Software announced that it has successfully completed validation of its Forecasting and Replenishment Suite on IBM Store Integration Framework, IBM's Java 2 Platform, Enterprise Edition (J2EE), operating environment and componentized architecture, built for retail stores using IBM middleware.

- Agile Software announced it is working with IBM Rational on an integrated change management product that will help companies bring software change management and hardware components together with enterprise PLM.

- SAP announced the availability of the third wave of its SAP CRM on-demand products, in line with the product roadmap laid out in February of this year The new SAP Service on-demand product is intended to allow service managers to track service tickets, establish escalations for follow-up and better adhere to service-level agreements. SAP also unveiled additional capabilities for the existing SAP CRM on-demand product, including new sales automation features for product and quotation management.

- Intercim announced that Ball Aerospace & Technologies Corp. has selected its Velocity Process Execution software to manage the manufacture of its spacecraft and mission critical components. The product will be deployed in Ball's Boulder, Broomfield and Westminster, Colorado manufacturing facilities.

- Microsoft and Intel, in a joint effort to improve supplier collaboration in the high-tech industry, announced they have proposed the next-generation of open, interoperable business standards for small to medium enterprise supplier collaboration, based on the Microsoft Office Open XML Formats for documents.

- In collaboration with Microsoft and Best Buy, HP announced the implementation of a portal that allows Best Buy For Business employees to achieve the Microsoft Small Business Specialist certification. The portal will be hosted by HP.

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Manufacturing Insights Latest Research

http://www.manufacturing-insights.com/MI/research/getlist.jsp

Bob Parker, Vice President of Research
Creating an Effective SHOMI(SAP, HP, Oracle, Microsoft, IBM) Strategy

Creating a Fulfillment Execution System

Pete Abell, Program Director, RFID & Sensor Networks

Joe Barkai, Program Director, Product Life-cycle Management
New! Mechatronics Product Life-Cycle Management - Trends and Best Practices

Automotive Manufacturing Industry Update, 2Q06

Farming, Construction, and Industrial Machinery Manufacturing Industry Update, 2Q06

Aerospace and Defense Manufacturing Industry Update, 2Q06

Bob Ferrari, Program Director – Supply Chain Strategies
New! Low-Cost Manufacturing in China: 3Q06 Update

Electronic Component Manufacturing Update, 1Q06 and 2Q06

High-Tech Manufacturing Industry Update, 1Q06 and 2Q06

Supply Chain Collaboration and Analytics: The Most Challenging, Yet Rewarding Process Capability

Jay Holman, Senior Research Analyst

Consumer Products Manufacturing Industry Update, 1Q06 and 2Q06

Retail Industry Update, 1Q06 and 2Q06

Ng Buck-Seng, Associate Director, Asia/Pacific
2005 Manufacturing and Enterprise Applications Landscape in Thailand

Mang-Teck Tan, Director, Asia/Pacific
Asia/Pacific (Excluding Japan) Manufacturing IT Spending 2006-2010 Forecast

Pierfrancesco Manenti, Research Director, Manufacturing Insights, IDC EMEA

Ivano Ortis, Research Manager, Europe
Western European Consumer Product Goods, 2005–2010 IT Spending Forecast

Western European Consumer Packaged Goods Industry Pulse: April to June 2006

Western Europe Retail Pulse: April to June 2006

In the News

- Manufacturing Insights Europe Says IT Vendors Must Go Vertical
- Retailers and Suppliers Collaborate to Crack RFID Code
- Manufacturing Insights' Survey Reveals Intellectual Property Protection as Top Risk for Companies Operating in China
- Asia/Pacific (Excluding Japan) Manufacturing IT Spending Will Reach US$22 Billion in 2010 at a CAGR of 7.7%, Says Manufacturing Insights
- Manufacturing Insights Calls for Auto Executives to Reevaluate Warranty Repair Process

Manufacturing Insights Upcoming Analyst Speaking Engagements

- MESA, October 9-11, Orlando
- Supply Chain Council, SCOR/Lean/Six Sigma Convergence, October 30-31, 2006, Orlando, FL
- SAE Commercial Vehicle Engineering Congress & Exhibition, Oct. 31-Nov. 2, Chicago, IL

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