MANUFACTURING INSIGHTS EXECUTIVE BRIEF

Creating Real-Time Collaborative Decision-Making Environments

Pierfrancesco Manenti

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IN THIS EXECUTIVE BRIEF

This IDC Manufacturing Insights Executive Brief is based on Predictions #2 and #3 published in IDC Manufacturing Insights' EMEA Top 10 Predictions 2012 study (see *EMEA Manufacturing Industry 2012 Top 10 Predictions*, IDC Manufacturing Insights # MIVC01U, January 2012) and extends them with our most recent survey results of the global discrete manufacturing industry.

Creating Real-Time Collaborative Decision-Making Environments

Beating complexity in doing business in manufacturing requires companies to be able to fundamentally and fully exploit all actual and potential information sources to achieve the highest possible level of visibility and intelligence along the value chain.

This is about creating a real-time collaborative decision-making environment where there is alignment between the highest-level strategic decisions and the lowest-level operational decisions. What manufacturing organizations really need is a real-time diagnosis/prognosis capability so they can analyze data in real time over the value chain, identify all the problems, and rapidly assess the potential impact on the business.

IDC Manufacturing Insights' vision is for manufacturers to operate in real time over an intelligent value chain. The decision-making environment supporting the real-time, intelligent value chain will need to have the following capabilities:

- **Instrumented.** Information is captured at any point of activity and made available in real time (e.g., tracking shipping goods in real time or getting real-time data from the factory shop floor).

- **Interconnected.** Information seamlessly flows through departments, plants, organizations, and partners in the same value network.

- **Intelligent.** Information is analyzed and correlated in real time, allowing timely corrective actions.

To reach the highest level of instrumentation, interconnection, and intelligence of value chains, manufacturers will collect data in real time from:

- **Logistics networks.** Manufacturers will increasingly use suppliers and downstream data as part of their S&OP input process, point of sale (POS), supplier/customer inventories, supply chain partner forecasts, sensor data (M2M, RFID, barcodes), etc.

- **The shop floor.** For example, providing plant workers with mobile, portable smart devices such as tablets and wearable PCs, including new outlets such as the iPad and smartphones. This entails instrumenting operations with a wireless network of sensors, as an "Internet of things" capable of gathering real-time information at any level in production areas.

- **Consumers.** For example, using social networks to "sense" customer feelings and potentially influence them. We believe consumer social networking and collaborative technologies are a precursor of the coming wave of collaborative business interactions.

This ubiquitous data collection and data sharing paradigm will be enabled by the evolution of IT architectures toward new technologies such as mobility, cloud computing, and social networking:

- **Mobility.** CIOs are under pressure from most parts of the business to enable ever more business applications to run on mobile devices. This technology enables access to relevant data "on the fly" and in context, and enables information workers and continuous process execution.

- **Social networking.** These technologies are extremely successful for consumer IT and enable an "unstructured" collaboration approach. A significant number of manufacturers are considering using social networking technologies to create a higher degree of business collaboration, both within the organization and outside it, with partners and customers.

- **Cloud computing.** Cloud-based architectures provide the infrastructure backbone to support manufacturers. What cloud computing offers today is a computing, storage, and networking fabric that can be used by a network of organizations over a value chain. Our mid-term view is that — providing there is an efficient, cheap, and vast cloud computing infrastructure available — the concept of IT resources virtualization and provisioning will move up the stack from infrastructure to applications.

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In fall 2011, IDC Manufacturing Insights conducted a worldwide survey of over 375 enterprises across multiple discrete manufacturing sectors. Survey results show that manufacturers recognize that besides organizational barriers — internal organizational silos or weak integration with trading partners — the key barrier to their ability to create an effective real-time collaborative decision-making environment is information technology (see Figure 1). Respondents found that the major IT-related barriers are "information stored in too many different IT systems that aren't properly integrated," "information silos exist that hamper data sharing," and "lack of accurate data."

FIGURE 1

Barriers to Creating an Effective Real-Time Decision-Making Environment
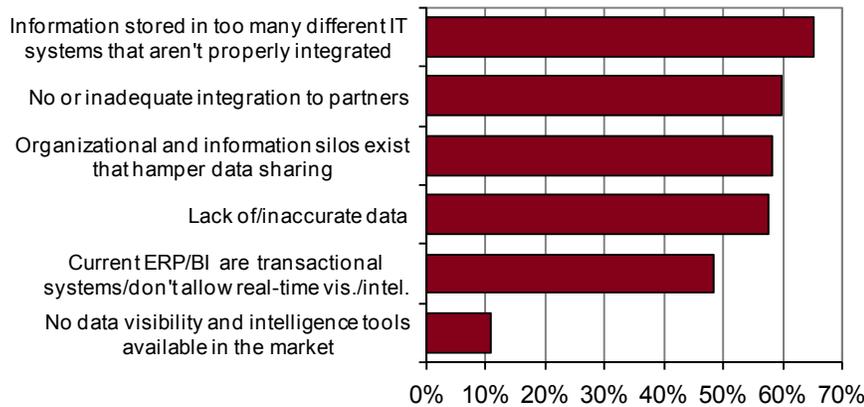
Source: IDC Manufacturing Insights, 2012

Modernizing traditional IT architectures currently in use in manufacturing should be, and is, a priority for companies across all industry segments. We believe manufacturers are ready to explore modern technologies such as cloud computing, mobility, and social networking to implement their decision-making environments. This will provide consistent processes, informed people, and open lines of communication along the value chain.

The ability to identify a problem, to isolate the root causes, to understand the state of process execution, and to enable corrective actions as quickly as possible are what will distinguish a successful decision-making environment. We believe manufacturers will embrace the concept, which combines collaboration technology and analytic applications to move business intelligence beyond just scorecards to collaborative decision environments.

Having an integrated decision-making environment deployed as a virtual application over the cloud, and streamlined by mobile and social technologies, will enable manufacturers to operate in real time over an intelligent value chain. Manufacturers will be better able to support the fast-changing business environment with common real-time data, workflow, and alerting capabilities, enabling rapid on-boarding of third-party manufacturers, new suppliers, and channel partners, as well as quicker integration of new and legacy applications.

The network will become an open, functional space where single capabilities can be dynamically added, refined, and changed on demand. Adopting these technologies will provide enormous benefits for manufacturers that deploy them wisely.