

Beating Complexity, Achieving Operational Excellence — Call to Action for the High-Tech Industry

WHITE PAPER

Sponsored by: Infor, IBM

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July 2010

INTRODUCTION

IDC Manufacturing Insights recently published global research from a survey of 722 manufacturing leaders across eight countries and four industry verticals, namely industrial equipment and machinery, metal fabrication, automotive, and high tech. The resulting white paper — *Beating Complexity, Achieving Operational Excellence* — summarizes the key findings from this survey and provides essential guidance for manufacturers developing their strategies post-recession.

This paper provides high-tech organizations with IDC Manufacturing Insights' essential guidance and a "call to action" to achieve success in the current business environment.

Key Industry Challenges

- **Dramatic complexity increase** — Fast commoditization of consumer electronics, consumers looking for additional value, the speed of movement from function to fashion, and shorter product life cycles all require continued investment in product innovation and greater complexity in doing business in high tech. Huge investments are required to maintain innovation, but the global financial and economic crisis left many high-tech organizations without the means to fund the required level of investments. This is a key challenge for manufacturers seeking to survive in the global competitive high-tech industry. Not only are consumer electronics products becoming more complex to design and engineer, but high-tech companies also have to deal with extremely complex, global, elongated, and multi-enterprise supply chains.
- **Business concerns and strategies** — Ensuring profitable growth is the main requirement for this industry if it is to sustain investments in innovation. More frugal consumer behavior and concerns about global manufacturing competitiveness are pushing high-tech manufacturers to launch initiatives that balance the need to reduce supply chain operational costs with the goal of achieving greater customer loyalty and expansion into new markets.

Investments required to keep the right pace of innovation are enormous, however, and the last crisis left many high-tech organizations without the means to fund appropriate investments.

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- **Importance of operational excellence** — The high-tech industry is experiencing overwhelming and growing complexity, higher cost structures, continued pace of innovation, and more reliance on global and interconnected supply chains. But manufacturers in high-growth markets like China are not burdened by the same economic uncertainty or business complexity and therefore have the luxury of focusing on new product and service innovation compared with their Western counterparts. This fosters the conditions for competitive advantage, and if manufacturers from more mature markets focus too much on cost containment and existing products, they risk investing insufficient capital in the long run. This is why achieving operational excellence in key areas such as customer orientation, product innovation, and manufacturing operations will be critical for discrete manufacturers in mature markets. In order to achieve operational excellence, discrete manufacturers know they need skilled people, agile and adaptable processes, and relevant information. It is no surprise that these will be critical areas of development, especially for information technology initiatives over the next few years.

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ESSENTIAL GUIDANCE

Increasing complexity and unfavorable economic conditions have led to a great deal of uncertainty throughout the high-tech sector. As a result, technology providers should think about investing in IT systems that can streamline and automate processes wherever possible, adjust easily to change, and extract valuable real-time business intelligence from all the data that business applications generate.

Rethinking Supply Chain Structures

- **Doing business sustainably** — The high-tech industry is becoming increasingly regulated and companies see compliance mandates as a primary driver for environmental initiatives. Indeed, our survey shows that doing business more sustainably will be a priority moving forward. This trend, however, is not only driven by legislation such as WEEE or RoHS, but also by the fact that more sustainable products provide high-tech manufacturers with an important differentiator. Consumers have evolved their purchasing behavior significantly in the past few years, and even with the economic crisis, they are more interested in greener products. While consumers may not pay a premium price for a greener high-tech product, they will choose green if it offers them a comparable alternative.
- **Demand planning and forecasting** — Consumer demand volatility has risen sharply since the economic downturn and high-tech manufacturers had to cope with a lot of uncertainty in their markets and further constraints on availability of consumer financing. To counter volatility, manufacturers need to find new ways of understanding future demand and need to actively sense changes in market demand, translate these changes throughout the

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entire supply chain, and rapidly adjust production capacities and inventory levels. As emerged from our recent survey, high-tech manufacturers will heavily invest in improving their demand planning and forecasting capabilities over the next couple of years.

- **Global manufacturing competitiveness** — Ensuring profitability in uncertain market conditions requires manufacturers to have an extremely agile and flexible supply chain that can dynamically respond to demand volatility. Over the next couple of years, high-tech manufacturers will be busy identifying how their supply chains should be better structured to respond to fluctuating demand. They will be aiming to create a more dynamic supply network, moving to a variable-cost-driven network as opposed to a fixed-cost-driven network. High-tech organizations will rethink their global supply chain structures and embrace IDC Manufacturing Insights' "profitable proximity sourcing" approach to balance supply chain costs with agility, quality, sustainability, financial implications, and customer service.

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The Role of IT

Small and medium-sized high-tech manufacturers have traditionally underinvested in IT, and have not recognized the role that IT can play in enabling operational excellence.

- **ERP** — Companies in this industry have a high level of business dynamics and quickly changing business processes. This is essential to adapt to global competitive pressures, continued technology innovation, new product introductions, and exploitation of emerging markets. Indeed, it comes as no surprise from our survey results that one of the major pain points for this industry when it comes to buying new ERP system is finding a solution that functionally fits high-tech specific business requirements and quickly adapts to fast-changing business processes.
- **Supply chain management applications** — Globalization of markets and the expanding use of outsourcing, both offshore and nearshore, resulted in highly distributed supply chain networks that require multiple partners to source and distribute products worldwide. Consequently, global supply networks have become highly complex, involving a myriad of touch points that range from obtaining raw materials to delivering finished goods. Therefore our survey shows that supply chain management applications are considered vital in addition to ERP to support operational excellence initiatives among high-tech manufacturers.
- **Business intelligence and analytics** — High-tech organizations are particularly concerned with applications that drive performance of the business and have the ability to quickly access relevant information for better decision making. Business intelligence and analytics are among the enterprise applications in addition to ERP that high-tech organizations identified as critical to achieve operational excellence.

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CALL TO ACTION

- Adopt a higher customer orientation:
 - What is your level of customer loyalty and your ability to exploit new markets?
 - Are you able to offer sustainable products that match increasingly environmentally cautious consumer expectations?
 - How can you make sure your new products align with globally dispersed, narrow market segment needs?
- Rethink supply chain structures:
 - What types of innovative demand forecasting techniques are you going to adopt to counter consumer demand volatility?
 - Is your supply chain agile and flexible to dynamically respond to demand volatility?.
 - Are you able to balance supply chain costs with agility, quality, sustainability, financial implications, and customer service?
- Upgrade current ERP or implement modern ERP:
 - What is the level of functional fit of your ERP or bespoke system with your industry-specific requirements?
 - Can your knowledge workers get easy access to critical information in ERP systems?
 - Is your current ERP or bespoke system easy, quick, and cheap to upgrade and implement new functional requirements?

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