IDC Manufacturing Insights

In Pursuit of Operational Excellence: Accelerating Business Change Through Next-Generation ERP

WHITE PAPER

Sponsored by: Infor

Pierfrancesco Manenti

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Global Headquarters: 5 Speen Street Framingham, MA 01701 USA P.508.988.7900 F.508.988.7881 www.idc-mi.com

EXECUTIVE SUMMARY

IDC Manufacturing Insights recently conducted a worldwide study of over 375 enterprises, across multiple discrete manufacturing sectors covering 12 countries, on behalf of Infor. The survey showed that:

- Complexity is dramatically growing, with market, operational aspects, and IT the main business areas that will grow significantly in complexity over the next three years. To beat complexity, manufacturers will need to improve and speed up their decision-making capability.

- Ineffective or inadequate IT is emerging as the single most critical barrier to mastering complexity. Discrete manufacturers also recognize that their current ERP systems have a number of limitations or weaknesses that hamper their ability to improve decision making.

Other findings were that:

- Modernizing IT architectures and business applications used to support new, customer-driven operating models is a priority for companies across all industry segments. Manufacturers now have the opportunity to simplify IT architectures by leveraging the four IT forces of mobility, social technologies, big data analytics, and cloud computing. We believe that those companies that are currently investing aggressively in these four areas will soon enjoy the benefits of higher revenue growth, improved profitability, and customer-led innovation.

- New, enterprisewide "operational ERP" is needed as opposed to mere "financial ERP." Operational ERP will encapsulate the most critical operational processes — customer order management, manufacturing operations management, and supply chain execution — in a tight, integrated, and coordinated environment based on the four IT forces.

- Manufacturers may be in for a shock when it comes to managing this IT change. They will realize that past investments in traditional technologies are now rapidly becoming redundant.

SITUATION OVERVIEW

Uncertain Economics, Cautious Optimism

The economic situation is still very uncertain, with a mixed bag of opportunities and challenges. A persistent divide exists among emerging and developed economies. There are a number of opportunities in emerging markets, but the largest economies of Europe and North America are still fragile, with core economic fundamentals pointing toward a slowdown.

Europe is at a critical juncture today, with evidence pointing to a new recession around the corner. Eurozone GDP is expected to grow only 0.6% in 2012, compared with forecast U.S. growth of 1.9% (source: Consensus Economics, October 2011). At the same time, emerging economies continue to flourish, led by China, with an expected growth rate of 9.0% GDP (source: EMF). But many of these emerging economies themselves are showing signs of imminent slowdown. With Europe being China's biggest export market, continued declining consumer sentiment in the eurozone will affect the likes of China, confirming that almost no individual economy is immune from the debt crisis playing out in Europe.

Despite the uncertain economic and market situation, there is still cautious optimism among manufacturing enterprises globally. Over the last three years, manufacturers have worked hard to survive the worst crisis in 80 years. Companies that have survived have restructured their business and have created more global organizations, cutting costs and unprofitable branches, creating leaner, more efficient process-driven organizations.

Manufacturers are stronger now than they were three years ago. They have carefully invested and generally have more cash available, and this makes them more resilient to the uncertainties of the financial market. They are equipped to face the challenges of today's economic and market situation. They learned how to survive and prosper, and are more eager than ever to compete globally.

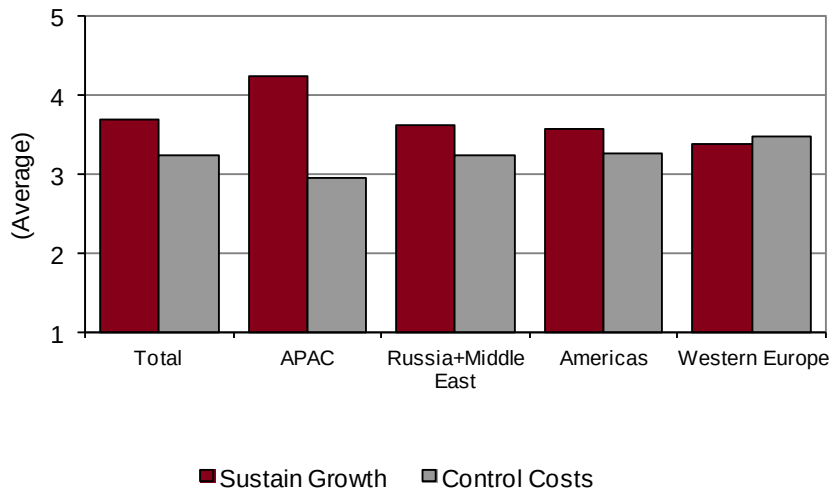
The Quest for Profitable Growth

Our global survey of the discrete manufacturing sector highlights the essential strategies that manufacturers are undertaking today, which goes beyond the exclusive focus on cost cutting that was evident over the last few years. Today manufacturers want to make sure they achieve profitable growth. They want to embark on a more consistent and balanced strategy that combines a substantial focus on growth with constant attention to cost control (see Figure 1).

FIGURE 1

Most Critical Areas of Business Focus

Q. What is your most critical area of business focus today?



Base: All sample

Number of valid respondents: 378

Source: IDC Manufacturing Insights, 2012

Manufacturers headquartered in emerging economies such as China, India, and Russia are focusing attention on growth strategies. Companies in developed economies — particularly those in the eurozone — are more cautious, with a major focus on cost-control initiatives.

A deeper dive into the survey results reveals the most critical strategies that discrete manufacturing organizations around the world are currently undertaking:

- **Growth strategies.** Selling value-add services on top of products and investing in product innovation are the most important growth strategies for our global panel of manufacturing organizations. The opportunity to expand into emerging markets is considered the third most important growth strategy by the majority of global respondents to our survey.

- **Cost-containment strategies.** Manufacturers around the globe believe that further cost-containment opportunities can be found outside the four walls of their enterprise. They want to primarily reduce the number of suppliers, shorten the supply chain, and source components from lower-cost regions. If those strategies aren't enough to contain costs, global manufacturers believe they then need to move manufacturing facilities to lower-cost regions to achieve further cost reduction.

Beating Complexity, Improving Decision Making

Establishing a profitable growth strategy that fits a number of business expansion and cost-containment opportunities in today's extremely complex business environment is very challenging. Complexity in manufacturing is due to a number of both external and internal factors:

- External factors include rapidly changing business environments, volatile customer demand, aggressive global competition, complex and global supply chains, raw material price variability, and the pace of innovation.

- Internal factors include organizational silos, ineffective IT structures, poor levels of collaboration, and the need to do more with less.

Complexity has grown dramatically over the past five years

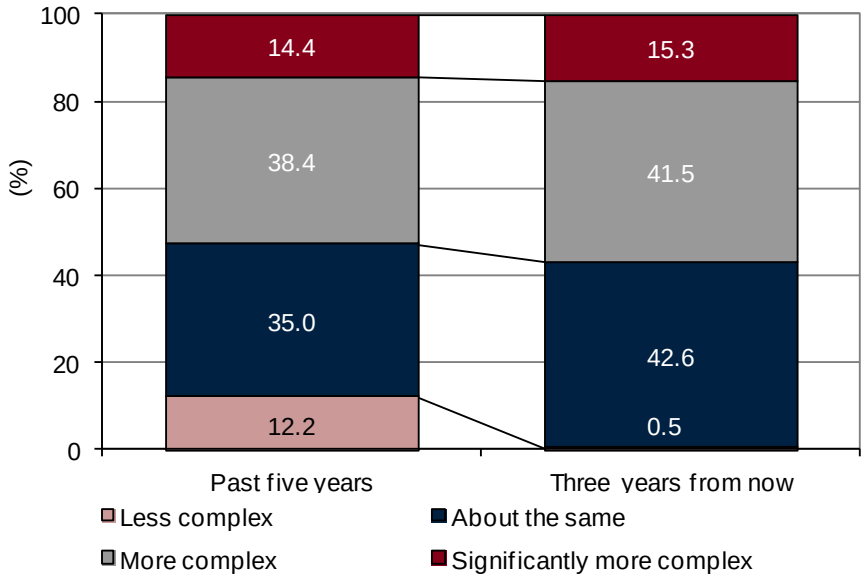
In *Beating Complexity, Achieving Operational Excellence*, IDC pointed out that complexity has grown dramatically over the past five years. In the fall of 2011, IDC Manufacturing Insights carried out a worldwide survey that confirmed the trend toward increased complexity. Figure 2 compares results from the last two surveys. 55% of manufacturing respondents around the world expect the level of complexity to be higher, or significantly higher, three years from now, while no company expects less complexity.

FIGURE 2

Complexity Keeps on Growing

Q1. How would you describe the changes in complexity in operations you have experienced in the past five years?

Q2. How do you expect the level of complexity in operations to be in 3 years from now?



Base: All sample

Number of valid respondents: 378

Source: IDC Manufacturing Insights, 2012

Given the current economic situation, it is no surprise that the survey shows that the majority of discrete manufacturers around the globe believe that market complexity is the area of their business that is expected to grow most over the next three years (see Figure 3). Market complexity cannot be avoided and must be mastered and embraced as an opportunity to create a competitive advantage.

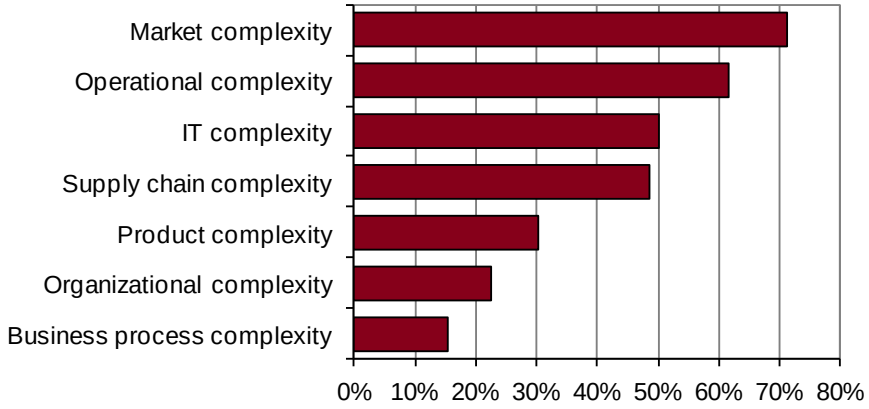
There is a big difference between complexity and complication

There is a big difference between complexity and complication. While market complexity is a matter of fact, complication — generally created by internal factors — refers to useless additions to complexity and is not inevitable. Over the next three years, discrete manufacturers expect to see further complication in areas such as operations and IT (see Figure 3).

FIGURE 3

Key Business Areas of Complexity Growth

Q. What area of your business do you feel will grow in complexity?



Base: All sample

Number of valid respondents: 378

Source: IDC Manufacturing Insights, 2012

Mastering Complexity, Driving Out Complication

Over the next three years, discrete manufacturers around the world will undertake a number of business initiatives aimed at mastering complexity and driving out complication (see Figure 4).

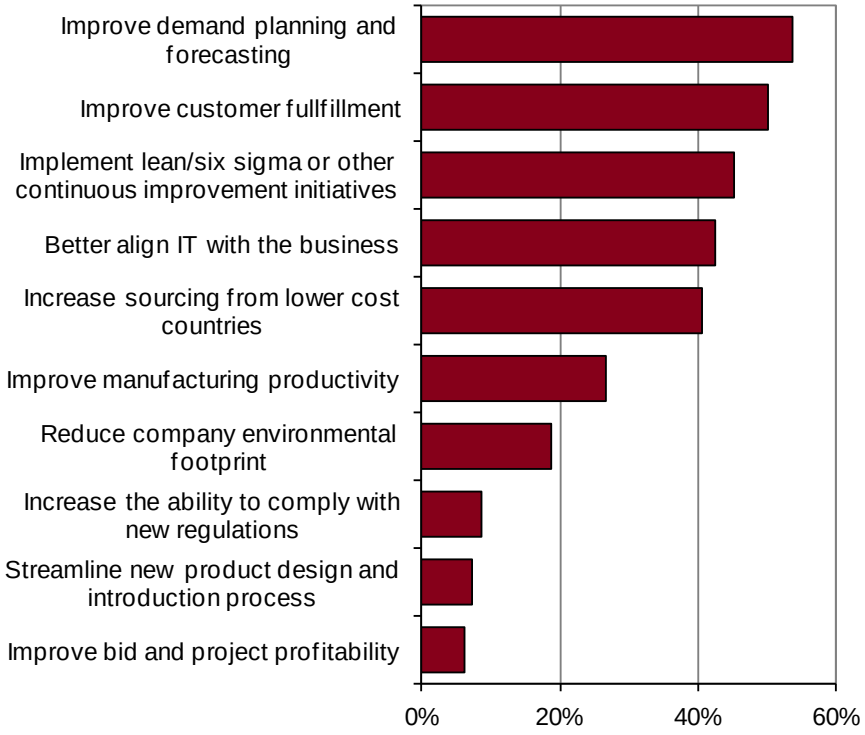
- They will primarily launch initiatives aimed at mastering market complexity. They will improve their demand planning and forecasting capability and will improve customer fulfillment.

- Discrete manufacturers will also be busy driving out complication from their operational processes and IT systems. Critical business initiatives here will aim at simplifying operational complexity — through the implementation of continuous improvement initiatives — and simplifying IT complexity with a better alignment of IT with the business.

FIGURE 4

Leading Business Initiatives

Q. Please think about the business initiatives you expect your company to undertake over the next three years.



Number of valid respondents: 378

Base: All sample

Source: IDC Manufacturing Insights, 2012

Speed Up Decision Making

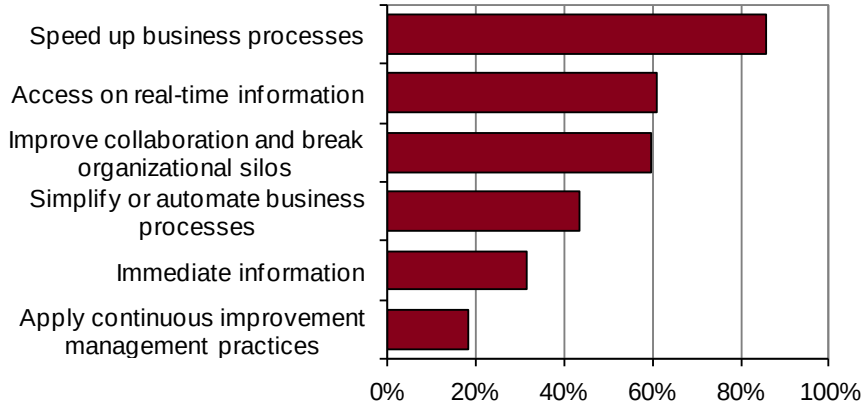
In *Creating Real-Time Collaborative Decision-Making Environments* (IDC #IDCEB29T, January 2012), we showed that manufacturers can beat complexity in doing business only if they are able to improve and speed up their decision-making capability.

What manufacturing organizations need to do is fully exploit all actual and potential information sources to achieve the highest possible level of visibility and intelligence along the value chain. They need a real-time diagnosis/prognosis capability so they can analyze data in real time, identify all the problems, and rapidly assess the potential impact on the business. The agenda for organizations willing to improve their decision-making capability is straightforward. Manufacturers want to speed up business processes by providing their employees with access to real-time information. They also want to break the old traditional organizational silo approach to their businesses, fostering a more collaborative environment (see Figure 5).

FIGURE 5

Decision-Making Capability Improvement Areas

Q. In your opinion, what could be done to improve your decision-making capability?



Base: All sample

Number of valid respondents: 378

Source: IDC Manufacturing Insights, 2012

Creating a real-time collaborative decision-making environment

For this to occur manufacturers will have to change their organizational structures and implement IT systems that really enable real-time access to information. This is about creating what IDC Manufacturing Insights calls a real-time collaborative decision-making environment.

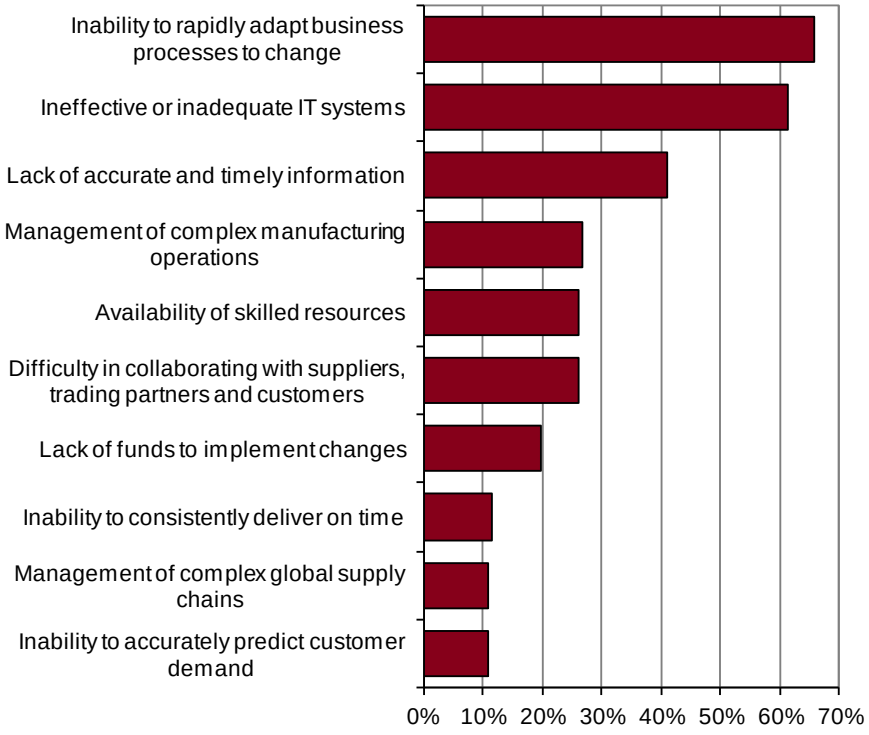
IT is the Most Critical Barrier

Manufacturers facing complexity will have to master it by reaching operational excellence. Their "inability to rapidly adapt to changes" is ranked as the main barrier to improving operational excellence. Two IT-related barriers — "ineffective or inadequate IT systems" and "lack of accurate and timely information" — follow closely (see Figure 6).

FIGURE 6

Barriers in Improving Operational Excellence

Q. What are the main barriers to improving operational excellence that your organization has identified?



Base: All sample

Number of valid respondents: 378

Source: IDC Manufacturing Insights, 2012

A significant finding from our research is that manufacturers around the world are increasingly aware that their current IT systems are ineffective or inadequate when it comes to managing complexity. The main reason cited for this is that the IT systems in place are ineffective in providing access to accurate and timely information that is needed to enable the business to rapidly adapt to changes in the marketplace.

A deeper dive into the survey data suggests that the ineffectiveness of IT in dealing with growing complexity is also due to "information stored in too many different IT systems that aren't properly integrated," "a multitude of best-of-breed or bespoke systems," "information silos exist that hamper data sharing," and "old technologies that are difficult to use." In other words, manufacturers don't feel they have the IT tools they need to achieve the level of operational excellence necessary to master complexity.

Ineffective or inadequate IT is emerging as the single most critical barrier to mastering complexity

As pointed out in *Mastering Complexity, Driving Out Complication* (IDC #IDCEB28T, January 2012), ineffective or inadequate IT is

emerging as the single most critical barrier to mastering complexity. Modernizing traditional IT used in manufacturing is a priority for companies across all industry segments.

Limitations of Existing ERP Systems

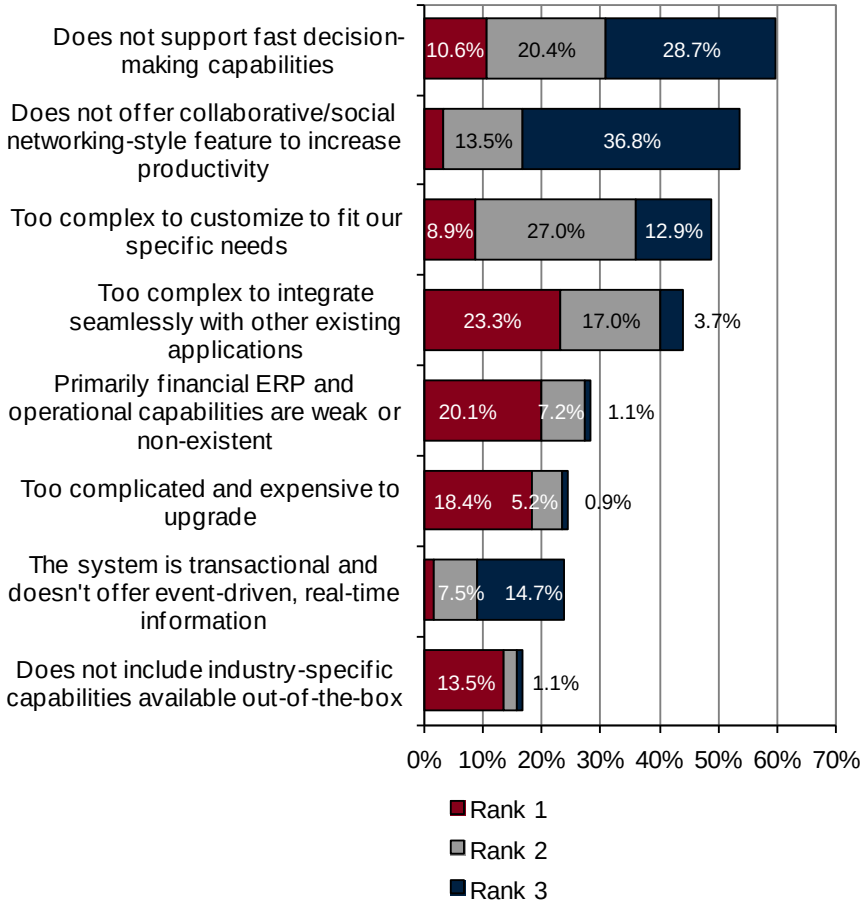
The centerpiece of today's IT in the manufacturing industry is the ERP system. Most of the manufactures that were interviewed have ERP in place, with the level of satisfaction relatively high across the regions and industries. The majority of manufacturers around the globe believe their ERP system is vital to their organization.

That said, discrete manufacturers also recognize that their current ERP system has a number of limitations or weaknesses that hamper their ability to improve their decision-making capability. We asked respondents to identify and rank the first, second, and third weaknesses or limitations in their ERP systems (see Figure 7).

FIGURE 7

Traditional ERP Limitations

Q. What do you think are the major limitations or weaknesses of your current ERP system?



Base: Respondents with an ERP system in place

Number of valid respondents: 348

Source: IDC Manufacturing Insights, 2012

Analyzing survey results in Figure 7, we noticed there are a few items ranked first by the largest share of respondents. They relate to traditional limitations or weaknesses of ERP systems, such as "too complex to integrate seamlessly with other applications" (23.3%), "it is primarily a financial ERP system and its operational capabilities are weak or non-existent" (20.1%), "too complicated and expensive to upgrade" (18.4%), and "does not include industry-specific capabilities out-of-the-box" (13.5%).

Being ranked first by the majority of respondents, these items represent the greatest limitations or weaknesses in today's ERP systems. It is not surprising that these items were selected first, as these limitations have been discussed for many years — seemingly without a real solution becoming available. Also associated with the most traditional weaknesses, 27% of respondents ranked "too complex

to customize to fit specific needs" as the most critical second limitation of an ERP system.

Beyond these traditional weaknesses, what worries manufacturers most looking forward is that their traditional ERP system "doesn't offer collaborative or social networking-style features to increase productivity" (36.8%) and "doesn't support fast decision-making capabilities" (28.7%). These two items — other than being the top items ranked third — are also the overall top 2 limitations or weaknesses of current ERP systems by combining all the ranking.

ERP limitations are the most critical barrier in implementing decision-making environments

Current ERP limitations and weaknesses are the most critical barriers when it comes to implementing decision-making environments that can tackle complexity.

FUTURE OUTLOOK

Manufacturing enterprises will have to undertake a completely new ERP strategy in order to address the multiple challenges of their current ERP system in respect to increasing complexity. Survey data confirms that over the next three years manufacturers will be busy architecting their ERP system of the future — either extending their current ERP system or investing in a brand new ERP system. It is clear what manufacturers are looking to achieve from their ERP system of the future (see Figure 8):

- **React faster to the changes the business needs.** Manufacturers want an ERP system that is better aligned with the business. They want a system that supports the pace of change in the business rather than a business that is designed around the features and best practices imposed by a rigid traditional ERP system.

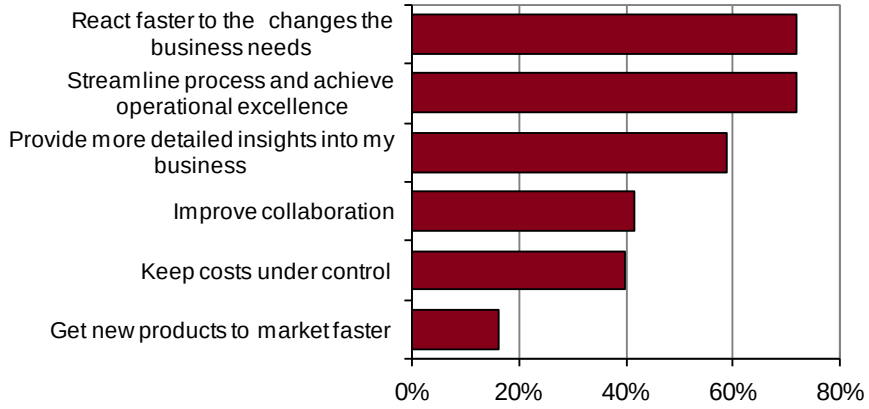
- **Streamline processes and achieve operational excellence.** They want to use the ERP system to speed up business processes and achieve operational excellence. The ERP system of the future will therefore need to extend beyond purely financial and back-office functions and encompass operational processes.

- **Provide more detailed insights into the business.** The ERP system of the future will have to implement the decision-making environment we discussed previously. This is needed to drive the business through the challenges of today's complex manufacturing environment.

FIGURE 8

The ERP System of the Future Defined

Q. Over the next three years, what do you need your ERP system to enable you to achieve?



Base: Respondents with an ERP system in place

Number of valid respondents: 348

Source: IDC Manufacturing Insights, 2012

The Emergence of Disruptive Technologies

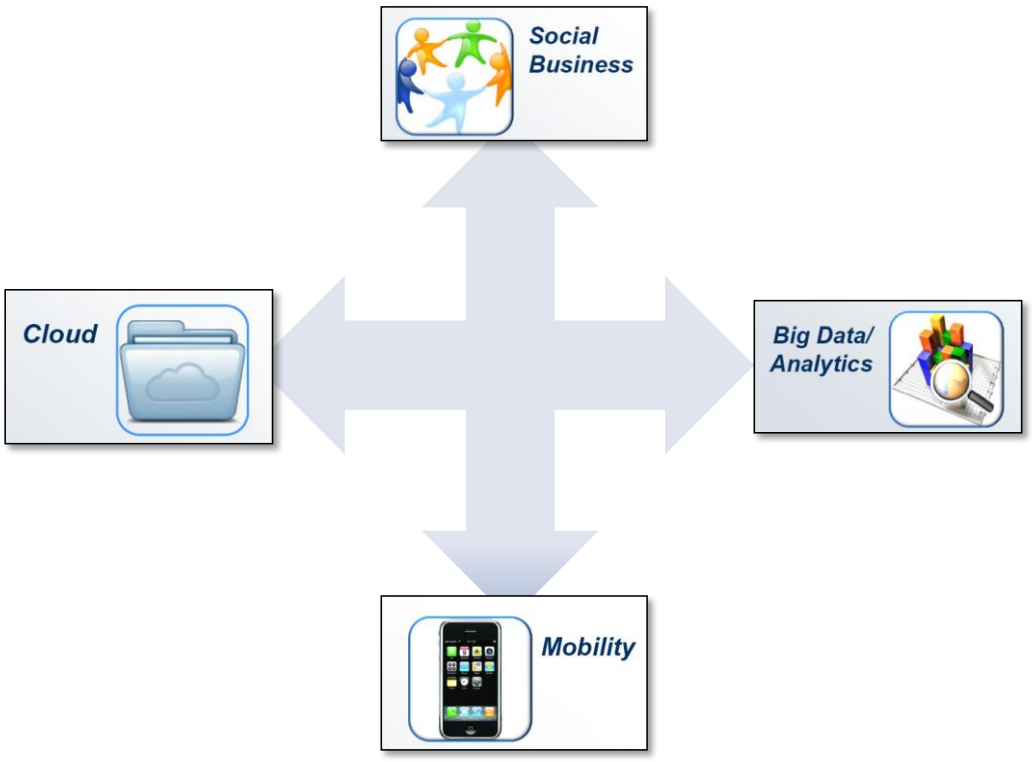
The four IT forces: cloud, mobility, social business, and big data analytics

As manufacturers undertake initiatives aimed at designing their ERP system of the future, they recognize the importance of the "four IT forces" to support the change: mobility, social technologies, big data analytics, and cloud computing (see Figure 9).

The pace of change in today's interconnected marketplace — and complexity increase to an extent — is strongly influenced by these four IT forces. Consumers' and manufacturing clients' behavioral patterns are been redefined by the extensive availability of information through social networks and its rapid transmission via a vast range of new mobile devices. The only way manufacturers can respond is through increasingly rapid decision making — and that means leveraging the same four IT forces themselves.

FIGURE 9

The Four IT Forces



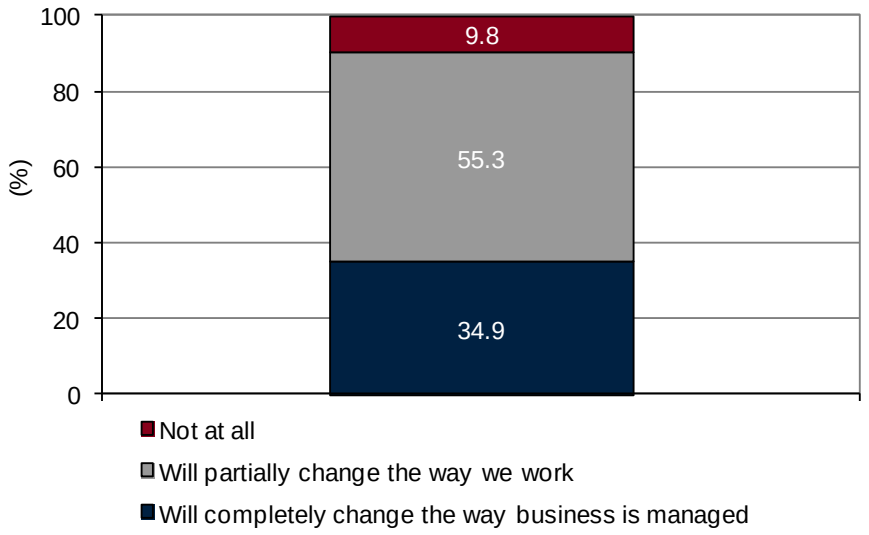
Source: IDC Manufacturing Insights, 2012

More than 90% of manufacturers interviewed in our recent survey believe that the four IT forces will change the way they work in the near future (see Figure 10). Nearly 35% expect these technologies to completely change the way business is managed.

FIGURE 10

Technology — Defining the Way We Work in the Future

Q. Do you think modern technology — e.g. mobility, social networking or cloud computing — is going to change the way you work in the near future?



Base: All sample

Number of valid respondents: 378

Source: IDC Manufacturing Insights, 2012

We expect IT organizations in manufacturing to make foundational investments over the next five years in the four IT forces. They will play an essential role in creating real-time decision-making environments, engaging the workforce, fostering collaboration along an intelligent value chain, and creating an efficient consumption-based IT environment. Delivering IT productivity and business value at the same time is the real strength of the four IT forces.

Social ERP Defined

Social ERP

One of the buzzwords that has begun circulating among industry analysts and enterprise software vendors today is "social ERP." This relates to the potential combination of ERP systems with social technologies. Many see this as an inevitable convergence of enterprise and consumer IT. There are several expected benefits achievable through a social ERP system in manufacturing, all pointing to greater organizational flexibility:

- Fostering collaboration by opening multiple lines of communication both internally among colleagues and externally with suppliers and clients through instant messages, video chat, and portals.
- Speeding up business processes and improving decision-making capabilities by bringing the information to the user through

proactive in-context alerts, triggers, and dashboards delivered through mobile devices.

- Reducing the risk of losing the knowledge base of the aging workforce and scarce skilled resources by capturing and disseminating the tacit knowledge of employees though wikis and blogs.

- Attracting a younger generation of employees, more accustomed to social networks than structured ERP systems.

- Supporting lean initiatives across multiple sites through common dashboards and workspaces.

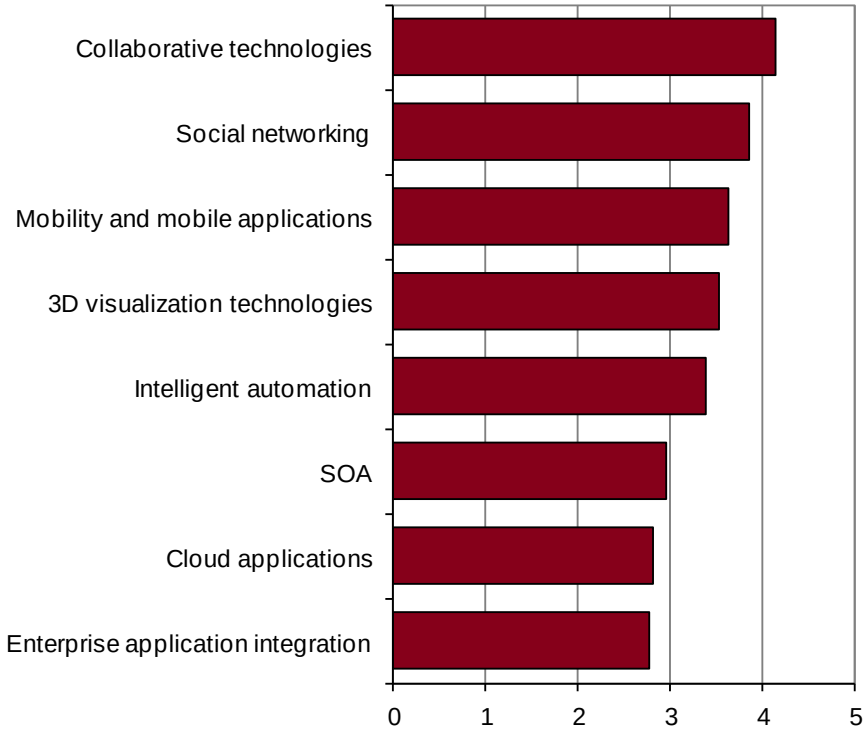
Manufacturers that responded to our survey confirmed the trends toward social ERP. They expect the four IT forces to have a significant impact on the way ERP systems are structured in the near future. The ERP system of the future will be based on collaborative technologies, integrating social networks, providing full accessibility through mobile devices, and leveraging 3D technologies (see Figure 11).

ERP of the future will be based on collaborative technologies, integrating social networks and providing full accessibility through mobile devices

FIGURE 11

Impact of Modern Technologies on ERP

Q. Please rank the following technologies, as related to ERP, in terms of their expected impact on your business achievements.



Base: All sample

Number of valid respondents: 378

Source: IDC Manufacturing Insights, 2012

The Emergence of Operational ERP

Beyond the opportunities offered by the four IT forces and the emergence of social ERP, IDC Manufacturing Insights believes that the ERP system of the future will have to be fundamentally refocused on what really creates a competitive advantage for manufacturing enterprises. We believe the ERP system of the future will also have to be focused on operational processes, not just focused on financial and back-office processes. As we pointed out earlier in this paper, this trend has been confirmed by the survey, with streamlining operational processes and achieving operational excellence considered essential capabilities for the ERP system of the future.

Financial ERP

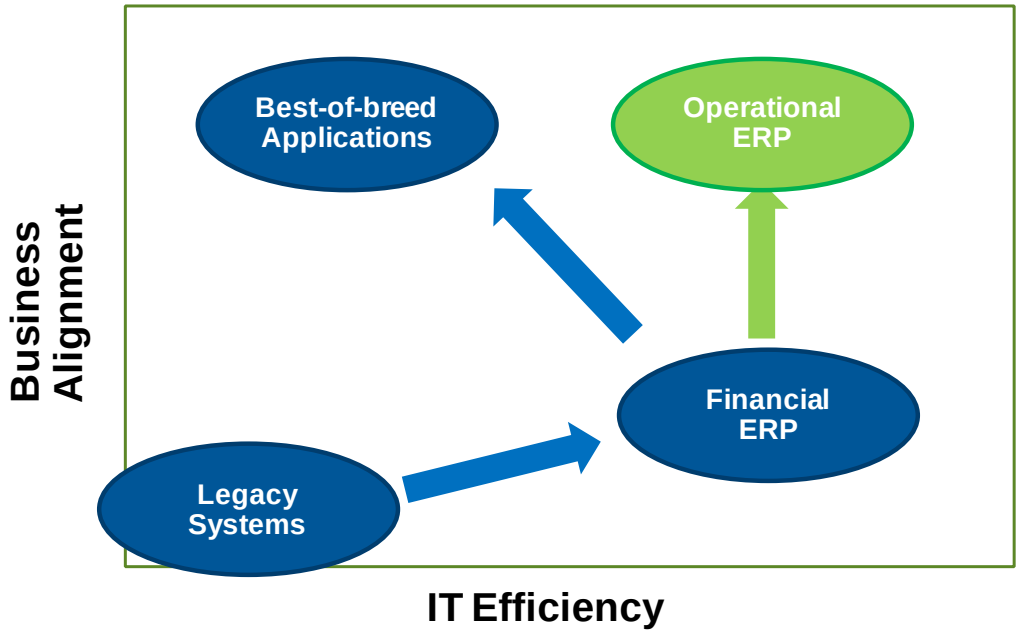
The typical ERP system in place in most manufacturing enterprises today provides the necessary infrastructure that forms the transactional system of records. This ERP system is primarily financial-related and is an essential "commodity" to run the business. This is what we call "financial ERP." However, what is evident is a poor business

alignment of financial ERP systems in respect to a number of critical operational processes such as supply chain management, manufacturing operations management, and product life-cycle management.

All these processes are providing manufacturers with differentiation and competitive advantage. To improve their financial ERP system business alignment, manufacturers had to significantly invest in multiple best-of-breed applications over the past years. They built an extremely complex federation of best-of-breed applications integrated into one or more ERP system via an even more complex system of interfaces (see Figure 12). This combination has significantly contributed to today's poor IT efficiency and business alignment.

FIGURE 12

Operational ERP



Source: IDC Manufacturing Insights, 2012

While the deployment models for financial ERP systems may have been sufficient in the past, IDC Manufacturing Insights believes that tomorrow's firms will need a new approach to ERP that balances greater corporate coordination with greater latitude in operating in local markets.

A modern operational ERP system is needed

IDC Manufacturing Insights believes a modern "operational ERP" system is needed to achieve this goal — a new enterprisewide operational platform that is as important as, and complementary to, the financial ERP platform is required. This new platform will offer an

enterprise solution to the critical operational capabilities required in today's complex manufacturing environment:

- **Convergence of the most important execution processes.** Customer order management, manufacturing operations management, and supply chain execution. Operational ERP will encapsulate these processes — generally not covered by financial ERP — in a tight, integrated, and coordinated environment.

- **Creation of a real-time decision-making environment.** This requires non-transactional systems in addition to financial ERP system of records. This is where the four IT forces come into play — particularly social technologies, big data analytics, and mobility — to create a social ERP system.

- **Global multi-enterprise orchestration.** This goes beyond the nature of a financial ERP system, generally designed to serve a single enterprise. Cloud computing and mobility are among the four IT forces helping here.

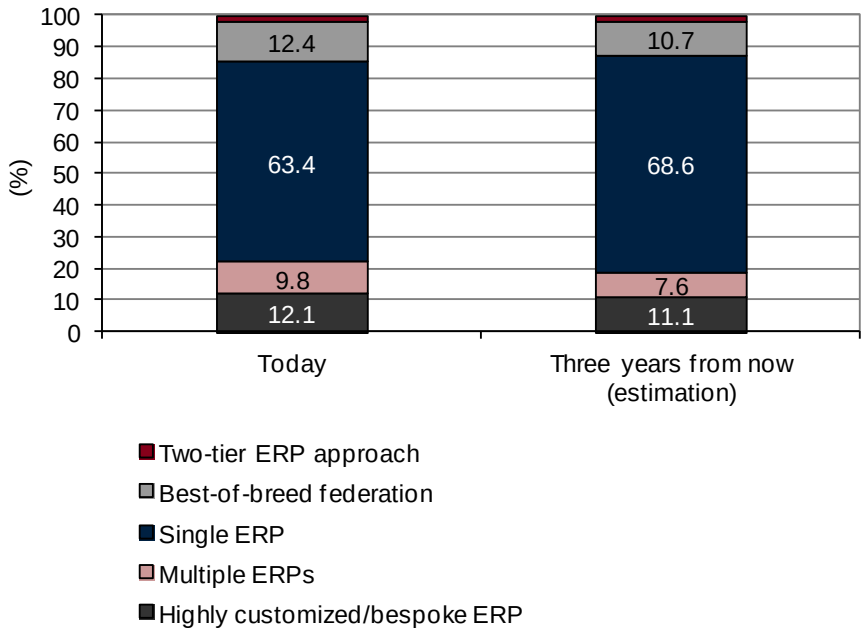
- **Direct best-of-breed federation into one system.** The new platform dictates an evolution and elevation of the existing applications deployed to support operational processes. The technology component for the operational ERP will have to reconcile what is frequently a mash of best-of-breed applications across the silos of the various process domains.

As confirmed in our survey, manufacturers will continue on their path toward ERP consolidation. We estimate that nearly 70% of discrete manufacturers across the globe will have a single-instance ERP system in three years (see Figure 13). A shrinking minority of enterprises will continue to have a federation of best-of-breed applications (from 12.4% to 10.7%), multiple ERP systems (from 9.8% to 7.6%), and highly customized/bespoke ERP systems (from 12.1% to 11.1%).

FIGURE 13

Evolution of ERP Systems

Q. Which of the following best describes your current approach to ERP?



Base: Respondents with an ERP system in place

Number of valid respondents: 348

Source: IDC Manufacturing Insights, 2012

Larger manufacturing enterprises with more than 5,000 employees stand out from this trend. They will follow a different approach to ERP. They will move toward having more of a highly customized ERP system (growing from 18.5% to 24.8%) rather than a standard ERP package (shrinking from 53.8% to 47.4%). At the same time the two-tier ERP approach — very small in the overall survey — is apparently a viable approach for large enterprises, with a stable 9.3% share. The same applies to best-of-breed federation, with a stable 15.1% share.

ESSENTIAL GUIDANCE

Emphasis on disciplined operations management

The volatile global economy has put renewed emphasis on disciplined operations management. Companies have come to realize that consistent and integrated processes, informed people, and open lines of communication can go a long way to delivering market share gains, improving profitability, and encouraging innovation in the way manufacturers interact with their customers.

Inadequacy of current IT systems

Manufacturers today understand the inadequacy of their current IT systems. They need to overcome the system fragmentation currently in place and foster a more collaborative environment with greater visibility and intelligence of information internally to the enterprise and externally along the value chain. Modernizing IT architectures and

business applications used to support new, customer-driven operating models should continue to be a priority for companies across all industry segments. Today, manufacturers have the opportunity to simplify IT architectures by leveraging the four IT forces: mobility, social technologies, big data analytics, and cloud computing. We believe that companies that are investing aggressively in the four IT forces today will soon enjoy the benefits of higher revenue growth, improved profitability, and customer-led innovation.

Leveraging the four IT forces: mobility, social networks, big data analytics, and cloud computing

Manufacturers know that their financial ERP system is a transactional system of record and is not enough to succeed in the "intelligent economy," where timely business insights and speed in decision making is essential. Having in place an operational ERP system that encapsulates all the critical operational processes will enable manufacturers to achieve operational excellence, streamline business processes, and react faster to business changes.

Operational ERP

Manufacturers realize their company is simply a piece of a puzzle in an extended value chain. They understand customer fulfillment can only be achieved through a global multi-enterprise orchestration. This goes far beyond the nature of a financial ERP system, generally designed to serve a single enterprise. Through operational ERP, manufacturers will be able to create an integrated decision-making environment that — 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.

Decision-making environment

Adopting an operational ERP system, 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 the faster 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.

Real-time data, workflow, and alerting capabilities

In adopting an operational ERP system, manufacturers will need to find a way to combine and leverage the rigor of traditional ERP systems with the flexibility offered by the four IT forces, particularly social technologies. Manufacturers in fact are often looking to standardized and structured ERP architectures to help them control master-data, standardize business processes, and get ready to scale for growth. However, this rigor today is not enough to win the competitive battle in the complex manufacturing environment. Adding social network capabilities to the traditional ERP foundation would add more flexibility in employees' interactions and help manufacturers achieve the speed in decision making required today.

Combine the rigor of ERP with the flexibility offered by social technologies

Important considerations need to be taken into account regarding the implementation efforts required by operational ERP deployments, particularly their integration of social technologies, collaboration, and real-time capabilities. The challenge here is not merely a matter of technology change. Rather it is more a need for a change in mentality

with respect to how a manufacturing business is run. Change management is expected to be even more complicated to handle in an operational ERP implementation as it will entail significant operational and cultural changes. Notably, tenured employees will need to adapt to a less structured way of doing business and get ready to adapt to a working environment where knowledge sharing is king. On the positive side, younger workers will be more attracted by the manufacturing industry than today, as they are already more accustomed to collaboration and social networks than standardized processes and structured ERP systems.

Operational ERP implementation will entail operational and cultural changes

The four IT forces will clearly play an essential role in the ERP system of the future, creating real-time decision-making environments, engaging the workforce, fostering collaboration along an intelligent value chain, and creating an efficient consumption-based IT environment. Delivering both IT productivity and business value at the same time is the real strength of these four IT forces. But manufacturers could be in for a shock when it comes to managing this IT change. Employees are already using many of these four IT forces every day as consumers, and they are eager to employ them professionally as quickly as their companies will allow. The real shock for manufacturing companies may be the realization that past investments in traditional technologies are now rapidly becoming redundant. Tomorrow is going to demand a different approach.

The four IT forces

APPENDIX

This appendix explains our methodology for the research that supports this white paper.

Methodology

The information presented in this document comes from primary research by IDC Manufacturing Insights, sponsored by Infor.

The primary research for this paper is based on a global survey conducted in fall 2011 across multiple discrete manufacturing industries such as automotive, aerospace, industrial machinery, and high-tech. 378 interviews were carried out with professionals of different size businesses in the most important countries across EMEA, Asia/Pacific, and the Americas.

Tables 1–3 provide further details.

TABLE 1

Vertical Market Quotas

	%	Count
Aerospace	20.1%	76
Automotive	20.6%	78
Other discrete	18.0%	68
High-tech	18.3%	69
Industrial machinery and equipment	23.0%	87
Total	100.0%	378

Source: IDC Manufacturing Insights, 2012

TABLE 2

Company Size Quotas

	%	Count
100–499	22.8%	86
500–999	22.5%	85
1,000–2,499	18.8%	71
2,500–5,000	18.8%	71
More than 5,000	17.2%	65
Total	100.0%	378

Source: IDC Manufacturing Insights, 2012

TABLE 3

Number of Completes by Country and Region

Region	%	Country	%	Count
Western Europe	24.1%	France	6.1%	23
		Germany	5.8%	22
		Italy	6.1%	23
		U.K.	6.1%	23
Americas	38.9%	U.S.	29.1%	110
		Brazil	9.8%	37
Asia/Pacific	23.0%	Australia	5.3%	20
		China	6.1%	23
		India	5.6%	21
		Japan	6.1%	23
Russia + ME	14.0%	Middle East bundle (Qatar, Saudi Arabia, UAE)	6.6%	25
		Russia	7.4%	28
Total	100.0%		100.0%	378

Source: IDC Manufacturing Insights, 2012