

ERP in Manufacturing 2011

Defining the ERP Strategy

July 2011

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Executive Summary

The majority of manufacturing enterprises, almost three quarters according to Aberdeen's survey respondents, use Enterprise Resource Planning (ERP) as their main business system. However, one aspect of ERP strategy that has always been assumed is that companies strive to have one single ERP system to unify all their parts and processes. The average manufacturing company in our survey had 1.9 separate and distinct ERP systems. This year's research will not only show how manufacturers perform based on their ERP implementation, but also look at the impact of the overall ERP strategy. This sixth annual Aberdeen benchmark, based on over 120 survey respondents in manufacturing, explores Best-in-Class approaches to their ERP strategy and performance.

Best-in-Class Performance

Aberdeen used five key performance criteria to distinguish Best-in-Class companies and Laggards:

- 18% reduction in levels of inventory versus 3% for Laggards
- 97% inventory accuracy versus 89% for Laggards
- 96% manufacturing schedule compliance versus 79% for Laggards
- 98% on-time and complete shipments versus 79% for Laggards
- 3.3 days to close each month compared to 7 for Laggards

Competitive Maturity Assessment

Survey results show that the firms enjoying Best-in-Class performance shared several common characteristics, including:

- Top performers are 70% more likely to have a formal and structured ERP strategy to guide all parts of the organization
- The Best-in-Class are three times as likely to have a multi-tiered ERP strategy to meet the needs of disparate parts of the company
- The top 20% in performance are 75% more likely to measure the ongoing performance of their ERP system

Required Actions

In addition to the specific recommendations in Chapter Three of this report, to achieve Best-in-Class performance, companies must:

- Establish standardized business processes for the entire organization
- Provide a standard multi-tiered ERP strategy to support the varying needs of different parts of the organization
- Provide visibility and access to business processes through the ERP system, regardless of user role or location

Research Benchmark

Aberdeen's Research Benchmarks provide an in-depth and comprehensive look into process, procedure, methodologies, and technologies with best practice identification and actionable recommendations

How Does Your Performance Compare to the Best-in-Class?



- Compare your processes
- Receive a free, personal PDF scorecard
- Benefit from custom recommendations to improve your performance, based on the research

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Chapter One: Benchmarking the Best-in-Class

Business Context

Enterprise Resource Planning (ERP) software is designed to be the system of record for operating and managing a business. But there is still a perception amongst some that ERP is a luxury and a risk in implementation. The key to successful ERP is a strong ERP strategy, not just for implementation, but to keep it operating and growing the company.

The *Q1 2011 Aberdeen Business Review*, of 1,323 respondents conducted in April 2011, found that 72% of all manufacturers are using ERP in their organizations, by far the highest percentage of any industry. This is consistent with Aberdeen's previous research and reflects ERP's roots and development history in manufacturing. The Aberdeen Business Review also showed that companies are truly gearing up for growth, with budgets expanding and hiring back on track.

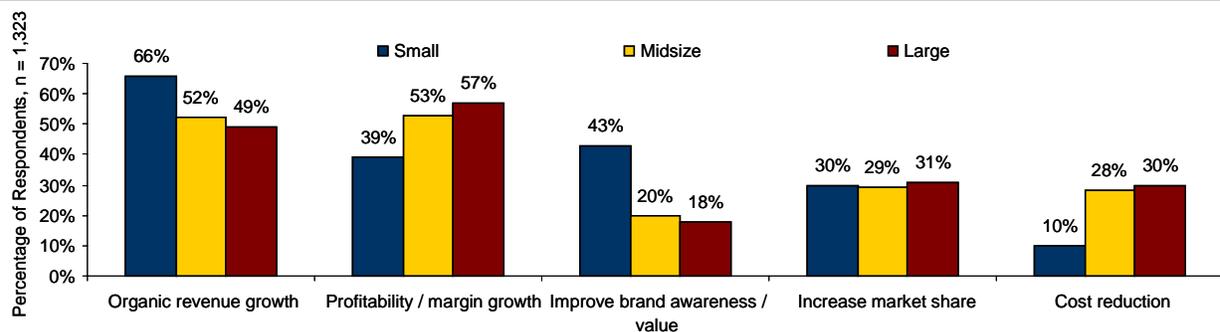
But not all manufacturers are created, or operated, equally. Figure 1, also from the Aberdeen Business Review, shows that smaller companies are more focused on organic growth and brand awareness. Larger companies are more focused on profitability and margin growth. Still, nearly a third of all manufacturing companies see economic conditions ripe for market expansion.

Company Size Definition

This benchmark report highlights the performance and capabilities of companies with annual revenues under \$250 million, referred to as Small to Medium Businesses (SMBs). This definition is used in parallel with Aberdeen's standard company size definitions based on annual revenues:

- √ Small: under \$50 million
- √ Midsize: \$50 million to \$1 billion
- √ Large: over \$1 billion

Figure 1: Top Goals for 2011



Source: Aberdeen Group, April 2011

Now, taking a look Table 1 to see the challenges that companies laid out in the Aberdeen Business Review, we see a similar distinction between large and small companies. Although all claim current economic conditions as a significant challenge, only small organizations did not have it as their top challenge. Table 1 also shows that small companies still see brand awareness and exposure to the market as a greater challenge than the economy. Large companies list the economy as the top challenge, but increasing competition and their own ability to execute are neck and neck as the next toughest challenges.

"All factories are able to operate out of a central source of information. All purchasing is closely tracked. Production controls are more strict."

~ Vice President, Small apparel manufacturer

Interestingly, employee retention jumps out in large- and medium-sized companies as a top challenge. As the economy continues to improve, senior managers at these companies worry that key employees that rode out the economic storm will be lured away by promises from other companies. Another area of distinction between small and large companies is their view operation costs. Here, large and medium-sized companies have rising costs in the top third of listed challenges, while smaller companies have it in the bottom third.

Table 1: Challenges in 2011 (Ranks 1-5, with 1 as the least)

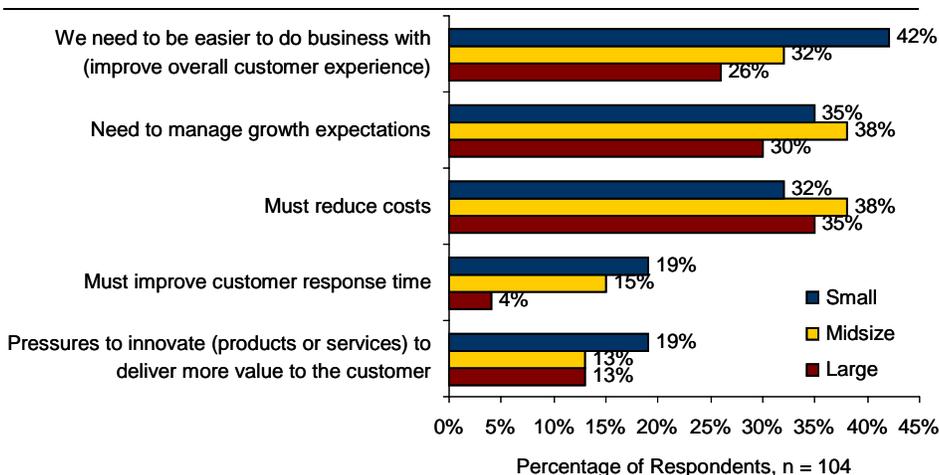
Business Challenge	Small	Midsize	Large
Economic conditions	3.2	3.1	3.2
Increased competition	3.0	3.0	3.1
Ability to execute strategy	2.9	3.1	3.1
Market volatility	2.9	2.9	3.0
Lack of brand equity / awareness	3.2	2.4	2.2
Rising operational costs	2.6	2.9	3.0

Source: Aberdeen Group, April 2011

So let's take a quick look at how the overall goals and challenges impact a company's ERP strategy. Figure 1 from our ERP survey shows what business drivers most impact an ERP strategy. As above, market and customer-facing drivers were the highest concern for smaller companies. Smaller companies were 70% more likely to list being easier to do business with as a top driver. For large and medium companies cost and managing growth were the top two.

This means that large- and medium-sized companies look to their ERP system to manage and drive their cost position, while laying the foundation for growth. Smaller companies look to ERP to also manage the same, but with a higher priority on the customer experience.

Figure 2: "Top Two" Business Drivers Impacting ERP Strategies



Source: Aberdeen Group, June 2011

"ERP has allowed centralization of the supply which has significantly reduced costs."

~ Andrew Lord, CFO, FlexLink

Fast Facts

Best-in-Class ERP implementations in manufacturing slash **100% more** costs (than all other companies):

- ✓ **80%** more inventory cost reductions
- ✓ **115%** more manufacturing operational cost reductions
- ✓ **117%** more administrative cost reductions

At the same time, they produce **120%** better growth in operating margin with over **170%** improvement in time to decision

And to round out the top five drivers, smaller companies are almost 50% more likely to have product innovation pressures influencing their ERP strategy. This is most likely due to larger companies usually having a Product Lifecycle Management (PLM) system in place to manage product development.

The Maturity Class Framework

Aberdeen used five key performance criteria to distinguish the Best-in-Class from Industry Average and Laggard ERP implementations (Table 2). These Key Performance Indicators (KPIs) were chosen not only because every manufacturer should be measuring them.

Table 2: Top Performers Earn Best-in-Class Status

Definition of Maturity Class	Mean Class Performance
Best-in-Class: Top 20% of aggregate performance scorers	<ul style="list-style-type: none"> ▪ 18% reduction in inventory levels ▪ 97% inventory accuracy ▪ 3.33 days to close a month ▪ 96% manufacturing schedule compliance ▪ 97% complete and on-time shipments
Industry Average: Middle 50% of aggregate performance scorers	<ul style="list-style-type: none"> ▪ 11% reduction in inventory levels ▪ 95% inventory accuracy ▪ 5.98 days to close a month ▪ 89% manufacturing schedule compliance ▪ 89% complete and on-time shipments
Laggard: Bottom 30% of aggregate performance scorers	<ul style="list-style-type: none"> ▪ 3% reduction in inventory levels ▪ 89% inventory accuracy ▪ 7.04 days to close a month ▪ 79% manufacturing schedule compliance ▪ 86% complete and on-time shipments

"ERP has helped to pull the organization together. The organization is beginning to understand the impact each department has on another within the organization."

~ General Manager, Midsize consumer packaged goods manufacturer

Source: Aberdeen Group, June 2011

The Best-in-Class PACE Model

To achieve these types of benefits from an ERP solution, a combination of strategic actions, organizational, knowledge and performance management capabilities, and enabling technologies are required. These can be summarized as shown in Table 3.

Table 3: The Best-in-Class PACE Framework

Pressures	Actions	Capabilities	Enablers
<ul style="list-style-type: none"> ▪ Must reduce costs 	<ul style="list-style-type: none"> ▪ Streamline and accelerate business processes ▪ Standardize business processes 	<ul style="list-style-type: none"> ▪ Standardized enterprise-wide procedures for procurement, cash collection, and financial reconciliation ▪ Cross-functional continuous improvement teams are responsible for improving operational performance ▪ Ability to automatically and immediately notify decision makers when certain conditions occur 	<ul style="list-style-type: none"> ▪ Secure mobile devices and mobile ERP applications ▪ Event Management (triggers and alerts) ▪ Master Data Management integrated into ERP ▪ Pre-configure dashboards ▪ Integrated ERP modules: General Ledger, Accounts Payable, Accounts Receivable, Fixed Asset Management, MRP, Shop Floor Control, Purchasing, Inventory

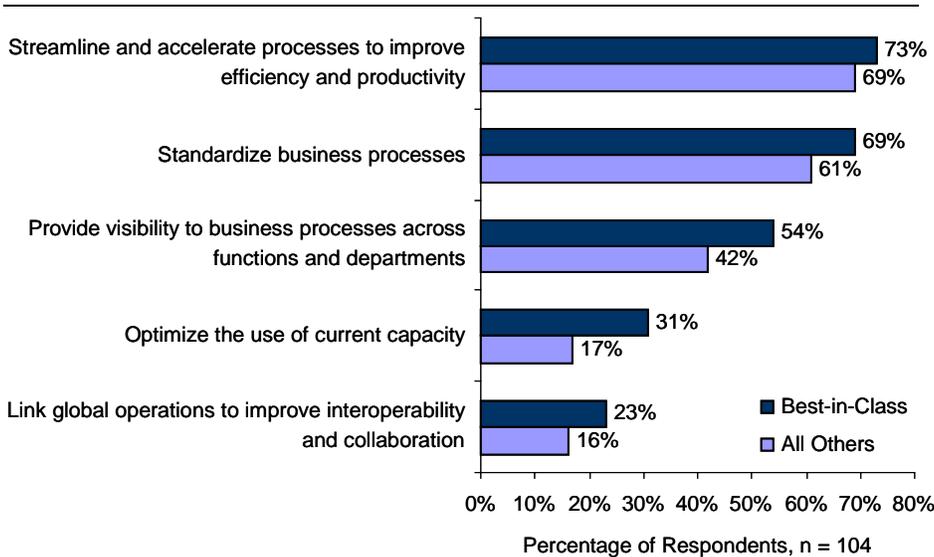
Pressures	Actions	Capabilities	Enablers
		<ul style="list-style-type: none"> Measurement of accuracy of demand planning and forecasting Sales and engineering collaborate to set proper expectations with customers 	<ul style="list-style-type: none"> Control, After Market Service, ECM, CRP, DRP, MPS, Forecasting / Demand Planning, Human Resources, Order Management, Project Management, EAM, Supplier collaboration / scheduling, Sales and marketing, product configurator, Payroll Extensions to ERP including CRM, SRM, SCP, WMS, TMS, Project / Portfolio Management, BI and others

Source: Aberdeen Group, June 2011

Best-in-Class Strategies

Even in a rebounding economy, cost reduction is still the main driver for Best-in-Class ERP strategies. That pressure continues to drive ERP strategies to focus on business process execution.

Figure 3: Top Strategies that impact ERP



"ERP has helped in coordinating information and data exchange throughout the multiple locations of the organization. ERP made it possible to have a strict adherence to the operational process flow resulting into better efficiencies and reduced errors thus lowering operation costs."

~ Manager, Large consumer durable goods manufacturer

Source: Aberdeen Group, June 2011

Figure 3 shows that regardless of economic conditions and perceptions about the economy, streamlining business processes is still the number one strategy that impacts an ERP strategy. While 73% of Best-in-Class manufacturers indicated streamlining business processes as a primary strategy, 69% of all others also listed it as a primary strategy. That is the closest together we have seen Best-in-Class and other manufacturers in that category over the last several years. That means that regardless of maturity class, optimizing business processes is top of the list for strategy.

Another category at the top of chart that drives ERP strategy and has only a small gap between Best-in-Class and all others is standardization of business

processes. The standardization of processes in manufacturing has been an ongoing trend for years. But until recently, there was a noticeable gap between Best-in-Class companies and all others. As Figure 3 shows, that gap is now not very large. That means that most companies have now figured out the not only are standard processes good, but ERP and standardizing processes go hand in hand.

Where you really start to see wide gaps in strategy between the Best-in-Class and all others is providing visibility into business processes. Best-in-Class companies are 25% more likely to use ERP as the mechanism for that visibility. That particular gap in strategy will become more evident as it is detailed in Chapter Two.

As to the last two strategies that impact ERP, fairly wide gaps exist between Best-in-Class and all others in both using ERP as the capacity optimization tool and as the global link between distributed operations. The latter in particular is interesting as we see more companies will adopt a multi-tiered ERP strategy to optimize operational needs and regional needs. That strategy is detailed below.

Aberdeen Insights — Strategy

ERP was originally seen as a one size fits all solution within a company that had multiple business units. But recently, there has been a lot of discussion about ERP strategies and managing multiple ERP implementations as a strategy in and of itself. Figure 4 shows whether companies even have an ERP strategy, as well as how that strategy may effect multiple ERP implementations.

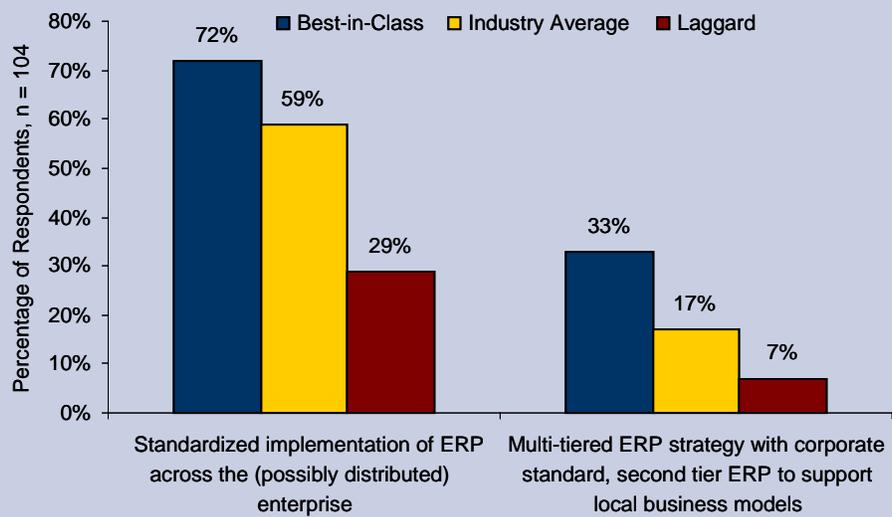
Best-in-Class companies are almost 2.5 times as likely to have a standard ERP strategy as Laggard companies. But more interestingly is the fact that Best-in-Class companies are over six times more likely to have a multi-tiered ERP strategy as a Laggard company. Best-in-Class companies are recognizing that one size does not fit all. An ERP that does a great global financial roll up, may not be well suited to scale down to manage the very specific and detailed manufacturing execution needs of an assembly line. Or there may be localization issues and compliance issues trying to use the one size fits all ERP strategy

continued

Aberdeen Insights — Strategy

Laggard and Industry Average companies are still somewhat focused on driving one ERP system for all needs, if they have a formal ERP strategy at all. But don't mistake the multi-tiered strategy as the wild west of ERP implementations with every plant doing its own thing. As Figure 4 shows, the far majority of Best-in-Class companies still have an overarching strategy that its sub-organizations must follow with their own ERP strategy.

Figure 4: ERP Standards



Source: Aberdeen Group, June 2011

In the next chapter, we will see what the top performers are doing to achieve these gains.

Chapter Two: Benchmarking Requirements for Success

The selection and implementation of ERP is a major undertaking for any company. Using ERP as a template for standardization of business processes, as well as the integration and coordination of people, processes, and technology can have a significant impact on the benefits achieved the ultimate performance of the business.

Case Study — Phoenix Logistics

Phoenix Logistics is a provider of integrated data transmission solutions to global military and aerospace markets. Founded in 1991, the company has been providing the top 100 military / aerospace companies with comprehensive manufacturing solutions from design to delivery for over 20 years. As such, the company is delivering highly complicated products that its customers are counting on to work to exact specifications in situations where failure could have dire consequences.

As Chief Operating Officer, Ben Sommerville is tasked with making sure Phoenix Logistics is running efficiently and effectively producing the products that its customers need. He is faced with many pressures in this job. At first, he was dealing with an organization that had extremely paper intensive processes. All company processes were paper based and required the company to go through 20,000 pages of paper per month. Additionally, the company had 40 filing cabinets full of drawings for its products. All operational data was contained in 46 different spreadsheets. When engineering changes needed to be made, someone had to walk the factory and communicate those changes. Sometimes changes were missed. Often time, managers didn't have the visibility that they needed in order to make projects and know the status of projects. Because of these pressures, Sommerville viewed one of his top tasks was to transform Phoenix Logistics from an entrepreneurial organization to one that was more professionally run. ERP became the catalyst for this change.

Phoenix Logistics decided to implement a SaaS based ERP system. They have since seen huge benefits. "ERP has allowed us to go all electronic. We now have visibility into all actions and where projects are in the pipeline. We like to say 'if it's not in the system, it doesn't exist.'" Additionally, the company has seen streamlined operations. The typical contract review process went from a week to one day. Document management is now a one hour per week task as opposed to taking two full days. Lastly, Sommerville stated that the company's complex processes were able to be customized into their ERP system. This has allowed the business to run more efficiently, led to greater profits, and will allow the company to expand in the future.

Fast Facts

For this survey, the production method breakdown for respondents is:

- √ **17%** pull-based and repetitive
- √ **45%** traditional work order-based
- √ **23%** some combination of the above two
- √ **15%** are project-based

Competitive Assessment

Aberdeen Group analyzed the aggregated metrics of surveyed companies to determine whether their performance ranked as Best-in-Class, Industry Average, or Laggard. In addition to having common performance levels, each class also shared characteristics in five key categories: (1) **process** (demonstrated ability to standardize processes and ERP implementation); (2) **organization** (executive commitment and assigned ownership of ERP implementation); (3) **knowledge management** (providing visibility in order to drive decision-making); (4) **technology** (effective use of modules of and extensions to ERP, along with providing users with immediate access to data, regardless of location); and (5) **performance management** (the ability of the organization to measure its results to improve its business). These characteristics (identified in Table 4) serve as a guideline for best practices, and correlate directly with Best-in-Class performance across the key metrics.

Table 4: The Competitive Framework

	Best-in-Class	Average	Laggards
Process	Standardized enterprise-wide procedures for procurement, cash collection, and financial reconciliation		
	92%	75%	68%
	Sales and engineering collaborate to set proper expectations with customers		
	52%	48%	19%
Organization	Ability to do demand planning and forecasting		
	56%	42%	35%
	Cross-functional continuous improvement teams are responsible for improving operational performance		
	67%	44%	42%
Knowledge	New employees are properly trained in using ERP after initial stages of implementation		
	63%	48%	33%
	ERP strategy is tied to talent plan and strategy		
	52%	29%	20%
Technology	Real time visibility into status of all processes from quote to cash		
	63%	47%	13%
	Ability to automatically and immediately notify decision makers when certain conditions occur		
	54%	27%	10%
Performance Management	A fully integrated view of all customer information available to any sales and marketing person		
	42%	34%	3%
	Event Management (Triggers & Alerts)		
	50%	36%	3%
	Ability to secure mobile device and ERP mobile applications		
29%	19%	13%	
Performance Management	Integrated business applications serve as a complete and auditable system of record		
	88%	67%	36%

"ERP has provided us with the ability to accurately plan, buy, track and cost all elements of our products by lot number for traceability purposes to specific customer orders. In other words, it gives us the ultimate visibility into what we do for each product by customer order."

~ CIO, Midsize aerospace and defense manufacturer

	Best-in-Class	Average	Laggards
Performance	Measurement of accuracy of demand planning and forecasting		
	48%	25%	23%
	Ability to measure marketing influence on closed sales and pipeline		
	21%	16%	7%

Source: Aberdeen Group, June 2011

Capabilities and Enablers

Based on the findings of the Competitive Framework and interviews with end users, Aberdeen’s analysis demonstrates that significant benefits can be gained from an integrated ERP solution. The Best-in-Class have reported the following quantifiable business benefits gained through the implementation of the following capabilities:

- The Best-in-Class are 3.4 times as likely as all others to report a reduction in operational costs
- The Best-in-Class are almost 85% more likely than all others to report a reduction in inventory costs
- The Best-in-Class are 2.6% times as likely as all others to report an increase in profits
- The Best-in-Class are over 100% more likely than all others to report improved inventory turns
- The Best-in-Class are 2.4 times as likely as all others to report increased production

"It provides a single source of information relating to projects including costs, POs, and scheduling. Our customers are expecting up to date information and the ERP offers real-time information for any job or project."

~ Shilpa Amaram, VP,
Brochsteins

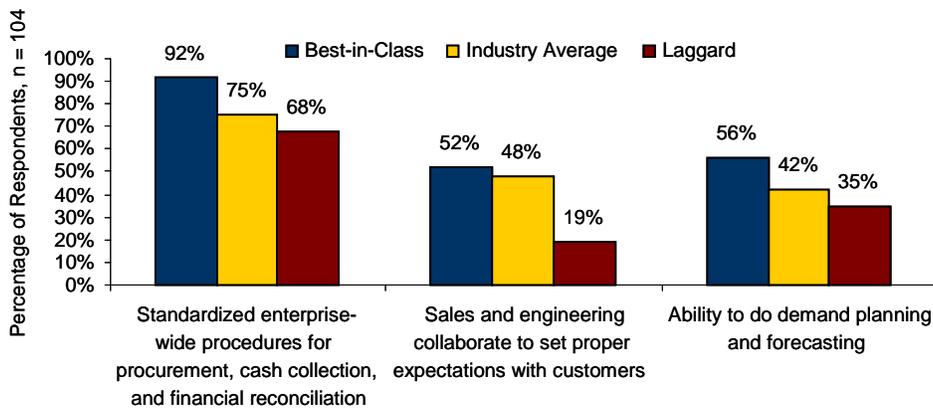
Process

Over the past six years, Aberdeen has stressed the importance of standardized processes in its yearly ERP in manufacturing reports. Standardized processes make operations easier to streamline and ensure that all employees are on the same page when performing processes that are aligned with the best practices that the organization has identified. These standards become increasingly important as the organization grows and becomes more distributed. Some of these standards are highlighted in the Fast Facts to the right. Figure 5 shows that 92% of the Best-in-Class have standardized enterprise wide procedures for procurement, cash collection, and financial reconciliation. In order for the organization to be able to report financials, all data must be consolidated. An ERP solution facilitates this process, making sure that data is accurate and up to date while avoiding time consuming consolidation and duplication that can come with disparate systems.

Fast Facts

- ✓ 76% of the Best-in-Class have standardized procedures for order management and delivery compared to 63% of all others
- ✓ 56% of the Best-in-Class have standardized procedures for production planning and execution compared to 47% of all others
- ✓ The Best-in-Class are 53% more likely than all others to have a standardized implementation of ERP

Figure 5: Process Capabilities



"We are wrapping up our first phase of ERP implementation, the most immediate impact is the ability to generate financial reports rapidly."

~ Scott Bendle, CIO, Rigaku

Source: Aberdeen Group, June 2011

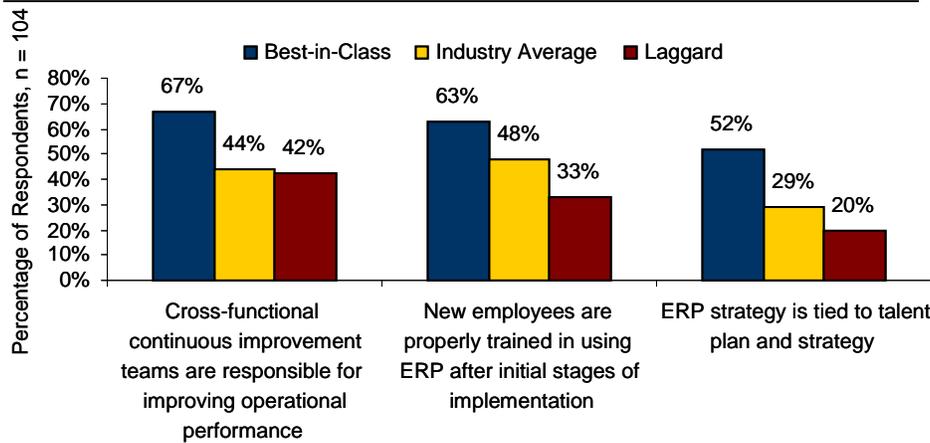
As manufacturers are continuing to be faced with the pressure of becoming easier for customers do business with, Best-in-Class companies are 44% more likely than all others to have sales and engineering collaborate to set proper expectations with customers. When sales are making promises to customers that engineering cannot back up, the organization ends up with a lot of unhappy customers. Engineering needs to communicate with sales to let them know exactly what engineering's capabilities are. Conversely, sales needs to be communicating with engineering to let them know what is being promised and what customers are looking for. This leads to better fulfillment of orders, happier customers, and repeat business.

Lastly, being able to accurately forecast demand allows manufacturers to be able to make strategic investments, provide customers with the products that they need when they need them, and prevent overstocking. All of these benefits save the company money, whether it is missed opportunities or increased holding costs. The Best-in-Class are 44% more likely than all others to have the ability to do demand planning and forecasting.

Organization

Aberdeen has continually stated that in order to get the most out of an ERP solution, the organization must continually work to improve the ways in which the solution is used. This includes promoting better understanding of how the system is to be used as well as promoting its utilizations by more employees and units in the organization. This can include sharing best ERP practices from one unit or job role to another. To that end, the Best-in-Class are 56% more likely than all others to have cross-functional continuous improvement teams responsible for improving operational performance (Figure 6).

Figure 6: Organizational Capabilities



Source: Aberdeen Group, June 2011

Again, once an ERP solution has been implemented, the work shouldn't stop. If the solution is not continually promoted, usage may go by the wayside and the organization may not receive the full benefits that other ERP using manufacturers are seeing. It is important to always train new employees on ERP to the same extent that employees are trained during the initial implementation. This is why 63% of the Best-in-Class are staying consistent with the extent that they are training all employees on ERP. As an extension of this, since an ideal ERP implementation should touch almost all employees in the organization, the Best-in-Class are over twice as likely as all others to tie their ERP strategy to their talent plan and strategy.

Knowledge Management

The primary goal of ERP is to provide decision makers with the information that they need in order to make properly informed decisions. Of course, this visibility is useless if it consists of data that is old. With old data, managers could potentially be making decisions that are not in line with what is currently going on in the organization, costing the business greatly. The Best-in-Class are 91% more likely than all others to have real-time visibility into the status of all processes from quote to cash (Figure 7). This visibility allows decision makers to be able to find out exactly what is going on in the business at any time, eliminating the need to track down individuals and delay the process.

Fast Facts

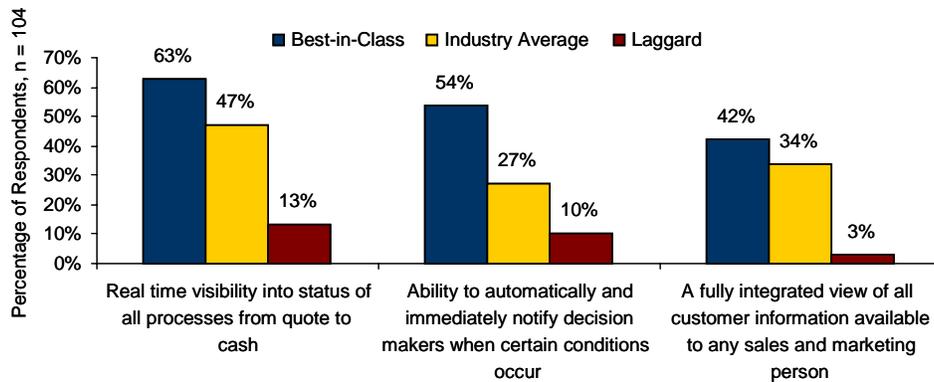
How distributed a company is geographically has a significant impact on ERP strategy. For this report, the following shows how distributed the respondents were:

- √ **23%** operate in a single location
- √ **14%** operate in two locations
- √ **25%** operate in three to five locations
- √ **12%** operate in more than six locations

"We can not live without ERP."

~ Executive, Small industrial equipment manufacturer

Figure 7: Knowledge Management Capabilities



Source: Aberdeen Group, June 2011

This visibility extends to having the ability to be automatically and immediately notified when certain conditions occur. The Best-in-Class are 2.7 times as likely as all others to have this ability. This is important for many reasons. First, it allows managers to stop production as soon as something goes wrong. This saves the plant from producing products that aren't to specifications. If a critical component or raw material fails to arrive on time; scheduled completion of production will be interrupted, this is something that managers need to know immediately. It also ensures that decision makers are not making plans without considering recent events that could have changed the feasibility of those plans. These automatic notifications ensure that effects from adverse events are minimized and plans are as informed as possible.

Lastly, ERP can help to give manufacturers a better view of their customers, which is aligned with the difficulty that many manufacturers are facing in increasing their customer service capabilities. By having a fully integrated view of all customer information available to any sales and marketing person, the Best-in-Class are 91% more likely than all others to be able to attend to those customers needs and keep them happy. This information facilitates the relationship with customers, meaning the company can supply them with what they need when they need it and enables further up-selling.

"ERP is a key part of our continuous improvement."

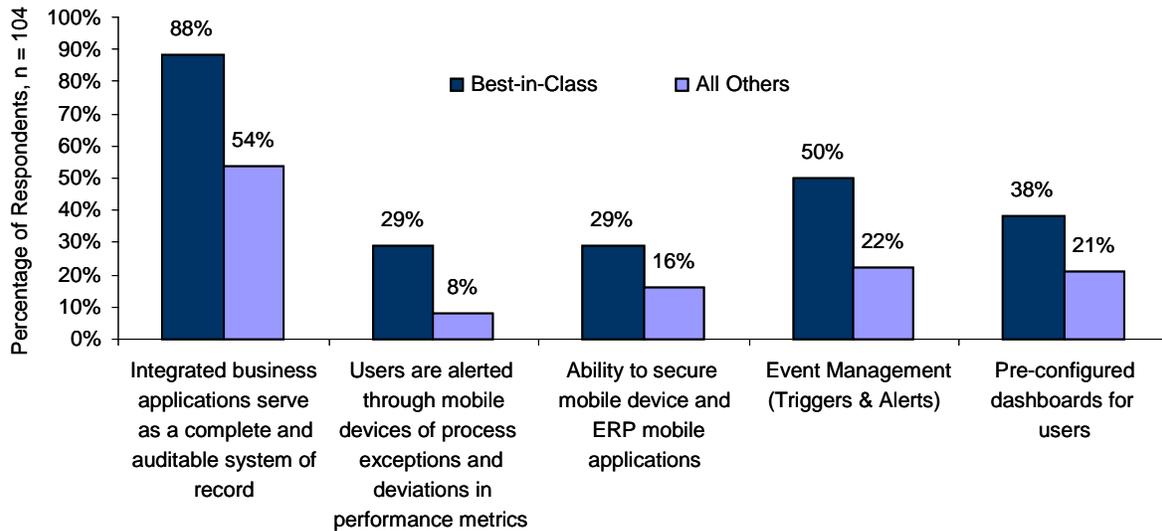
~ Jim Kraus, CFO, US Axle

Technology

Eighty-eight percent (88%) of the Best-in-Class have integrated business applications serving as a complete and auditable system of record (Figure 8). This integration includes ERP and its many modules (built with the same development tools on the same architecture as core ERP) and extensions (enterprise applications that extend the functionality of ERP, but are separate). This complete system of record allows executives to get a complete view of the business with consolidated data leaving nothing by the wayside. Having this system facilitates operations, decision making, and reporting. As it is a complete system of record, there is a lot of data that is not needed by all users. This is why the Best-in-Class are 81% more likely to

have pre-configured dashboards for users. This dashboards provide users with relevant, easy to find data, making their jobs easier.

Figure 8: Technology



Source: Aberdeen Group, June 2011

As mentioned earlier, real time data is a crucial tool for decision makers. The Best-in-Class are 127% more likely than all others to receive triggers and alerts based on events that have an impact on the organization. This allows decision makers to be more agile and react on the fly. They can take advantage of opportunities as soon as they are presented, as well as react immediately to adverse events. Furthermore, the Best-in-Class are 3.63 times as likely as all others to be alerted through mobile devices of process exceptions and deviations in performance metrics. This is especially important in today's business world where employees have the need to no longer be tethered to their desks. This allows them to react no matter where they are located in relation to their day to day work location. Of course, since ERP contains vital information for the organization, it is essential that this information does not fall into the wrong hands. The Best-in-Class are 81% more likely than all others to have the ability to secure mobile devices and ERP mobile applications.

"Our ERP system is an essential tool to manage the enterprise. It connects all processes assuring the proper flow of data."

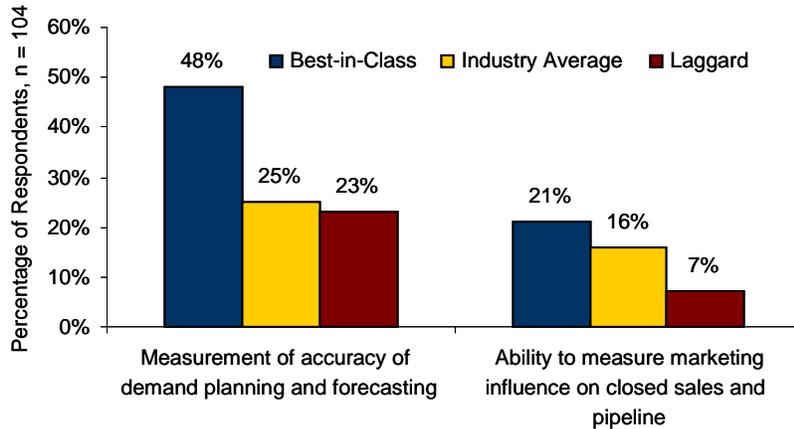
~ Director, Large consumer packaged goods manufacturer

Performance Management

In order for an organization to improve, it needs to measure its performance. Then the organization can make informed plans on how it is to improve. ERP greatly facilitates a manufacturer's ability to measure the impact of its actions on the overall performance of the organization. Best-in-Class companies are twice as likely as all others to measure the accuracy of demand planning and forecasting (Figure 9). This allows them to see how successful past projections were and to adjust their forecasts moving forward. This makes demand planning more accurate. Further performance management in Best-in-Class companies is the ability to measure marketing

influence on closed sales and pipeline. While only 21% of the Best-in-Class are currently doing this, they are differentiating themselves from the competition in that they are 62% more likely than all others to have this capability. The impact of marketing expenditures is often tough to judge, so having this capability allows Best-in-Class manufacturers to make better investments in the future.

Figure 9: Performance Management Capabilities



Source: Aberdeen Group, June 2011

Fast Facts

Deployment options open up another variable in an ERP strategy. The following lays out the deployment of the respondents ERP system:

- √ **74%** traditional on premise for Best-in-Class compared to **83%** for all others
- √ **4%** with ERP preloaded on an appliance for Best-in-Class compared to **1%** for all others
- √ **0%** hosted by a third party for Best-in-Class compared to **5%** for all others
- √ **11%** hosted by ERP vendor for Best-in-Class compared to **5%** for all others
- √ **11%** SaaS or Cloud-based for Best-in-Class compared to **5%** for all others

Aberdeen Insights — Technology

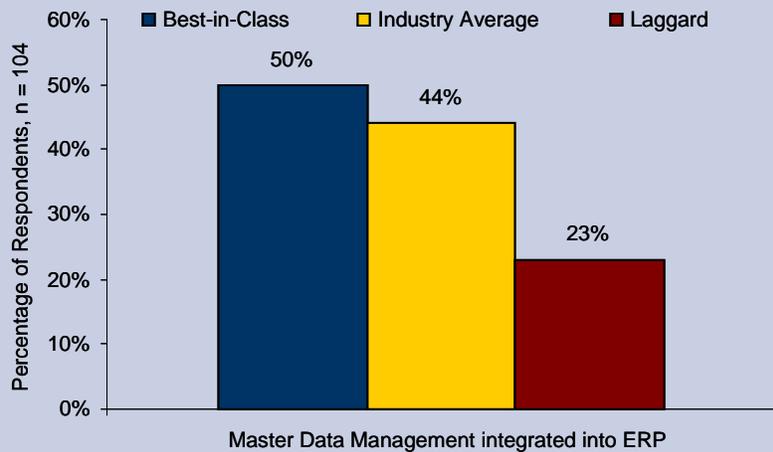
Key decision-makers rely on ERP to provide them with the data they need to have a full view of operations decisions-making. Therefore it's important data is as accurate as possible. Some manufacturers overlook the consequences of improper data management, feeding inaccurate, outdated and incomplete information into their business systems and processes. This leads to process inefficiencies, poor performance, and low productivity.

Master Data Management (MDM) is a formal initiative to improve and maintain the quality of master data, usually involving specific technology solutions as well as policy and process changes. By integrating MDM with ERP, manufacturers are reducing errors and rework as well as aiding in more accurate, informed decisions. To this end, the Best-in-Class are 39% more likely than all others to integrate MDM with ERP.

continued

Aberdeen Insights — Technology

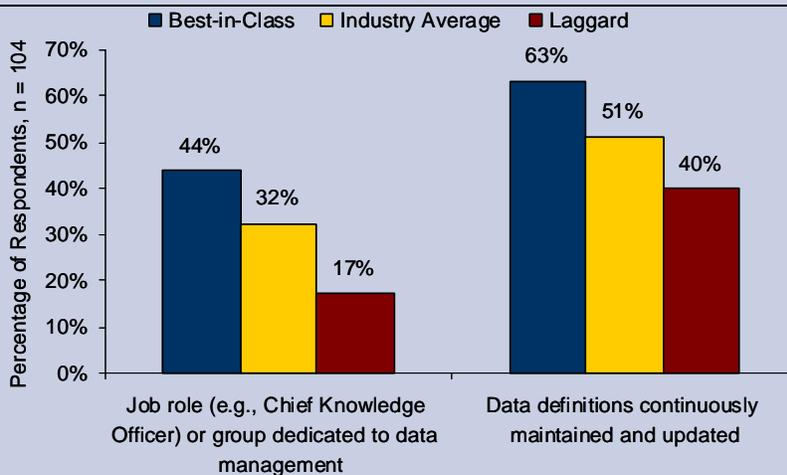
Figure 10: Master Data Management



Source: Aberdeen Group, June 2011

Ensuring accurate data does not end with the implementation of ERP and MDM. The Best-in-Class are 69% more likely than all others to have a job role or group dedicated to data management. This individual or group is tasked with ensuring that all data is accurate and timely. This adds another level on top of the technology and greatly enriches the quality of data. Of course it is important to know which data is most important to the organization as well as exactly what that data consists of. Part of the job of a Chief Knowledge Officer is to continuously maintain and update data definitions. Sixty-three percent (63%) of the Best-in-Class have this capability.

Figure 11: Managing Data



Source: Aberdeen Group, June 2011

Chapter Three: Required Actions

The ongoing success of an ERP system and its contribution to the success of a manufacturing business is dependent on the overall ERP strategy. Best-in-Class companies have established ERP strategies that set guidelines for how a company defines, monitors, supports, and applies an ERP system. Since 2006, Aberdeen has repeated many of its recommendations for achieving a Best-in-Class ERP strategy and implementation. Some are well-known prerequisites to successful implementation. Yet evidence that they are not universally put into practice indicates that some bear repeating, even as nothing more than a reminder of what anyone who has ever been involved in setting an ERP strategy knows to be generally accepted best practices.

Laggard Steps to Success

- **Develop a formal ERP strategy.** Best-in-Class companies are 6 times as likely as Laggard companies to have set and followed a formal ERP strategy. Not having a defined ERP strategy leaves Laggard companies responding in an ad hoc manner to requests from the line of business to address information needs. Lack of a formal strategy will keep Laggard companies from taking full advantage of the benefits ERP offers.
- **Measure and measure again.** Laggard companies many times fail to measure ongoing performance and ERP's impact on that performance. This limits the ability of Laggard companies to optimize the ERP system for business needs and ongoing support. Best-in-Class companies are twice as likely as Laggards to measure the ongoing impact of ERP on operational performance
- **Standardize on standards.** While Laggard companies have made up significant ground in the standardization of business processes, they are still significantly behind Best-in-Class companies. Best-in-Class companies responded almost unanimously that they have implemented standard cash management processes. Only about two-thirds of Laggard companies have done the same. Lack of standard business processes will hamper both ERP strategies and implementations, depriving Laggard companies of the maximum benefits from their ERP systems.

Industry Average Steps to Success

- **Get new users up and running as soon as possible.** One aspect of ERP usage that can be hidden from the IT organization is the training and staffing of the business to use ERP. As experienced users depart through normal attrition, people coming in to fill those vacant roles need to be placed or hired with an eye towards the ERP strategy and then brought up to speed as soon as possible. Best-in-Class companies are almost twice as likely as Industry Average

Fast Facts

ERP extensions extend ERP usage into areas outside the core ERP system. The most common ERP extensions for Best-in-Class are:

- ✓ Quality system at 63% of respondents
- ✓ Manufacturing Execution System at 57% of respondents
- ✓ Warehouse Management system at 50% of respondents

How Does Your Performance Compare to the Best-in-Class?



- Compare your processes
- Receive a free, personal PDF scorecard
- Benefit from custom recommendations to improve your performance, based on the research

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companies to have some kind of linkage between their ERP strategy and their talent strategy. In addition, Best-in-Class companies are 20% more likely than Industry Average companies to have a formal on-boarding and role-based training program for new users.

- **Standardize more than just cash management processes.** **Industry Average** companies continue to trail Best-in-Class companies in several process standardization categories. For example, Best-in-Class companies are 23% more likely to have standardized order management and delivery process compared to Industry Average companies. This shows that while Industry Average companies only lag Best-in-Class companies by a few percentage points in cash management processes, other operational processes still need focus.
- **Getting information to the right people, right now.** Another area that Industry Average companies can improve significantly is quickly getting alert and key event information to decision-makers. These companies are half as likely as Best-in-Class companies to automatically notify users of an business process event. Best-in-Class companies are also over twice as likely to notify a user on their mobile device. This is one more item that shows Industry Average companies aren't getting as much out of their ERP systems as Best-in-Class companies.

Best-in-Class Steps to Success

- **Get sales into the ERP information cycle.** While almost 42% of Best-in-Class companies provide a fully integrated view of the customer to its sales organization, that leaves 58% with having to use multiple systems, spreadsheets, and re-typed data to get a clear picture of their customer and their transactions. Using ERP as the transactional component for a 360 degree view of the customer will drive greater utilization of ERP overall.
- **Use role-based homepages and dashboards.** Using preconfigured dashboards and homepages is a step to faster on-boarding and broader usage of ERP. While Best-in-Class companies are almost twice as likely to provide those tools to users, only just over a third of Best-in-Class companies have actually put them in place.
- **Develop a mobile ERP strategy.** Over half of Best-in-Class companies have the ability to generate alerts and triggers off of ERP information. That means users can set up their own alerts and alarms to be notified of exceptions and critical deviations. But for over two-thirds of Best-in-Class companies, that notification has to come through email or their corporate desktop. Getting those critical alerts to a decision-makers mobile device is the next step in shorting the decision loop.

"ERP has brought more visibility to our manufacturing and service organization. Earlier our time to invoice was 100 days, now it is reduced to less than 15 days. Inventory accuracy was in the 80%s. Now it is in the 90%s. We expect to reduce purchasing costs and other operations costs by improving our usage."

~ Manager, Large oil and gas

Aberdeen Insights — Summary

An ERP strategy is not just for implementing ERP, it is a critical factor in operating your ERP at peak efficiency. Just like you maintain your ERP system, you must maintain your ERP strategy. As we have shown, Best-in-Class companies maintain their ERP strategy and derive real operational benefits from aligning their ERP strategy with their overall business strategy, internal capabilities, as well as the needs of the diverse group of business leaders running the company. These companies continuously monitor and measure not only their business operations, but their ERP system and how it is performing and aligning with the business. And for companies still waiting to implement ERP, take a lesson from Best-in-Class companies and have a formal ERP strategy that goes well beyond the initial implementation.

Appendix A: Research Methodology

Between May and June 2011, Aberdeen examined the use, the experiences, and the intentions of over 100 manufacturers using ERP in a diverse set of industries.

Aberdeen supplemented this online survey effort with interviews with select survey respondents, gathering additional information on ERP strategies, experiences, and results.

Responding enterprises included the following:

- *Job title:* The research sample included respondents with the following job titles: C-Level (22%); EVP / SVP / VP / GM (10%); Director (20%); Manager (32%); Staff and other (16%).
- *Functional Area:* Corporate Management (15%), Finance / Administration (5%), Information Technology (38%), Manufacturing & Operations (16%), Logistics/Supply Chain (12%), Other (14%)
- *Industry:* The research sample included respondents from the following industries: discrete manufacturing (54%); process manufacturing (23%); hybrid of discrete and process (23%)
- *Geography:* The majority of respondents (66%) were from the Americas. Remaining respondents included those from the Asia-Pacific region (15%) and EMEA (19%)
- *Company size:* Twenty-three percent (23%) of respondents were from large enterprises (annual revenues above US \$1 billion); 47% were from midsize enterprises (annual revenues between \$50 million and \$1 billion); and 30% of respondents were from small businesses (annual revenues of \$50 million or less).
- *Headcount:* Thirteen percent (13%) of respondents were from large enterprises (headcount greater than 5,000 employees); 52% were from midsize enterprises (headcount between 251 and 5,000 employees); and 35% of respondents were from small businesses (headcount between 1 and 250 employees).

Study Focus

Responding manufacturing executives completed an online survey that included questions designed to determine the following:

- √ The degree to which ERP is deployed in their operations
- √ The structure and effectiveness of existing ERP implementations
- √ Current and planned use of ERP
- √ The business benefits that have been derived from ERP initiatives

The study aimed to identify emerging best practices for ERP usage in manufacturing, and to provide a framework by which readers could assess their own management capabilities.

Table 5: The PACE Framework Key

Overview
<p>Aberdeen applies a methodology to benchmark research that evaluates the business pressures, actions, capabilities, and enablers (PACE) that indicate corporate behavior in specific business processes. These terms are defined as follows:</p> <p>Pressures — external forces that impact an organization’s market position, competitiveness, or business operations (e.g., economic, political and regulatory, technology, changing customer preferences, competitive)</p> <p>Actions — the strategic approaches that an organization takes in response to industry pressures (e.g., align the corporate business model to leverage industry opportunities, such as product / service strategy, target markets, financial strategy, go-to-market, and sales strategy)</p> <p>Capabilities — the business process competencies required to execute corporate strategy (e.g., skilled people, brand, market positioning, viable products / services, ecosystem partners, financing)</p> <p>Enablers — the key functionality of technology solutions required to support the organization’s enabling business practices (e.g., development platform, applications, network connectivity, user interface, training and support, partner interfaces, data cleansing, and management)</p>

Source: Aberdeen Group, June 2011

Table 6: The Competitive Framework Key

Overview	
<p>The Aberdeen Competitive Framework defines enterprises as falling into one of the following three levels of practices and performance:</p> <p>Best-in-Class (20%) — Practices that are the best currently being employed and are significantly superior to the Industry Average, and result in the top industry performance.</p> <p>Industry Average (50%) — Practices that represent the average or norm, and result in average industry performance.</p> <p>Laggards (30%) — Practices that are significantly behind the average of the industry, and result in below average performance.</p>	<p>In the following categories:</p> <p>Process — What is the scope of process standardization? What is the efficiency and effectiveness of this process?</p> <p>Organization — How is your company currently organized to manage and optimize this particular process?</p> <p>Knowledge — What visibility do you have into key data and intelligence required to manage this process?</p> <p>Technology — What level of automation have you used to support this process? How is this automation integrated and aligned?</p> <p>Performance — What do you measure? How frequently? What’s your actual performance?</p>

Source: Aberdeen Group, June 2011

Table 7: The Relationship Between PACE and the Competitive Framework

PACE and the Competitive Framework – How They Interact
<p>Aberdeen research indicates that companies that identify the most influential pressures and take the most transformational and effective actions are most likely to achieve superior performance. The level of competitive performance that a company achieves is strongly determined by the PACE choices that they make and how well they execute those decisions.</p>

Source: Aberdeen Group, June 2011

Appendix B: Related Aberdeen Research

Related Aberdeen research that forms a companion or reference to this report includes:

- [*Case Study: ERP and BI Put Business Problems to Bed*](#); June 2011
- [*Aging ERP: When Old ERP is Too Old*](#); June 2011
- [*Mobility in ERP 2011*](#); April 2011
- [*To ERP or Not to ERP: In Manufacturing, It Isn't Even a Question*](#); March 2011
- [*ERP in Complex Manufacturing*](#); February 2011
- [*SaaS ERP: Trends & Observations 2010*](#); October 2010
- [*ERP in SME: Fueling Growth and Profits*](#); August 2010
- [*ERP in Manufacturing 2010: Measuring Business Benefit and Time to Value*](#); June 2010
- [*SaaS ERP: Trends and Observations*](#); December 2009
- [*Beyond the Total Cost of ERP Ownership*](#); June 2009
- [*Enterprise Solution Strategies: The Value of an Integrated Suite*](#); September 2009
- [*ERP in the MidMarket 2009: Managing the Complexities of a Distributed Environment*](#); August 2009

Information on these and any other Aberdeen publications can be found at www.aberdeen.com.

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