

# CREATING A MODERN, EFFECTIVE MANUFACTURING ENVIRONMENT WITH ERP

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## Report Highlights

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**The top pressures in manufacturing are unpredictable demand, and complexity of data.**

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**Leading manufacturers have implemented more modules of ERP at a higher rate than Followers.**

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**Leaders are 1.9 times as likely to have standardized procedures for production planning and execution.**

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**Leaders saw a 12% improvement in operating margins as a result of ERP.**

This report identifies the challenges that face the modern manufacturing environment and illustrates how Leading manufacturers make ERP a foundation for efficiency, effectiveness, and growth.

# 2

**While ERP is widely used by manufacturers, those that use it most successfully do a better job of utilizing more of the solution's features and functions.**

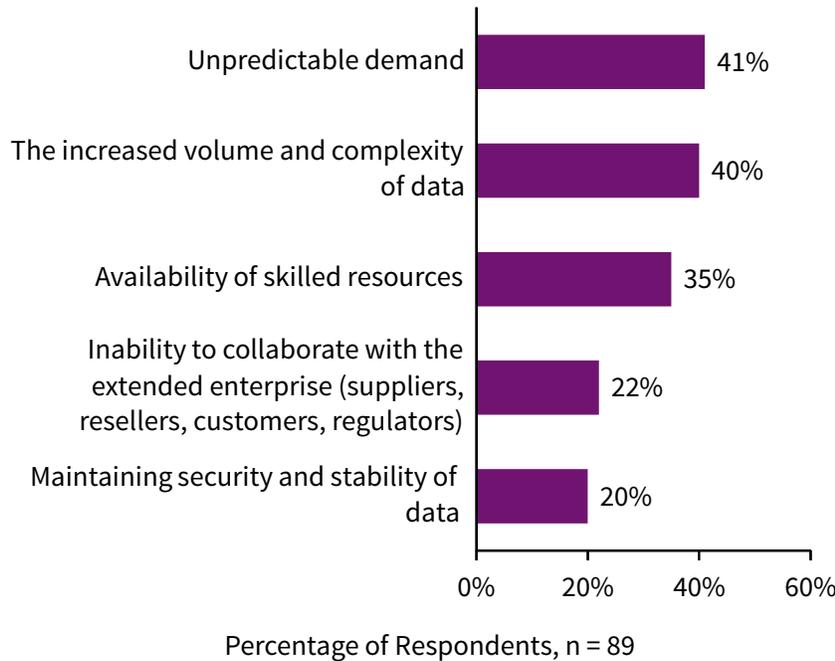
In today's manufacturing industry, Enterprise Resource Planning (ERP) solutions have become ubiquitous. In fact, Aberdeen's [2014 Business Management and ERP Benchmark Survey](#) found that 97% of Leading manufacturers utilize ERP, in comparison to 88% of Followers. But just because an organization has implemented ERP, it does not mean that they are getting the most out of their technology environment. Rather, top performing manufacturers ensure that their ERP solution is being used to its fullest extent by their employees, in roles that spread across the organization. Further, these modern manufacturers may supplement their solutions with supporting technology that exponentially increases the benefits that are received from the functionality and data contained within ERP. Continuous improvement has long been a cornerstone of the manufacturing industry, and in that spirit, today's top performers must find ways to extend ERP in order to compete effectively in the modern environment. This report identifies the challenges that face the modern manufacturing environment and illustrates how Leading manufacturers make ERP a foundation for efficiency, effectiveness, and growth.

## The Modern Environment

Today's manufacturers are facing a series of pressures that indicate that they need more out of their technology environment (Figure 1). For instance, not only are they faced with a huge influx of data to manage, but they are actually having trouble making use of that data. With the wealth of information available, one would think that demand planning would become easier. However, this is not the case. Rather, as manufacturers expand globally, they are exposed to more potential customers in areas with varying levels of demand. This means that they could either be faced with surpluses or shortages, neither of which is a good situation.

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**Figure I: Top Pressures in Manufacturing**



Source: Aberdeen Group, August 2014

Of course, the ability to communicate effectively with suppliers, customers, and regulators can help with demand planning, but many organizations lack the sophistication to share data with these stakeholders. And when levels of demand are high, a lack of skilled resources can really hinder an organization as it attempts to serve customers. All of these pressures could be better managed through technology that enables the organization to organize, share, find, interpret, and utilize data more effectively.

But if the majority of all manufacturers have already implemented ERP, why are they having these problems? Survey takers were asked to indicate the reasons that they replace their ERP solutions. The top responses indicate that many manufacturers have obsolete solutions that may not have all of the functionality that they need in order to operate effectively

In this report, Aberdeen groups respondents into two maturity classes:

- **Leaders:** Top 35% of respondents based on performance
- **Followers:** Bottom 65% of respondents based on performance

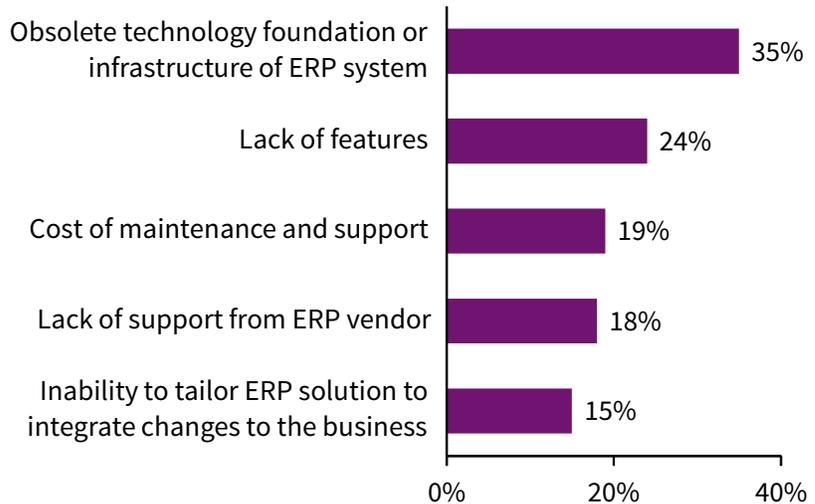
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In Aberdeen's [2014 Business Management and ERP Benchmark Survey](#), respondents were ranked on the following criteria:

- **Complete and on-time delivery:**
  - Leaders - 96%
  - Followers - 82%
- **Improvement in profit margins over the past two years:**
  - Leaders - 14%
  - Followers - 4%
- **Internal schedule compliance:**
  - Leaders - 93%
  - Followers - 81%
- **Inventory accuracy:**
  - Leaders - 97%
  - Followers - 87%

(Figure 2). Additionally, these solutions may not be easily changed to support a growing and changing business. Of course, implementing a new ERP solution can be a disruptive, lengthy, and costly process. If the solution truly cannot do the things that a manufacturing organization needs, then replacement may be necessary. But oftentimes, organizations simply are not aware that their solution can be expanded or used more effectively to work better for the organization.

**Figure 2: Why Replace ERP?**



Percentage of Respondents, n = 89

Source: Aberdeen Group, August 2014

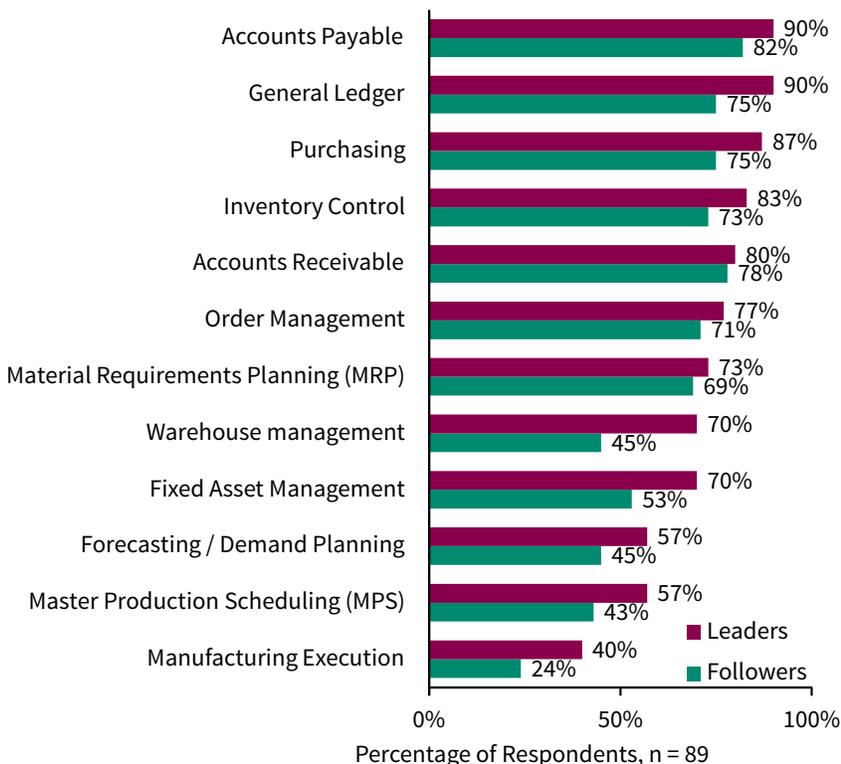
## The Manufacturing Technology Environment

How can manufacturers get more value out of their ERP solution? Leading manufacturers have implemented more modules of ERP at a higher rate than Followers (Figure 3). These modules are built to support specific business processes that can help a manufacturer become more effective. Whether these modules support functions that all industries can benefit from, such as accounts payable or general ledger, or are

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manufacturing-specific, using more of the functionality that is included in an ERP package can improve the value of the solution and help to reduce complexity in the technology environment.

**Figure 3: Modules Implemented by Leading Manufacturers**



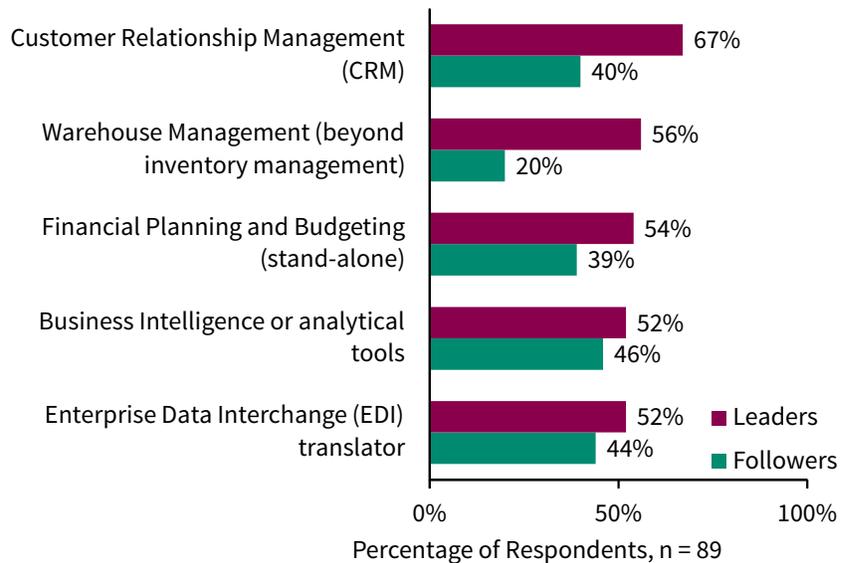
Source: Aberdeen Group, August 2014

Of course, there are situations where a manufacturer may want to supplement the functionality contained within their ERP solution. In these cases, it is extremely important that any additional technology be integrated effectively, but ERP should persist as the foundation of a modern manufacturing technology environment. Still, Leading manufacturers are more likely to supplement their solutions by "beefing up" capabilities in areas that they deem important (Figure 4). For example, as manufacturing organizations increase their emphasis on service

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as a product, they may need enhanced insight into customer data. Therefore, Leaders are 68% more likely to supplement ERP with a Customer Relationship Management (CRM) solution. Additionally, Leaders are more likely to utilize additional technology, like Business Intelligence tools, to enhance the utilization of the data contained within the ERP itself. Business intelligence tools can provide a more robust analysis of ERP data that can be used for tasks such as demand planning. In other cases, Enterprise Data Interchange (EDI) translators can enable data sharing with the extended enterprise, such as suppliers. These technologies expand the technology footprint of a manufacturer, with ERP as a foundation.

**Figure 4: Top Five ERP Extensions**



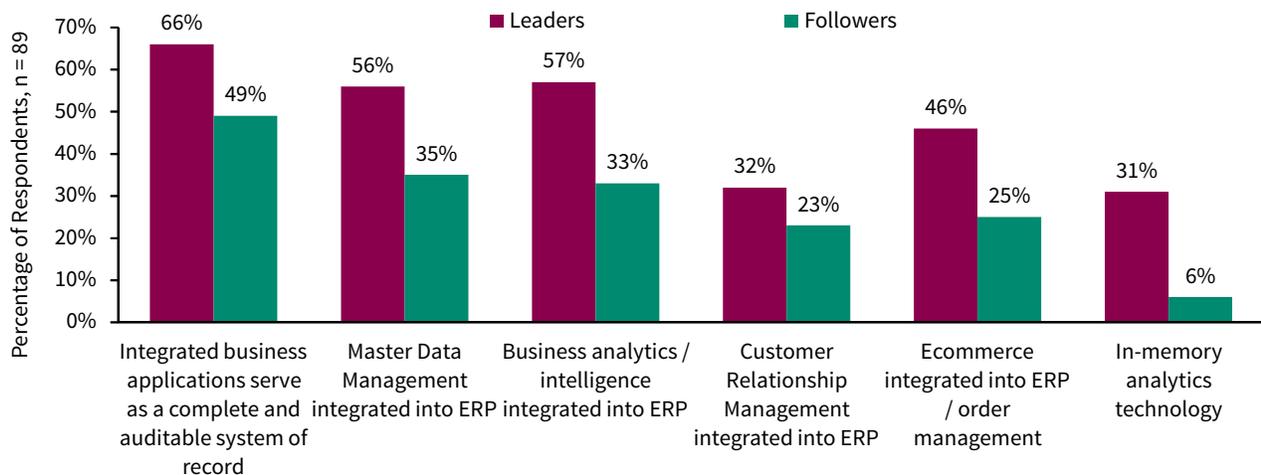
Source: Aberdeen Group, August 2014

In order to ensure that ERP is truly the foundation of a manufacturing technology environment, as well as take advantage of the extensions and modules of ERP, top performers ensure that their applications are tightly integrated. Note that Leaders are 31% more likely to have business solutions integrated to create a complete and auditable system of record

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(Figure 5). Not only does this ensure that data is complete, but also that it is accurate and without redundancy, due to solutions such as Master Data Management. Integrated systems enable better decision-making through Business Analytics, which can help organizations to get more value out of the data contained within ERP. Or manufacturers can supplement customer service and delivery through integrated solutions for Customer Relationship Management and eCommerce. Ultimately, Leaders are more likely to create an integrated environment that can support their manufacturing operations from end-to-end.

**Figure 5: The Integrated Environment**

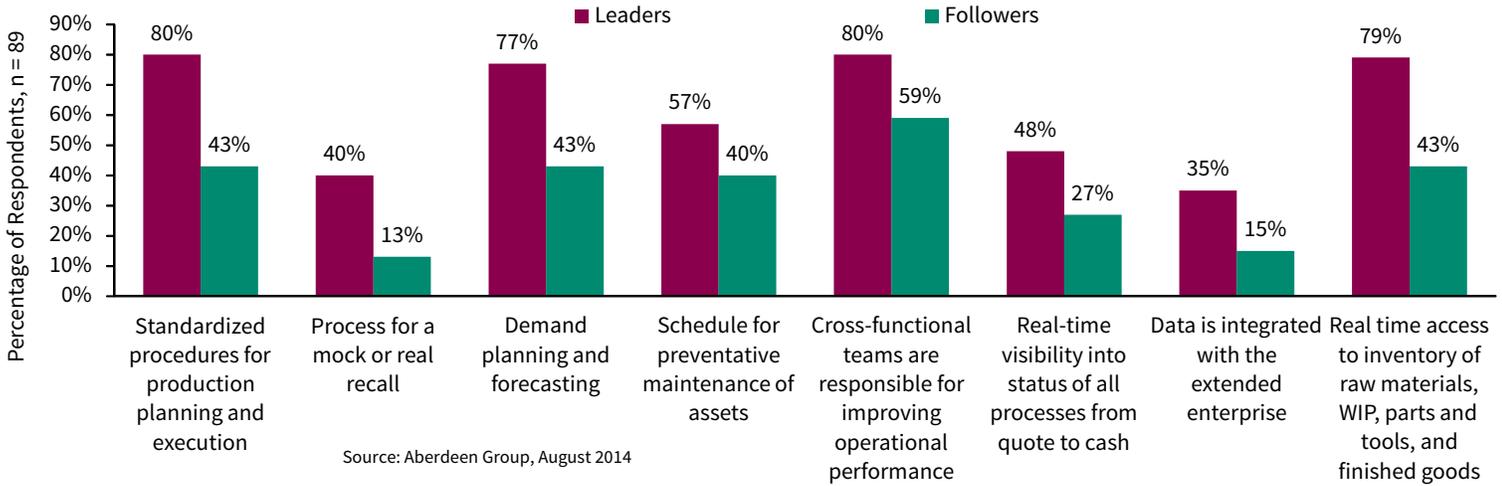


Source: Aberdeen Group, August 2014

The technology listed above can help to provide capabilities that extend across the manufacturing organization (Figure 6). For example, Leaders are almost twice as likely as Followers to have standardized processes for production planning and execution. Aided with improved demand planning, this can be a very valuable capability. Additionally, Leaders are more likely to have access to a variety of manufacturing-specific capabilities, such as the ability to perform recalls (essential in process industries) and the ability to proactively schedule maintenance of assets.

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**Figure 6: Manufacturing Capabilities of the Leaders**



Ultimately, the capabilities gained through a proper ERP implementation in manufacturing center on the main challenges noted earlier in this report: improved visibility and communication with data. Top performers can utilize ERP for continuous improvement, as well as decision-making and data-sharing with the extended enterprise.

### The Results

Since Leading manufacturers do a better job of utilizing a wider range of ERP modules and capabilities, they naturally receive enhanced benefits as a result of their solution (Table 1). These can have a significant impact on the performance of the organization. But manufacturers of every maturity class have reported benefits as a result of their ERP solutions. These include inventory turns, time-to-decision, complete and on-time delivery, and profit margins. In order to maximize these gains, extend ERP to more roles and processes throughout the organization.

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Table 1: The Benefits

Improvement as a Result of ERP	Leaders	Followers
Improvement in inventory turns	39%	18%
Improvement in stock to sales ratio	20%	7%
Improvement in operational costs	12%	4%
Improvement in administrative costs	9%	5%
Improvement in complete and on-time delivery	19%	8%
Improvement in inventory levels	12%	6%
Improvement in schedule compliance	16%	4%
Improvement in cycle time of key business processes	18%	9%

Source: Aberdeen Group, August 2014

## Key Takeaways

While ERP is used widely by manufacturers of all types and sizes, not every manufacturer is getting full use out of this important, but sometimes costly investment. These solutions are not to be taken lightly. Since these solutions are designed to support the business from end-to-end, business leaders expect to see tangible improvements to the business. Leading manufacturers are able to drive significant improvements, such as an average 12% improvement in operational costs. But how are they able to get the most out of their ERP?

- **They spread ERP across the organization.** Leading manufacturers have implemented more modules of ERP at a higher rate than Followers. Whether these modules support functions that all industries can benefit from, such as accounts payable or general ledger, or are manufacturing-specific, using more of the functionality that is included in an ERP package can improve the value

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of the solution and help to reduce complexity in the technology environment.

- **Leaders supplement ERP with supporting technology.** Leaders are more likely to utilize additional technology, like Business Intelligence tools, to enhance the utilization of the data contained within the ERP itself. Business intelligence tools can provide a more robust analysis of ERP data that can be used for tasks such as demand planning.
- **They create an integrated technology environment.** In order to ensure that accurate, relevant data is shared across the organization without redundancy, top performers ensure that their entire technology environment is integrated effectively, with ERP as a foundation. Leaders are 31% more likely to have business solutions integrated to create a complete and auditable system of record.
- **Leaders use ERP to provide visibility, collaboration, and decision-making.** There are a variety of capabilities enabled by ERP that help manufacturers to become more effective. For example, Leaders are 208% more likely to be able to perform a mock or real recall.

Ensuring ERP ROI takes commitment, but it is essential for success in today's manufacturing environment.

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For more information on this or other research topics, please visit [www.aberdeen.com](http://www.aberdeen.com).

## Related Research

*[Mobile ERP: Taking ERP ROI into your Own Hands](#)*; August 2014  
*[ERP: The Foundation of an Enterprise-Worthy Technology Environment](#)*; April 2014  
*[Business Process Modeling: The Foundation of a Successful Business](#)*; April 2014  
*[The Value of ERP Training](#)*; April 2014

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