

P A N O R A M A
CONSULTING SOLUTIONS

The 2015 Manufacturing ERP Report



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Introduction

During an ERP implementation, manufacturing organizations face process and organizational change challenges that are unique to their industry. While many organizations treat all business processes equally, more complex operations are more likely to make or break your project.

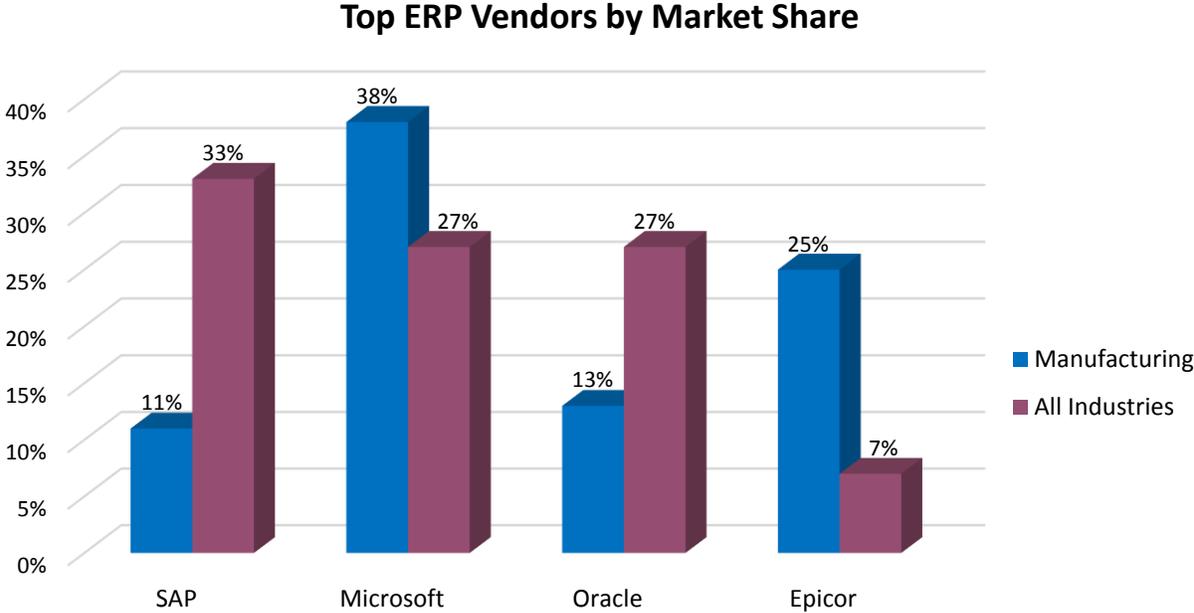
Using ERP software to manage manufacturing processes helps eliminate costly errors, increase production speed and minimize production delays. Although modern ERP systems are able to accommodate a wide range of manufacturing functionality, organizations must be particularly careful to select an ERP system robust enough to meet their specific operational processes and flexible enough to support the organization's competitive advantage .

While the manufacturing industry is similar to all industries in terms of vendor market share and implementation duration, manufacturing ERP implementations are more likely to go over budget, cost more and have a higher cost-to-revenue ratio. Although manufacturing firms tend to implement fewer modules than organizations across all industries, the cost of manufacturing ERP implementations is still significantly higher. The complexity of manufacturing processes and the level of customization and integration required often lead to higher implementation costs.

The 2015 Manufacturing Report includes the analysis of surveys conducted by Panorama Consulting during a recent 26-month period (between October 2013 and May 2015). A total of two hundred sixty-six respondents completed the surveys upon which this data is based. The report analyzes the use of ERP software in the manufacturing industry and includes information on market share, reasons for implementing ERP, implementation duration, implementation cost and benefits realization. The study also includes data on payback period, customization and ERP modules deployed. Where applicable, each of these data points is compared with organizations across all industries.

ERP Market Share

Panorama's **2015 Manufacturing ERP Report** provides market share statistics based on the frequency each vendor was selected by manufacturing organizations represented in our survey. The chart below shows the top ERP vendors by market share for the time period from October 2013 and May 2015:



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The main difference is the prominence of Microsoft (38-percent) and Epicor (25-percent) in the manufacturing industry, while SAP (33-percent) and Oracle (27-percent) have higher market shares across all industries.

Top Reasons for Implementing ERP Software

Similar to organizations across all industries, manufacturing organizations have a variety of reasons for implementing ERP software. As seen in the graph on the following page, replacing legacy systems and positioning the organization for growth are the most common reasons for organizations to implement ERP software. Each of these reasons is cited by roughly 18-percent and 15-percent of respondents respectively.

Improving service to customers is also a common reason for implementing ERP software (13-percent). Standardizing global business operations (5-percent) and reducing working capital (5-percent) are among the lowest reported reasons for manufacturing firms to implement ERP software.

Reasons for ERP Implementation



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In the manufacturing industry, the pressure to innovate is driven by an increasingly competitive landscape, so it is not surprising that many manufacturing firms want to replace their legacy systems and position their organization for growth.

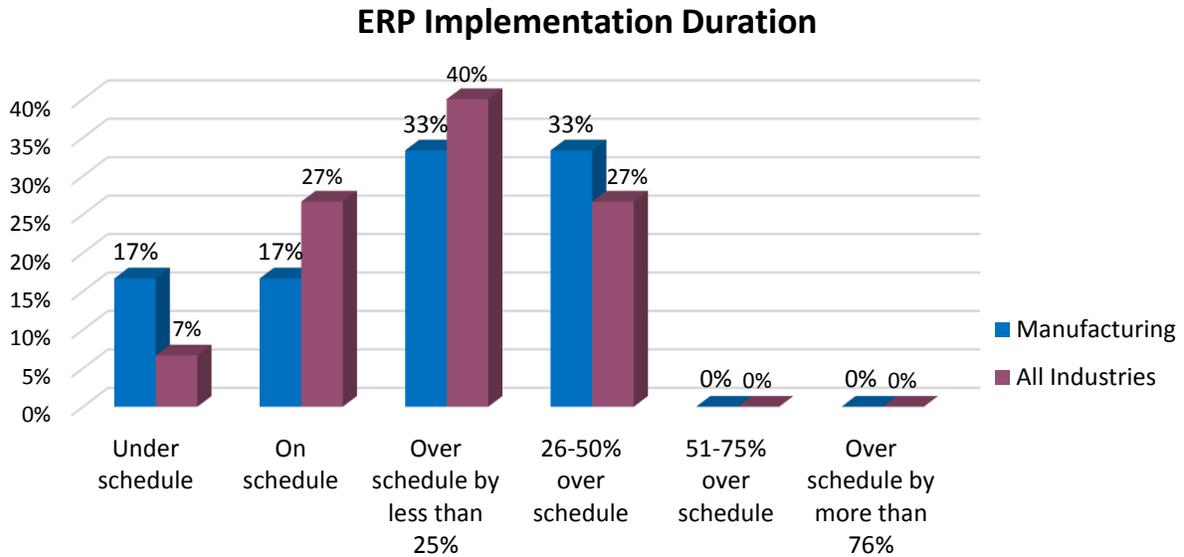
Implementation Duration

ERP implementation durations vary based on the size and scope of the implementing organization. Panorama’s research reveals that the duration of ERP implementations in the manufacturing industry (18 months) is thirty-percent less than the duration of implementations across all industries (25.5 months).

Extended Durations

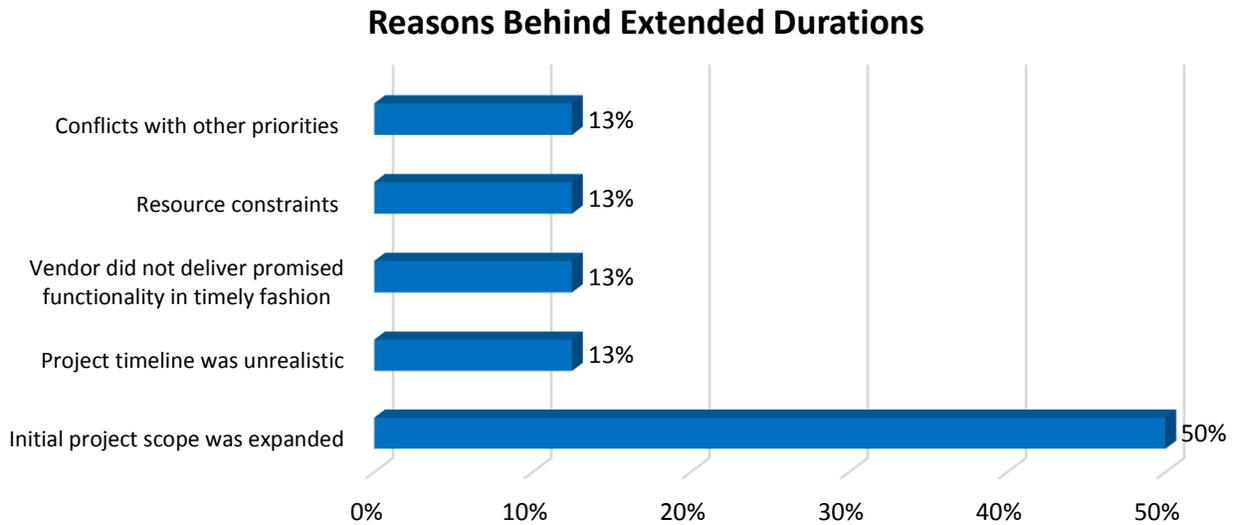
Of the manufacturing organizations represented in our survey, 34-percent report that their project was on or under-schedule. The percentage of organizations across all industries reporting on or under-schedule implementations is identical (34-percent). Although manufacturing organizations have a higher percentage of implementations that are completed under-schedule, the implementations that exceed schedule do so to a greater extent than in all industries.

As seen in the graph below, 33-percent of manufacturing organizations exceed schedule by 26-50-percent, while this is true of only 27-percent of organizations in all industries.



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Our findings suggest that the expansion of initial project scope (cited by 50% of respondents) is the most common reason for extended durations. Conflicts with other priorities, resource constraints, unrealistic implementation timelines and the vendor under-performance are responsible for schedule overages to a large degree as well, each accounting for 13-percent of responses.



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These results may indicate that many manufacturing organizations are choosing software simply based on reputation and not doing the due diligence required to select a solution that best fits their organization. By selecting software based on industry best practices, manufacturers are compromising the competitive advantages that are unique to their organization. Mapping business processes before selection, reduces the amount of software customization that is required for accommodating unique processes and differentiators. Customization can further extend the project scope and timeline.

Schedule overruns can also occur when organizations struggle with managing resistance from executives and end-users. Manufacturing organizations should recognize the magnitude of organizational change issues and set realistic expectations when it comes to overall project scope and timeline.

Project Cost

Across all industries, the average cost of an ERP implementation is \$4.1 million. In contrast, the average implementation cost in the manufacturing industry is only \$2.0 million. The average cost-to-revenue ratio for ERP projects across all industries is about 8.4-percent, while manufacturing ERP projects have a slightly lower cost-to-revenue ratio of 7.5-percent. This is consistent with our findings on total project cost.

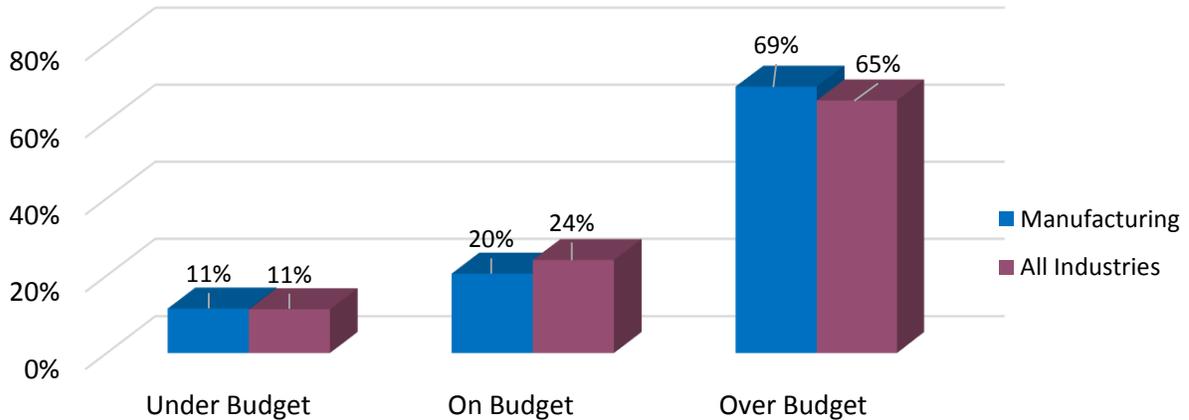
Average Cost	\$2.0 million
Cost as % of Revenue	7.5%

Budget Overruns

It is common for ERP implementations to exceed total cost of ownership projections. Issues such as customization level, implementation scope and business process complexity can affect total implementation cost.

Our research reveals that the majority (69-percent) of ERP implementations go over-budget. Across all industries, fewer implementations (65-percent) go over-budget. As seen in the graph on the following page, an equal percentage of organizations in the manufacturing industry and across all industries indicate that their project was under-budget (11-percent).

Budget Performance

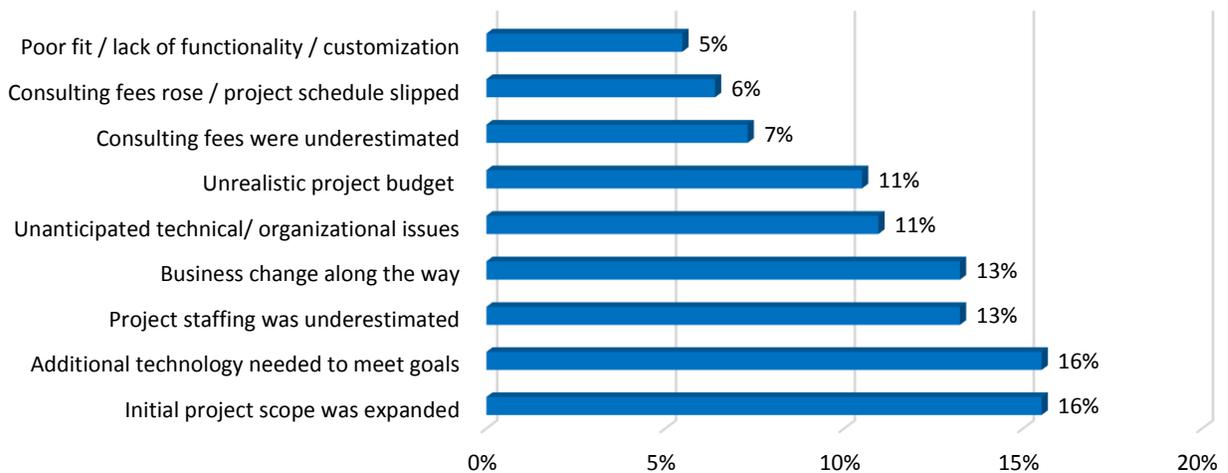


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One challenge that can lead to higher than expected costs is the integration of existing software with new software. Many manufacturers integrate new ERP software with pre-existing modules such as product lifecycle management, product configuration and manufacturing execution systems (MES).

According to our research, 32-percent of manufacturing organizations experience budget overruns due to scope expansion or the need for additional technology. This may indicate that organizations are not taking the time to conduct a thorough software evaluation. They later discover gaps in functionality which solicit the need for additional technology and further customization.

Reasons Behind Budget Overages

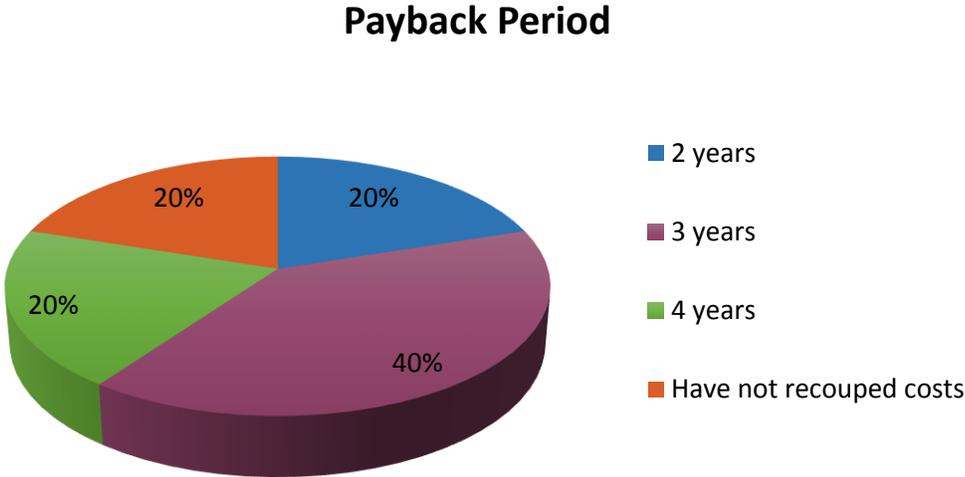


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Additionally, 26-percent of manufacturing organizations experience budget overruns due to incremental business changes or a failure to adequately staff the project. Organizations – and vendors – often do not account for these non-technical activities in their project plans. To arrive at accurate estimates for budget and timeframe, organizations should account for additional success factors such as organizational change management, business process reengineering and resource allocation. Project costs can be difficult to predict and manufacturing organizations that fail to plan for all implementation components will find that their project costs increase overtime.

Payback Period

A crucial aspect of measuring ERP success is analyzing the tangible benefits of an ERP system in terms of payback period. Panorama’s research shows that 20-percent of respondents in the manufacturing industry have not recouped the costs of their implementation, while 60-percent take three to four years to recoup their costs. There were no respondents receiving payback in one year or less.



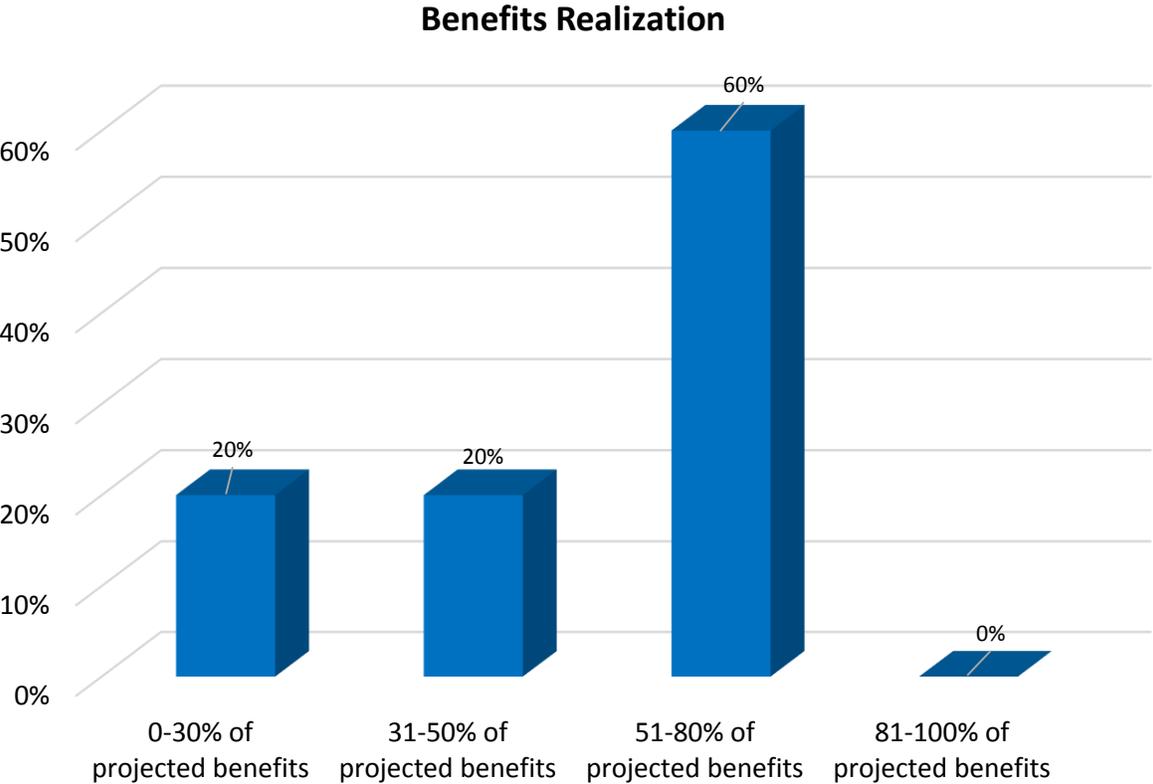
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Even the organizations that are implementing on-time and on-budget struggle with benefits realization and recouping costs. The fact that one-fifth of manufacturing organizations have yet to recoup the costs of implementation suggests that organizations do not take the time to develop a business case outlining project goals and objectives. When organizations do not set a baseline to document where they are before implementation, it is difficult to measure payback or positive return on investment. A business case outlines the expected labor efficiency gains and non-labor benefits to calculate an accurate payback period.

Benefits Realization

Ultimately, manufacturing organizations undertake ERP implementations to achieve tangible benefits including a significant return on investment. An ROI calculated at the beginning of a project represents the expected benefits that can be achieved from an ERP implementation. If an expected ROI is achieved following go-live, the ERP project can be considered a success from a financial standpoint.

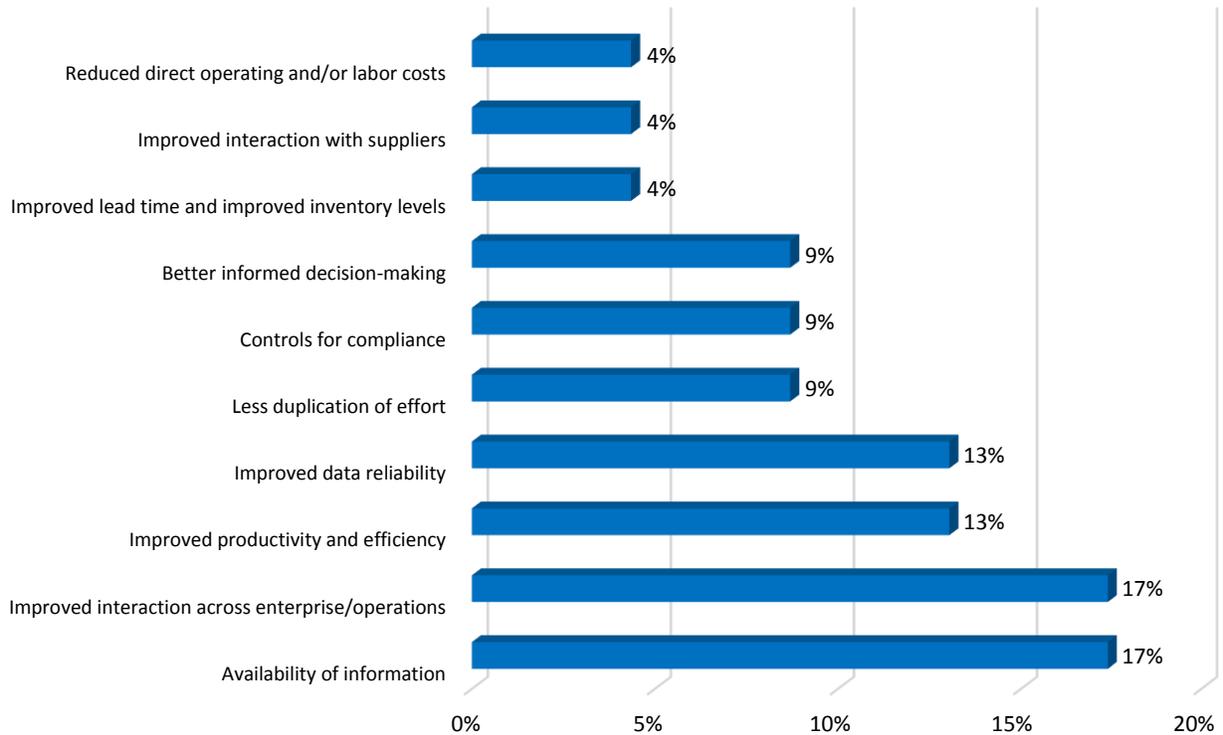
According to our findings, 40-percent of manufacturing organizations realize less than half of anticipated benefits and no manufacturing organizations realize more than 80-percent of anticipated benefits. Oftentimes, finishing a project on-time and on-budget becomes more important than achieving the specific benefits outlined in the business case.



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When organizations do realize benefits, the most common benefits include increased response time due to availability of information (17-percent), improved interaction across the enterprise (17-percent), improved productivity and efficiency (13-percent) and improved data reliability (13-percent).

Types of Benefits Realized



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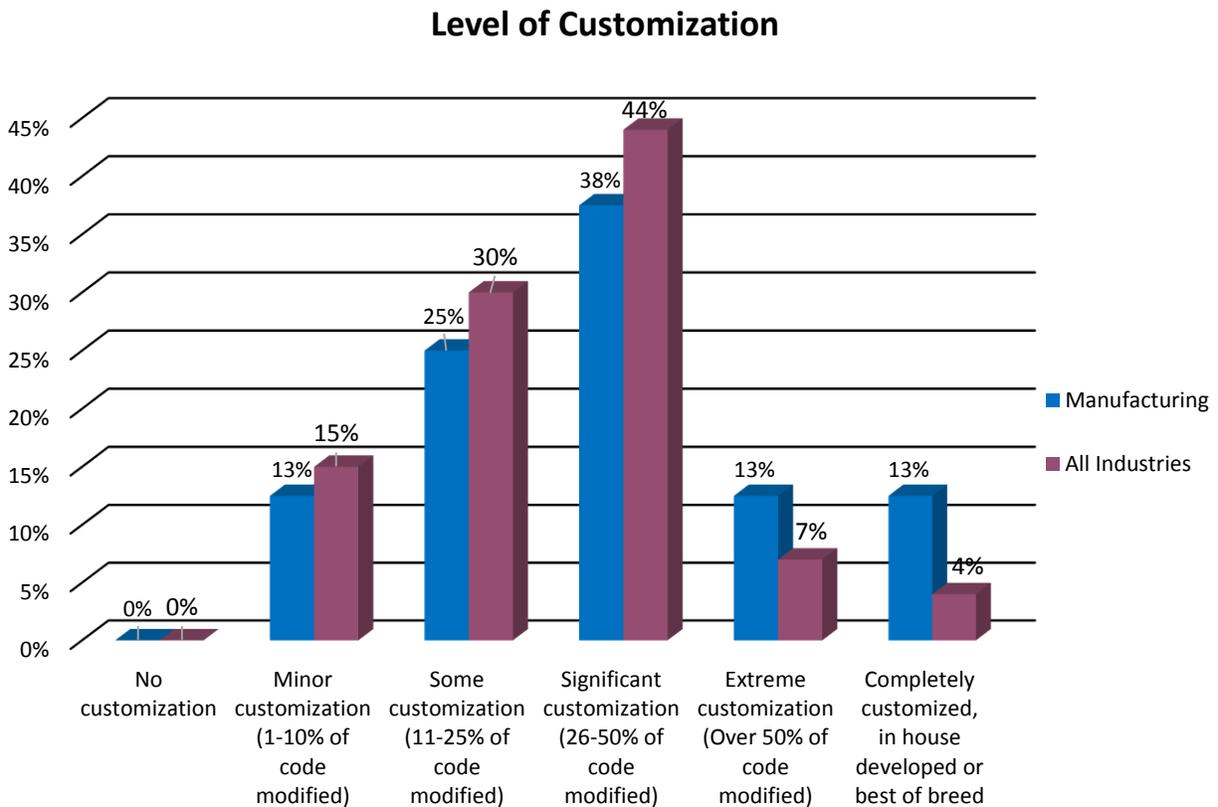
Improving interactions across the enterprise helps organizations determine where they are losing production efficiencies related to people, machines and materials and where to make adjustments to eliminate quality defects or delayed customer shipments. If there are issues with production systems, it is important for manufacturing organizations to be able to notify the appropriate stakeholders so they can make adjustments, whether it's reporting a quality defect to a supplier or notifying a customer of a late shipment.

Level of Customization

ERP systems often require varying degrees of customization in order to meet the needs of a manufacturing organization. During implementation, organizations take one of three approaches to customization: 1) change business processes to accommodate ERP functionality, 2) customize ERP functionality to accommodate current business processes, or 3) change business processes independent of ERP, then select or configure software to align with new processes.

According to our data, the level of customization in manufacturing ERP implementations is slightly higher when compared to all industries. While 26-percent of manufacturing organizations implement with extreme or complete customization, only 11-percent of organizations across all industries implement with this level of customization.

As seen on the graph below, manufacturing organizations are more than twice as likely to experience heavy customization when compared to all industries. While 13-percent of manufacturing organizations completely customize their software, only 4-percent of organizations across all industries take this approach.



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This relatively high degree of customization among manufacturing organizations, when compared to all industries, can be attributed to the high degree of specialization and complexity inherent in many manufacturing organizations. Most ERP systems do not meet the exact requirements of every manufacturing operation because many ERP vendors do not invest in the development of solutions for every industry. Some of the areas that often require customization include supplier lists, report formatting and exchanging documents with business-to-business trading partners.

Significant customization is sometimes required but should be avoided unless critical to the business. A lack of change management or a rushed ERP selection typically are the root causes of extreme customization.

Conclusion

Although ERP software was originally designed for the manufacturing industry, manufacturing firms have no clear advantage over other industries when it comes to realizing business benefits and a return on investment. Similar to other industries, the manufacturing industry struggles with implementation duration and budget adherence. Manufacturing firms also experience high levels of software customization and long payback periods.

The first step to achieving ERP success in the manufacturing industry is to develop a business case that includes goals and objectives from which your organization can benchmark actual outcomes. From here, your organization can tackle the unique challenges that come with implementing and integrating the specific modules that support your manufacturing processes.

A thorough software evaluation process is critical to selecting an ERP system that addresses your unique processes and requires minimal customization. Preparing for the process and organizational change challenges of implementation, will reduce the threat of scope creep and increase your likelihood of ERP success.

About Panorama Consulting Solutions

Panorama Consulting Solutions specializes in enterprise consulting, infrastructure consulting and enterprise resource planning (ERP) consulting for mid- to large-sized, private and public sector organizations across the globe. One-hundred percent independent of affiliation, Panorama helps firms evaluate and select ERP software, implements the software and facilitates all related organizational changes to ensure that each of its clients realize the full benefits of their ERP implementation.

More information can be found on its website, Panorama-Consulting.com and Twitter feed, [Twitter.com/PanoramaERP](https://twitter.com/PanoramaERP).