



Project Management Technology and the Manufacturing Recovery



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Project Management Technology and the Manufacturing Recovery

Background

Manufacturers' initiatives for 2010 are dedicated to increasing optimization of their resources, improving process efficiencies, minimizing risks and maintaining practices that lead to greater profitability. To help attain these objectives, businesses are compelled to redefine their manufacturing and operations procedures to handle the growing complexities of production work.

In repetitive manufacturing operations, rapidly changing technology is shortening product life-cycles, increasing emphasis on the episodic, one-off disciplines of engineering, design, testing and product lifecycle management. And increased outsourcing is forcing manufacturers to manage a team of vendors much the way a general contractor would manage a team of subcontractors.

Companies in more traditionally project-intensive industries, like capital equipment manufacturing, are also finding that they need to exercise increased control over project cost and other variables in order to remain competitive.

Manufacturing projects of all types now require greater flexibility and involve significant resources, creating a need for more robust enterprise software technology. Project-based manufacturing strategies and project management applications are helping companies to better manage costs, regulate their workforce and control inventory and business assets.

According to a study recently completed among manufacturing engineering professionals by RBInteractive on behalf of IFS North America, a leading provider of enterprise applications used to optimize manufacturing, maintenance, projects and related supply chains, the role of projects as a key component in overall business models will increase over the next five years. This is true not only for manufacturers typically reliant on projects, like capital equipment manufacturers, but those involved in more repetitive manufacturing as well.

Despite the growing importance of projects, survey respondents report poorly- to moderately - developed integration between project management tools and their enterprise software solutions. This suggests that manufacturers who close this functional gap by adopting project-based solutions (PBS) as their enterprise system of record will be better prepared to compete in the years ahead.



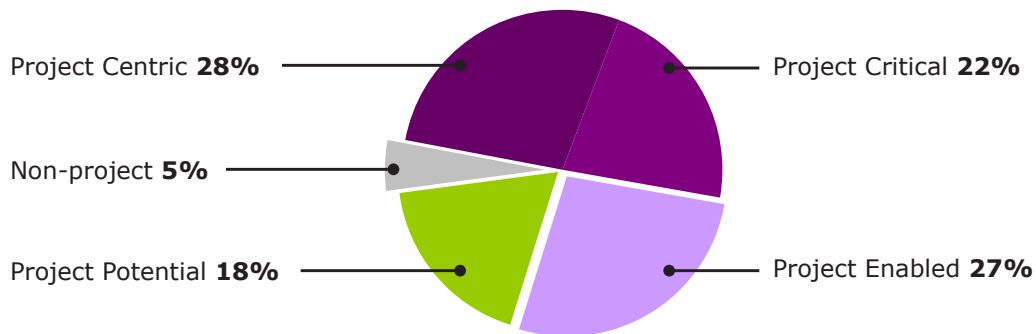
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Importance of Project Management

According to survey results, the manufacturers are highly dependent on project-based manufacturing and related management applications. When PBS was defined as a separate class of enterprise software by analysts and software vendors including IFS, that definition outlined several different categories of companies, ranked by the degree to which their enterprise requires project management disciplines.

- **Project Critical** businesses face regulatory mandates to track all resources consumed, their origins, their qualities and performance criteria for each customer contract. Examples include nuclear power plant construction or the manufacture of passenger jets and their subsequent through-life service and maintenance.
- **Project Centric** businesses use projects extensively to manage their business, but there are fewer regulatory requirements. These businesses still, however, need to track all resources by contract or project, and are involved in engineering or design work and therefore have no complete specification prior to beginning work. An example might be companies that build commercial container ships, engineer-to-order manufacturers and most industrial machinery manufacturers.
- **Project Enabled** businesses use projects in some parts of their business, but certain products, customers or geographies are managed more effectively using projects.
- **Project Potential** businesses may benefit from controlling certain activities, such as the design and manufacture of a new prototype or the launch of a new product using a PBS application.
- **Project Never** businesses will obtain no business benefit from running any part of their enterprise using a PBS application.

Level of Dependence on Project-based Manufacturing



One-half of the firms including in this survey said they consider their company to be in one of the top two categories -- "project-centric" and "project-critical." These companies are manufacturing large, complex and expensive products that demand comprehensive and efficient project management systems. Another 27% of respondents said they were "project enabled", indicating that their business processes -- like engineer to order manufacturing -- are made possible by project management. An additional 18% placed themselves in a category that indicates that new manufacturing efficiencies could be best achieved through the use of project management applications. Only a small percentage (5%) are not running project management disciplines and expressed disinterest in doing so.



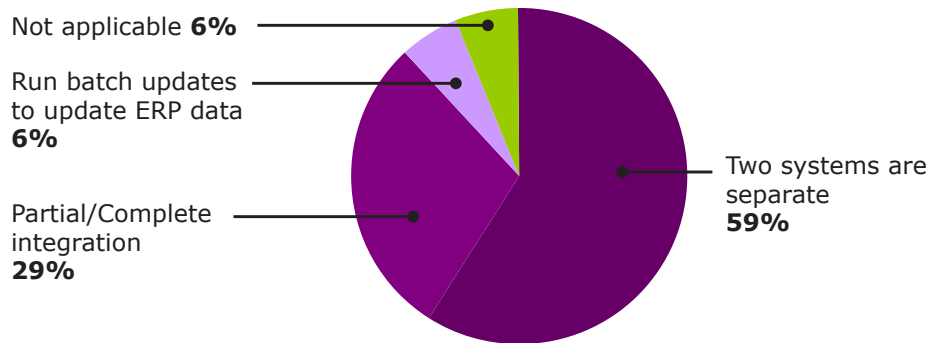
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Common Methods for Project Management Applications

The majority of these manufacturers use either enterprise software tools such as Primavera or Microsoft Project, or spreadsheets, for their project management applications. One out of four (24%) rely on a solution running off their ERP platform.

While nearly one out of three (29%) operate a project management solution that is partially or totally integrated with their ERP platform, the majority operate project management software fully independent of their ERP system and financial software application.

Integration of Project-Management Solution

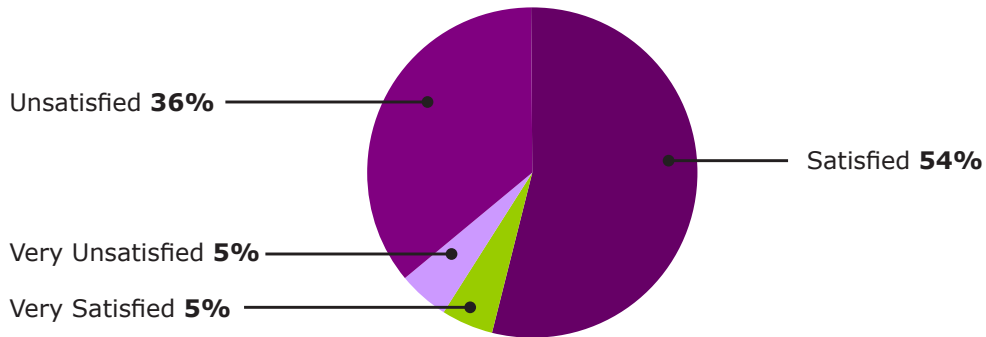


Among companies whose project management and ERP applications are integrated, most are able to attain project cost analysis data (86%) using their financial system. Other common applications for integrated systems include visibility into supply and demand information shared between departments or with partners (45%) and tracking and moving inventory across projects (34%).

However, the integration process, for some companies, came with challenges. Challenges with understanding and gaining full utilization of system capabilities, training as well as user and management acceptance, cost and resource allocation, and project data integrity surfaced during implementation, respondents said.

In general, the majority seem satisfied (59%) with their ability to effectively manage large projects through their ERP system. However, an alarming percentage are less than contented.

Satisfaction with ERP System Project Management Capabilities



"We have the ability to plan both ongoing project labor and project financial requirements throughout the duration of the project."

—Vice President of Engineering, Industrial Machinery: \$250M - \$500M



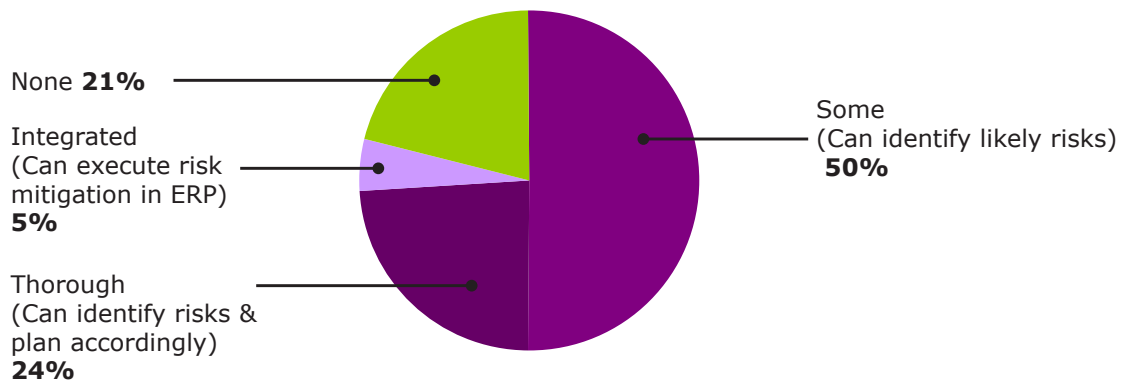
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Risk Management

Many companies feel, to some degree, that their manufacturing and production operations may be at risk and could result in ineffective visibility of supply and demand, a lack of adherence to government regulations, poor workforce management and labor skills requirements planning, and inadequate overall project management, scheduling and forecasting.

One significant finding resulting in answers to this question is that only five percent could actually execute risk mitigation steps directly in their ERP system. This points to a potentially dangerous disconnect between risk mitigation plans that are created in a project management application and the ability to communicate what those steps are to others in the organization. Also absent will be the ability to ascertain and document that steps had been taken as necessary.

Risk Management Functionality



"We need to be able to interface maintenance tasks, asset management, equipment health, and personnel resources"

—Design Engineer, Pharmaceuticals; \$2.5B+

"Business volume is expected to increase, projects will be more complex and riskier yet the skill level of management and execution personnel will be markedly lower due to off-shoring and the attendant forced retirement of the highly skilled members of the teams."

—Analyst, Petroleum and Refining; \$100M - \$150M

It's perhaps not surprising when looking at the level of risk management functionality for project management systems by company size. Large corporations (\$2.5 billion or more) run solutions offering a complete risk management application while smaller manufacturers (\$100M - \$500M) are more exposed.



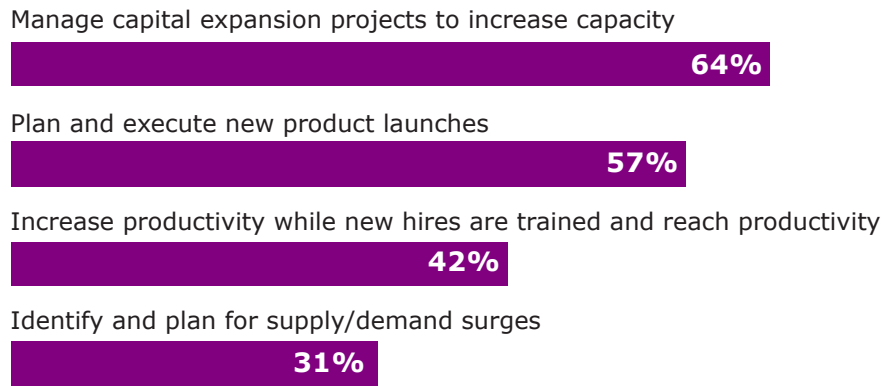
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Enterprise Software and Economic Recovery

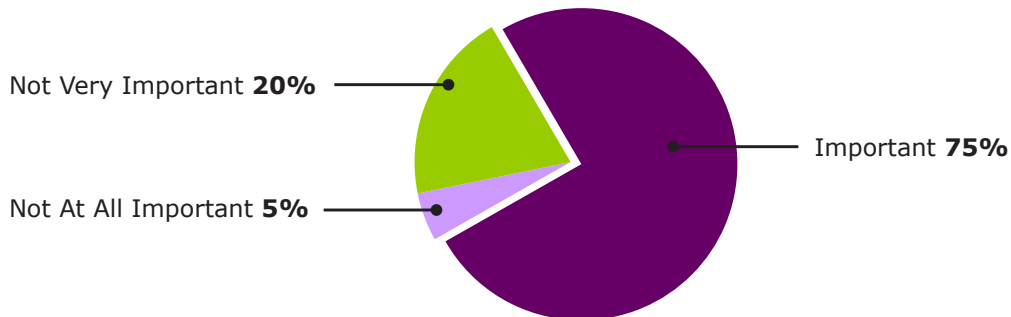
Manufacturers are finding that their businesses, their industries, their customer demands and other variables are becoming more episodic. Change is happening rapidly enough that even for repetitive manufacturers, project management is becoming the core business discipline because continuity of operations and stability of business dynamics can no longer be assumed.

Economic recessions and recoveries can be seen as project variances, and enterprise software can allow executives to recognize those variances in real time and manage them intelligently. During the recession of 2009-2010, for instance, many manufacturers laid off a significant portion of their workforce as if this reduced economic activity was permanent, without consideration for how this would harm their ability to respond to the economic recovery. Now, these same manufacturers must staff back up, and will find that these newly-hired workers will not immediately be as productive as those they laid off. Planning an appropriate lay-off, determining how to repurpose workers instead of laying them off and managing the ramp-up during re-staffing during a recovery are all examples of how business changes can be managed with enterprise software. However, survey results show that the role of ERP software is to identify and plan for supply and demand surges, like those caused by a recession and subsequent recovery, are not understood as widely as is the potential for managing capital expansions and new product launches.

Future Applications for Integrated ERP - Project Management Solutions



The majority (75%) believe enterprise software solutions are important when it comes to their company's ability to succeed and compete as the economy moves toward recovery.



"Our strategic market positioning is critical. Our managers and supervisors need to properly focus our resources and be able to make timely judgments that are good for the company."

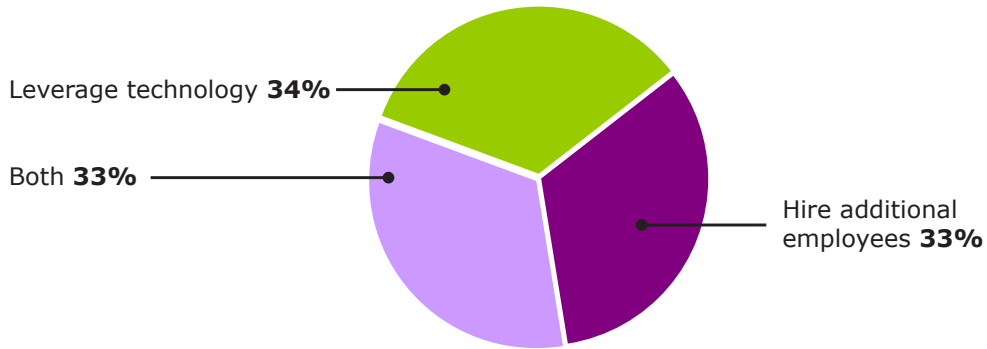
—Engineering Supervisor, Ship Building; \$500M - \$1B



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As the economy moves toward recovery, manufacturers say they will hire more labor, leverage technology to get more out of current employees or both – all in equal measure. Businesses expect to follow Lean practices and will equally look to do more with less and leverage their enterprise applications.

Labor Management as a Result of the Economy



Benefits of Project-Based Solutions

Project-Based Solutions (PBS) is an emerging category of enterprise software for project-driven businesses. Approximately one out of four respondents to the study (23%) were familiar with the term PBS while slightly more than one-third (37%) had, at the very least, heard about PBS.

Respondents reporting the highest levels of project and ERP integration reported a number of key benefits. Capabilities reported most frequently include the ability to capture and attribute indirect front office costs and link them to a project, product or program, being able to manage the outcome of a project independent of financial reporting periods and the ability to embed project tasks in to-do lists in the ERP system to ensure task tracking to completion are all seen to have great appeal. Only 20 percent of respondents claiming ERP-Projects integration claimed the ability to buy and make things without an item number - which is absolutely essential for manufacturers that need to begin ordering and working on long lead-time items even before the total product structure and engineering is complete.

Benefits of a Project Based Solution

Manage outcome of project independent of periodic reporting



Embed to-do lists in ERP to ensure task tracking



Linking indirect front office costs to a project/product/program



"Our planning section is implementing a work management plan. In this plan, all jobs require a plan and therefore should be handled like projects. Budget and resources should be known prior to scheduling work. This is the way we work in the construction industry where my past experience originates."

—Project Manager, Utilities and Telecommunications; Revenues \$500M - \$1B

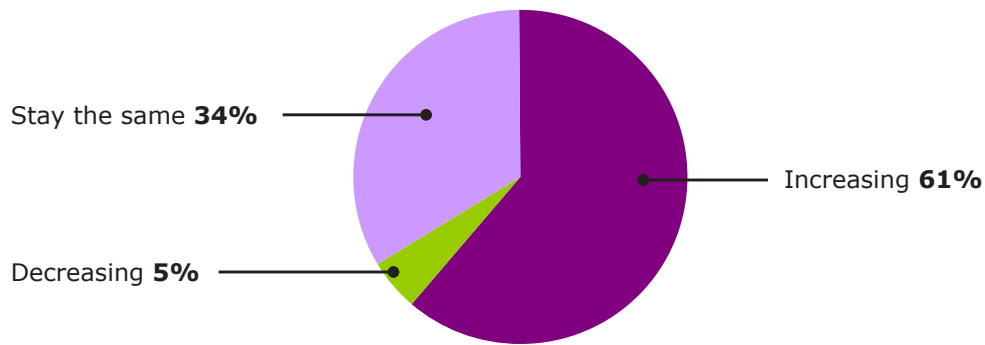


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Future Dependence on Project-Based Manufacturing

The movement to greater dependence on projects is expected to gain momentum in the upcoming years. During the next five years, two-thirds of these manufacturers will be doing more project-based manufacturing. This method will allow manufacturers to further optimize processes and increase productivity, attain a higher level of tracking and accountability, control costs, enable growth and increase sales and address the complexities created by balancing inventory supply and demand, government regulations, labor management, etc. Only a small percentage (5%) does not see project manufacturing increasing in the future.

Future Reliance on Projects



"We continuously have projects. Better management of them will improve our ability to deliver & reduce cost excesses which will improve our company's position in our tight marketplace."

—Engineering Manager, Primary Steelmaker; \$1B - \$2.49B

"Increased complexity (regulatory, lack of internal personnel, and increased performance requirements) and increased number of projects (many have been delayed the past 2-3 years)."

—Sr. Manufacturing, Production and Operations Management; Chemicals; \$2.5B+



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Methodology

This research was conducted by RBInteractive Research Group for **IFS North America**, a provider of enterprise resource planning (ERP), enterprise asset management (EAM), project-based solutions (PBS) and other enterprise applications.

The study was executed in March, 2010, and was administered over the Internet among subscribers to several Reed Business trade magazine titles including **Control Engineering, Plant Engineering and past subscribers of Manufacturing Business Technology (MBT)**. Respondents were pre-qualified for being involved in decisions regarding ERP applications and related software solutions for their company. Individuals were further qualified for being employed in companies estimating 2009 revenues at \$100 million or more.

In total, 341 engineers, operations, and corporate executives and managers in manufacturing companies were interviewed.

Respondents to the study are largely design, control or plant engineers (43%), operations, engineering or project managers (32%) and senior management (11%). A broad range of industries are represented and include aerospace, chemicals, food and beverage, automotives, utilities and telecommunications, and pharmaceuticals, etc.

About IFS

IFS is a public company (OMX STO: IFS) founded in 1983 that develops, supplies, and implements IFS Applications™, a fully-integrated, component-based extended ERP suite built on SOA technology. The company has more than 2,000 customers in more than 50 countries and focuses on companies with needs in the areas of manufacturing, project management and asset management/maintenance, along with the related supply chains, financials and other supporting functionality.

Due to its early involvement in project-intensive industries including nuclear power plants, industrial manufacturing, engineer procure construct (EPC) contracting and shipbuilding, IFS has long held a leadership position in project-centric ERP. As project-based solutions (PBS) has begun to grow into its own product category, IFS wanted to learn more about how PBS was viewed among its targeted demographic and the extent to which industrial companies had identifiable needs that could be satisfied by PBS. IFS also wanted to gauge the current level of understanding of how PBS could be used in repetitive manufacturing to address business events including the economic recovery.

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