An MES is a primary component for smart manufacturing strategies and digital business for manufacturers to manage, monitor, synchronize and orchestrate physical processes. Supply chain technology leaders can learn from the implementation experience of their peers shared on Gartner Peer Insights.

Overview

Gartner Peer Insights is a free peer review and ratings platform designed for enterprise software and services decision makers. Reviews go through a strict validation and moderation process to ensure they are authentic.

We analyzed 175 Peer Insights reviews to identify lessons learned implementing manufacturing execution systems (MES). This report focuses on the responses to the questions: “If you could start over, what would your organization do differently?” and “What one piece of advice would you give other prospective customers?” To browse all reviews, see the full list of Manufacturing Execution Systems reviews on Peer Insights.
Peer Lessons Learned

This edition of “Lessons Learned” summarizes clients’ firsthand experiences with implementing an MES. The peer advice results both from successful implementation projects and learnings based on what went wrong. This peer perspective, along with the individual detailed reviews, is complementary to expert research and provides a holistic view to the implementation process. The top themes in this peer advice are summarized below (see Figure 1).

Figure 1. Gartner Peer Insights ‘Lessons Learned’: Implementing Manufacturing Execution Systems

Below are some key lessons learned and most cited recommendations by Peer Insights reviewers to help supply chain technology leaders in the implementation of their MES.

Lesson 1: Define Your Business Requirements and Processes; Ensure Executive Leadership Support

Multiple peer reviewers recommend that supply chain technology leaders should have a clear understanding of their business requirements and processes upfront. They suggest that organizations should have enough support from the top management before starting such a project.

Peer recommendations include:
Representative quotes from peer reviews:

A peer recommends having a clear understanding of your business requirements:

A thorough preparation with transparent definition of business needs, drivers and responsibilities is the key to a fast and successful implementation.

— Application Professional, Manufacturing Sector

Another peer adds:

Know your processes, have process owners at all levels, assign gatekeepers to protect and validate before setting up the system. Basically, make sure you truly know what you’re actually doing in the real world before implementing.

— Analyst, Manufacturing Sector

A peer highlights the importance of having executive leadership buy-in before embarking on such a project:

- Conduct a process analysis prior to selecting a vendor and ensure you have current and future processes documented. Modify business processes based on the system.
- Analyze and define your business needs. Have a clear understanding of your internal needs before starting any negotiation to save time and cost.
- Document the requirements of the users, business processes and use cases. Ensure there’s enough support at the leadership/executive level at the beginning for a smooth implementation.
Always have full buy-in from the top management before implementing such a system. You’ll experience push back because somebody will receive the changes negatively and it’s important that you have the backing of the top management to build a team that is driven to excel and implement your system to the fullest.

— Infrastructure and Operations Professional, Manufacturing Sector

Recommended reading:

Critical Capabilities for Manufacturing Execution Systems

Magic Quadrant for Manufacturing Execution Systems

Lesson 2: Evaluate Multiple MES Vendors and Review Their Capabilities Against Your Requirements

Given the diverse functionality of MES, peers recommend that supply chain technology leaders conduct a thorough research to understand the technology and evaluate vendors accordingly. They suggest reviewing the capabilities of multiple platforms to ensure that the selected one meets their organization's current and future needs.

Peer recommendations include:

- Review other installations of similar size while evaluating vendors. Include reference visits in your selection process.

- Conduct an extensive research among available vendors. Benchmark and evaluate product and services roadmap versus the industry trends to ensure you are getting the maximum value out of your purchase.

- Include your future needs while evaluating a vendor to optimize cost. Examine the robustness of the system.

- Consider a vendor whose licensing structure is designed around the growth of your team and workflow.

Representative quotes from peer reviews:
A peer highlights the importance of evaluating multiple vendors:

> Have a core understanding of the technology, understand boundaries of each box/application. Evaluate at least the top three vendors/products to understand gaps at each product and then try to fit those gaps during negotiation. At the end of the process, you would have the best system with all gaps addressed before you start actual implementation.

— Program and Portfolio Management Professional, Manufacturing Sector

Another peer recommends reviewing the capabilities of the vendor during evaluation:

> If you select an MES, review the capabilities of a vendor not only for the intended application in the short term, but based on the vision of the future. Look at template management capabilities, also in conjunction with life-cycle management, because it will be a choice that cannot easily be changed.

— Enterprise Architecture and Technology Innovation Professional, Manufacturing Sector

Recommended reading:

Ignition Guide to Selecting a Manufacturing Operations Software Vendor

Lesson 3: Customize Your Module to Train End Users Across the Organization

Multiple peers stress on the importance of training end users. They recommend that supply chain technology leaders take the time to form groups to train users and gradually increase the number of people in these groups to train the entire organization.
Peer recommendations include:

- Invest time in training end users and teaching your processes before migration.
- Design an end-to-end process to include holistic development by engaging trained members in the areas of production process and technology.
- Understand the functionality of the system. Ensure sufficient time to learn about the processes and how the system supports the processes.

Representative quotes from peer reviews:

A peer recommends creating a group of trained users:

We would likely invest more time in upfront training with a concentrated group of users and then use them as internal champions to train out the rest of our relevant staff members.

— Technical Professional, Manufacturing Sector

However, another peer recommends gradually training a larger team to spread knowledge:

At the beginning of the project we had a smaller project team, so the knowledge was restricted to a small group. With the experience during the beginning of the project, we would add more people to the team to help spread the knowledge and process improvements.

— Application Professional, Manufacturing Sector

Recommended reading:

2021 Planning Guide for Collaboration and End-User Technologies
Lesson 4: Set Standard Processes and Limit Customizations for Fast Deployment

While deploying an MES, peers recommend that supply chain technology leaders look to limit customizations to areas where they deliver measurable business value and start small to ensure fast deployment. Multiple peers suggest that leaders prepare their organizations for the system by setting standards for processes across the organization.

Peer recommendations include:

- Prepare for the deployment of your project and be open to revise and adapt the strategy during the project a couple of times.
- Speed up deployment through better ERP integration with the MES and a strong link with development teams.
- Standardize the manufacturing process where possible while deploying the system and agree on a set of standards without losing differentiation.
- Define a template and roll out the modules into the manufacturing plant step by step.
- Set deploying standards across all the plants to reduce the number of variables when the project goes live.

Representative quotes from peer reviews:

A peer suggests:

Start smaller and deploy faster. We thought very big at the beginning. The entire project was very huge and complex, so we lost time. If I could ever start again, I would be more agile. Think big, start small and deploy fast.

— Program and Portfolio Management Professional, Manufacturing Sector

Another peer recommends deploying in phases:
I would not do so many initial customizations. I would expect the process to change and deploy the project in two phases. If you have many plants, centralize the process, create standards and then define how to operate.

— Service Professional, Manufacturing Sector

Recommended reading:

Understand the Need for Supply Chain Execution and Manufacturing Operations Management Convergence

Lesson 5: Form a Dedicated Team to Lead Implementation; Focus on Core Features for Smooth Execution

Peers recommend that supply chain technology leaders look to bring in a dedicated team — external or internal, to lead the process of implementation. They suggest that leaders should give priority to implementing features in stages for smooth integration.

Peer recommendations include:

- Prioritize features/customizations that are critical to your business operations and implement them first.
- Choose an implementation partner carefully. Ensure that it has worked with an organization like yours and understand your business processes.
- Calculate the risk of hiring a partner-level consultant or forming an internal functional team to implement and configure the system.

Representative quotes from peer reviews:

A peer member recommends hiring a consultant to implement the system:
With all the options such a system provides, bring in a consultant to help you navigate the playing field. The ecosystem has grown significantly, and our consultant relationships have saved us significant time and money.

— Enterprise Architecture and Technology Innovation Professional, Manufacturing Sector

A peer member says:

We would change the process of implementing — upgrading software, testing, and delineation of service areas would have been more thorough and maintained instead of letting the system evolve over years to a point that is more difficult to sustain.

— Infrastructure and Operations Professional, Manufacturing Sector

Another peer suggests gradually including platform features while implementing:
We tried to do too much too fast at first. There is a lot of functionality in the product and from a change management perspective you cannot do it all at once. We have scaled back just a bit to a more core implementation and the last couple go-lives have been much smoother. We'll go back and turn on more in the future once we have the common systems fully deployed.

Knowing what I know today, I would go into the project with waves of feature/function implementation included in the plan and timeline.

— Application Professional, Manufacturing Sector

Recommended reading:

Manufacturing Operations Primer for 2021

Reviewer Demographics

Reviewers who submitted their lessons learned represent a cross-section of small- to midsize and large organizations. See Figure 2 for demographic details.
Methodology

Of the Peer Insights survey data considered for this market, only those responses meeting the following criteria were included in this synthesis:

- Reviews less than 12 months old.
- Responses that pertain to the project experience and are not tied to the capabilities of a vendor.
- Reviews were clustered into the top-five most-referenced categories (lessons learned) and then listed in order of relevant phases in the project life cycle.

The results of this synthesis are representative of the respondent base and not necessarily the market as a whole.

“The data used in this report is drawn from reviews on Peer Insights, a crowdsourced enterprise review platform that relies on dynamic data. Key to maintaining the integrity of the site is our ongoing moderation and validation of those reviews. Reviews are examined before publishing to the site and periodically, post-publishing. Due to the dynamic nature of the data, the external Peer Insights site will always have the most updated view of the data in this report.”