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# IMPLEMENT CLOUD ERP TO SUPPORT INNOVATION & AGILITY IN MANUFACTURING

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Manufacturers are still dealing with the lingering impact of the pandemic that has permeated supply chains, resulting in crippling business disruptions. The outdated infrastructure for many manufacturers is now holding them back from dealing with and overcoming these disruption issues in an efficient and timely manner, slowing their pace of innovation. This report examines why Best-in-Class companies have implemented Cloud ERP to give them a competitive edge in addressing the current challenges as well as preparing them for the future.

## Manufacturers Struggle with Quality, Costs, Innovation, and Integration

Post-pandemic disruptions have risen to such a level of interference that they have affected all facets of manufacturing operations (see sidebar for Business Disruptions). Demand volatility, inbound shipment delays for product, unreliability of any overseas suppliers, or export delays for customers have all had an impact. To better understand what manufacturers and their operations are dealing with, Table 1 identifies the top challenges for manufacturing operations.

**Table 1: Business Challenges for Manufacturing Operations**

Top Challenges Managing Manufacturing Operations	All Manufacturers
Maintaining product quality levels	38%
Rising cost of raw materials	34%
Increasing pace of innovation	34%
Operating costs are too high	32%
Managing multiple datasets	26%

Source: n=262 Aberdeen, April 2022

Maintaining quality levels is always a concern when any change occurs to operations processes. Demand volatility alone can cause work force adjustments up or down, causing the addition of new people or shifting people to new roles in a downturn. Monitoring and vigilance over the adjustments are needed to maintain consistency at the process level any time changes are made.

The rising cost of raw materials is caused by not only inflation but also rising fuel costs that adds to the logistics cost for all products. These increases may

## Best-in-Class Definition

(Based on Performance Metrics)

- ▶ **Best-in-Class:** Top 20%
- ▶ **Industry Average:** Middle 50%
- ▶ **Laggards:** Bottom 30%
- ▶ **All Others:** The sum of the Industry Average and Laggards, equal to the Bottom 80%

## Business Disruptions

Pandemic outbreak	55%
Raw materials price volatility	39%
Shipment delayed / damaged / misdirected	38%
Fuel price volatility	32%
Port congestion	31%
Increase in customer demand	27%
Supplier / carrier capacity did not meet demand	27%
Reduction in customer demand	27%
Unexpected customs delay	26%
Commodities price volatility	23%

force manufacturers to consider alternate suppliers which also introduces an element of change to operations when new suppliers are brought on board.

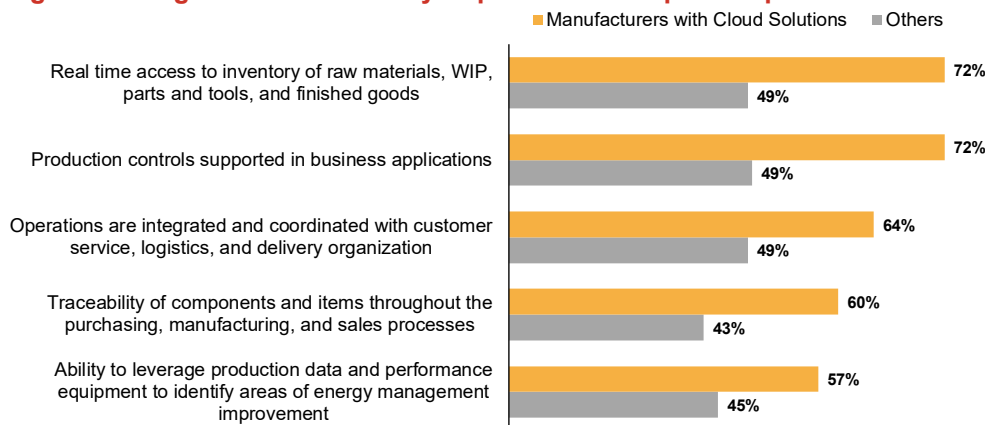
The increasing pace of innovation requires a continuous improvement mindset to stay competitive. This might include things like design innovations on products in response to evolving customer demands or new, competing products entering the market. Staying ahead of the pack is a constant challenge under normal conditions, but the constant disruptions that most manufacturers are currently dealing with make it difficult to keep pace due to the increased distractions. All these challenges result in increased operations cost. To move forward, infrastructure must be more adaptable and supportive. Given the challenges, information is required from multiple sources, sometimes external the organization to create an informed view for manufacturing operations.

With the current deterrents that manufacturing operations are dealing with, the question becomes: *how do you maintain and improve across all processes and systems that a manufacturing operation entails?* The Best-in-Class approach to ERP has been to move toward a cloud-based ERP to improve their processes and stay abreast of technology (sidebar for cloud adoption). The Best-in-Class actions warrant attention to the capabilities they have in place based on their performance advantages (sidebar for Best-in-Class).

## Cloud Enables Integration & Visibility to Alleviate Manufacturing Challenges

Best-in-Class companies have moved to a cloud-based ERP to unlock the potential of enterprise insights for continuous improvements, increased visibility and analytics across the enterprise as shown in Figure 1. Visibility is essential to maintain an efficient and well-planned manufacturing operation. This applies to demand visibility, upstream supply visibility, plus a view into any logistics partners involved.

**Figure 1: Integration and Visibility Capabilities to Improve Operations**



% of respondents with each capability currently implemented; Source: n=262 Aberdeen, April 2022

## Cloud Adoption by Maturity Class

### Cloud / Software-as a Service (SaaS)

Best-in-Class: **50%**  
All Others: **36%**

### ERP Hosted and Managed by ERP Vendor

Best-in-Class: **35%**  
All Others: **37%**

### ERP Hosted and Managed by Independent Third Party

Best-in-Class: **7%**  
All Others: **17%**

### Traditional Licensed On-Premise

Best-in-Class: **6%**  
All Others: **5%**

## Best-in-Class Maturity Index

### Customer Service Levels (On-Time and Complete)

Best-in-Class: **94.3%**  
All Others: **83.5%**

### Productivity % Improvement Over the Last 2 Years

Best-in-Class: **19.6%**  
All Others: **-0.8%**

### Profitability % Improvement Over the Last 2 Years

Best-in-Class: **15.8%**  
All Others: **-2.6%**

### Internal Schedule Attainment

Best-in-Class: **93.5%**  
All Others: **82.3%**

There are always issues, but seeing them before they affect the plan or disrupt the flow of operations is the key, so any mitigation or contingency plans can be enacted to prevent an issue from becoming a problem. This specifically applies to real-time visibility for all levels of inventory.

Manufacturers with cloud ERP solutions are 47% more likely to have real-time visibility in place. The same also holds true for production controls being supported in business solutions, indicating strong integration across the organization and strong visibility to the production plan.

Operations for manufacturers with cloud solutions are also much more likely to have their operations well integrated with customer service, logistics and the delivery organization. In many cases these are incremental to the base ERP and can become islands/silos of data, but with strong integration in place they create real-time visibility and responsiveness to customer demands. For many manufacturers such as food and beverage, pharmaceuticals, and automotive, product traceability is mandatory and well supported by cloud users compared to their competition. Traceability extends from the raw material through the manufacturing operations all the way to the customer. Integration with external solutions is required in these cases to monitor and control lots or product identification in the event of any problem or recall. The breadth of integration is also important for sustainability initiatives to identify energy management opportunities using production and performance data in conjunction with building and facility needs.

**Manufacturers with cloud solutions are**

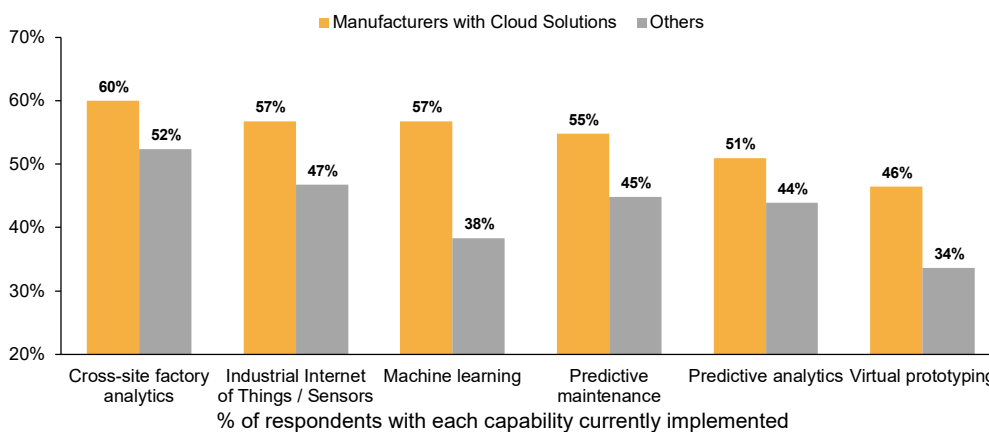
**47%**

**more likely to have real-time visibility in place.**

## Cloud Infrastructure Supports Analytics Capabilities to Keep Up with the Pace of Innovation

Figure 2 provides a look at the cloud user technology adoption. This metric is a strong indicator of how well manufacturers with cloud solutions are able to keep pace with innovation.

**Figure 2: Supporting Technology for Innovation and Insights**



Source: n=262 Aberdeen, April 2022

Adoption levels are indicative of continued investment in technology that makes a difference compared to the competition. This stands out in manufacturing operations with the use of industrial sensors, machine learning and virtual prototyping for new products. A key fact from Aberdeen Research is that manufacturers with cloud solutions generate more new product introductions (NPIs) that meet targets each year (71% vs. 67%).

In addition to investment in manufacturing operational processes, the level of analytics that cloud users have across multiple sites exceeds that of their competition and they are much stronger in the predictive analytics, especially when it comes to predictive maintenance. The direct process investments along with analytics presents a strong case for cloud ERP adoption, particularly when coupled with much greater visibility and integration across and beyond the enterprise.

## Conclusion and Key Takeaways

Manufacturers are still handling the effects of the COVID-19 pandemic among other business disruptions. Their outdated technology infrastructure and manual processes limit them from keeping up with the increasing pace of innovation. The top challenges for manufacturers include managing rising costs, maintaining quality, and lack of integration between disparate systems.

The cloud presents many opportunities for manufacturers to increase their performance, and Best-in-Class companies are far more likely to have cloud-based applications in place to run their operations.

Capabilities and technologies available in the cloud to support integration, analytics, and continuous improvement help manufacturers achieve their goals, and Aberdeen recommends following the lead of the Best-in-Class who have adopted cloud ERP and lead the way in performance and innovation.

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