

Best-in-Class Manufacturing: Visibility & Intelligence Streamline Supply Chains for Disruption-Free Growth

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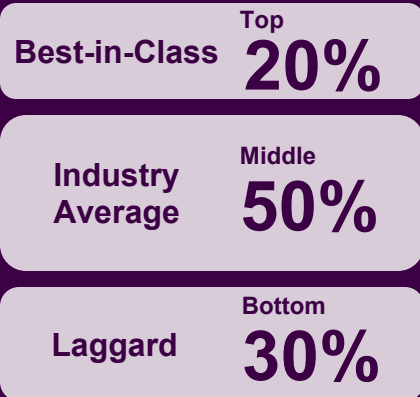
Disruptions ranging across production downtime, talent shortages, rising costs of raw materials, and many others have plagued the manufacturing industry over the past three years. Mid-market companies with plans for growth may feel more vulnerable to these disruptions when implementing new teams, locations, and processes, but with the right technology infrastructure, they can efficiently scale their business with confidence. Best-in-Class companies have invested in resilient process capabilities to expand visibility and control, and they rely on intelligent decision-making capabilities to identify and capitalize on both areas for efficiency and new opportunities for growth and innovation.

Disruptions Are Top of Mind for Mid-Market Manufacturers

Mid-market companies with 500 to 5,000 employees face many challenges to not only survive but to ensure business growth. Business leaders at these organizations often have a vision for growth, but getting there is a different story. Growth is more unique for manufacturers than for companies in any other industry. Requirements for additional factories, front-line workers, and service and maintenance operations multiply exponentially, and day-to-day processes hinge on every team member and every piece of machinery doing its job. Disruptions to manufacturing workflows can be detrimental and set daily production back weeks or even months, forcing plans for growth on to the back burner until issues are resolved. Mid-market manufacturers must find ways to anticipate and prevent disruptions and keep plans for scaling their operations on track.

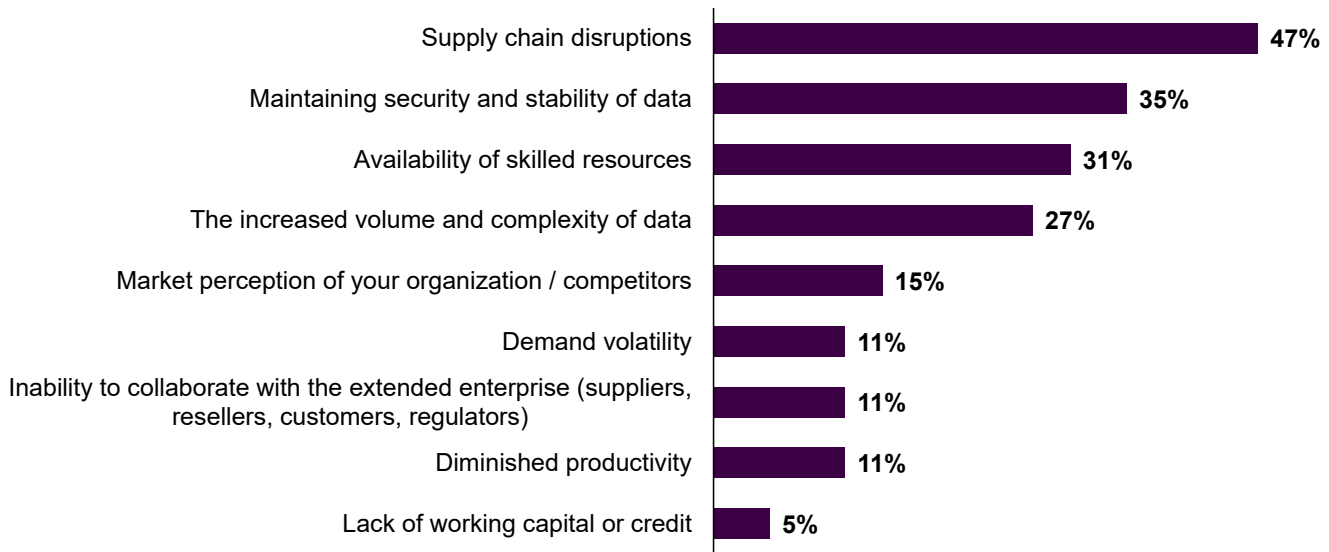
Aberdeen surveyed 253 mid-market organizations, 25% of whom were manufacturers, to investigate how these companies are running their Enterprise Resource Planning (ERP) activities, the business challenges they face, and how the use of technology impacts their ability to maintain and even decrease time to market amidst today's ever-changing business environment (see sidebar on the last page for more details). When asked about the top two market pressures their organization faces in 2023, respondents listed supply chain disruptions (47%), security and stability of data (35%), availability of skilled resources (31%), and increased volume and complexity of data (27%) as the clear frontrunners (Figure 1).

The Aberdeen maturity class framework is comprised of three groups of survey respondents. This data is used to determine overall company performance. Classified by their self-reported performance across several key metrics, each respondent falls into one of three categories:



Sometimes we refer to a fourth category, All Others, which is Industry Average and Laggard combined.

Figure 1. Mid-Market Manufacturing Pressures in 2023



% of mid-market manufacturers rating each pressure as one of their top two

n=622, Source: Aberdeen, July 2023

Resilient Supply Chain

While the COVID-19 pandemic exacerbated supply chain issues, these organizations are not strangers to delays in production due to late material shipments and last-minute schedule changes based on availability of machinery or expert workers. Every minute counts from the time raw materials reach the factory to the time finished products are handed off to distributors, and keeping all operations running smoothly requires control and visibility across the company. With demand volatility as another top pressure, these organizations need agile demand forecasting and change management capabilities to ensure their production operations are prepared to handle whatever comes their way.

Data Transparency with Security

These companies also struggle with data management, mainly security, stability, volume, and complexity. As they've expanded over the years, their data infrastructure has not matured with them. IT leaders must often find ways to connect disparate data sources to give executives a 360-degree view of the business, but without the proper systems in place to handle different types of data securely, mid-market companies are open to cyber threats in addition to potential for loss of data and inability to process available data for analysis. They need solutions that support smart manufacturing principles.

Top Organizational Goals for 2023

1. Update technology infrastructure to support Industry 4.0 capabilities, **40%**
2. Profitability / margin growth, **31%**
3. Introduce new products and services, **29%**
4. Modernize business systems, **27%**
5. Standardize procedures across the organization, **26%**

% of mid-market manufacturers rating each goal as one of their top 2

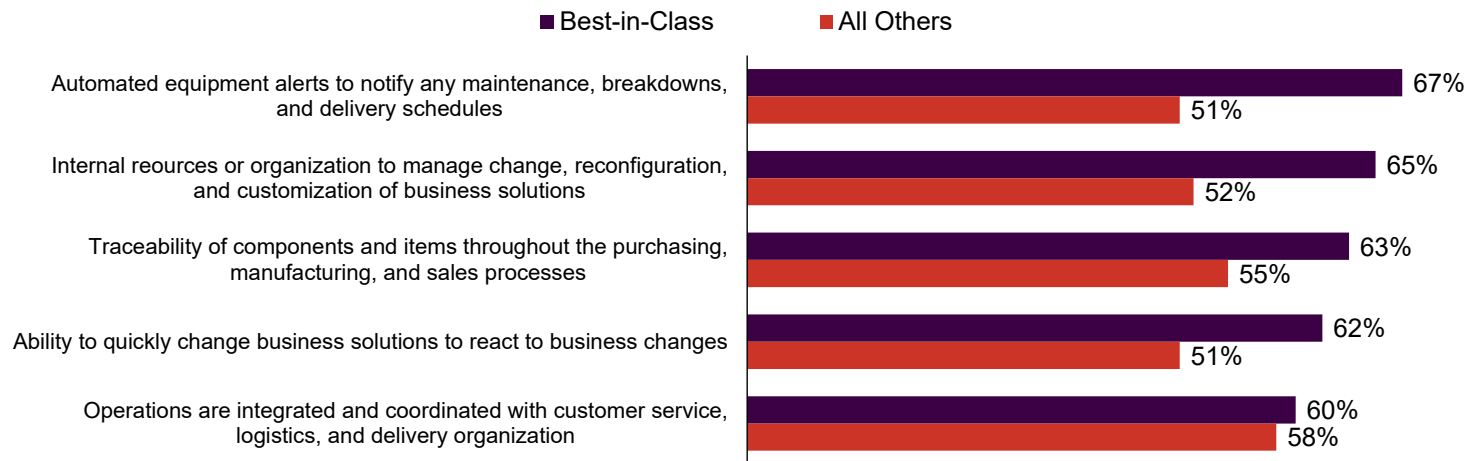
These data inefficiencies along with availability of skilled resources, market perception concerns, lack of collaboration, and other pressures are holding back mid-market manufacturers from achieving their goals (see sidebar). Throughout 2023, these organizations are looking for modern, Cloud ERP solutions that are industry 4.0-ready (41%) and will help them increase profitability (31%), introduce new products, and services (29%), and standardize procedures across the organization. Best-in-Class companies have already adopted technology to gain these capabilities, and other organizations can use them as a model for success as they aim to grow without disruptions.

The Best-in-Class Approach to Preventing Disruptions

Aberdeen's Best-in-Class methodology (see definition on page 2) identifies the top 20% of companies based on their performance in specific KPIs and then utilizes those companies to determine what it takes to achieve such levels of success. For this analysis, Best-in-Class companies were defined based on on-time delivery, compliance, profitability, productivity, and cash-to-cash cycle (see sidebar). Compared to All Others, the Best-in-Class get their products to market more quickly and compliantly, and they're seeing greater annual growth in both margins and efficiency. They are also collecting cash from customers an average of 3.2 days before they need to pay suppliers while All Others are in a deficit for an average of 8.1 days, indicating that these top performers are in a better position financially to address disruptions before they snowball into bigger issues.

To set their operations up for success, the Best-in-Class are investing in resilient manufacturing capabilities. With greater visibility, agility, and alerts within production processes, these companies are better equipped to handle disruptions (Figure 2).

Figure 2. Best-in-Class Resilient Manufacturing Capabilities



% of mid-market companies with each capability currently implemented

n=622, Source: Aberdeen, July 2023

Metrics Used to Define Best-in-Class Companies

% of projects delivered on-time:

- ▶ Best-in-Class: **97%**
- ▶ All Others: **79%**

% of projects that follow internal compliance procedures:

- ▶ Best-in-Class: **96%**
- ▶ All Others: **79%**

YoY change in profitability:

- ▶ Best-in-Class: **+12.6%**
- ▶ All Others: **+9.8%**

YoY change in productivity:

- ▶ Best-in-Class: **+13.5%**
- ▶ All Others: **+10.0%**

Current cash-to-cash cycle:

- ▶ Best-in-Class: **-3.2 days**
- ▶ All Others: **+8.1 days**

Average % performance over the past year

Automated equipment alerts to notify workers about delays in production enable Best-in-Class manufacturers to quickly react to issues and take action. Communication channels based on common data shared across operations teams to coordinate with customer service, logistics, and delivery teams help disseminate information about delays or changes in production to the rest of the business. Having these two smart factory capabilities in tandem allows the Best-in-Class to effectively set expectations with customers and adjust shipment plans accordingly when potential reasons for delays are detected. Traceability is also critical for developing resilient manufacturing operations because, as the company grows and takes on new opportunities, manufacturing leaders need to better manage their materials to reduce waste for cost and sustainability or lean manufacturing targets as well as anticipate future inventory needs for higher production volumes.

Capabilities for change management and adapting business solutions also work well together. Dedicated change management teams will be ready to adjust processes as the organization grows, and flexible, easily extendable solutions allow these teams to easily integrate new solutions into their tech stack or make modifications as new needs arise. For example, suppose a high-tech manufacturer just acquired a semiconductor company, so they no longer need to outsource their chip production. With technologies that support agility, they can seamlessly integrate that team and their manufacturing software into the overall workflow without disrupting time to market goals.

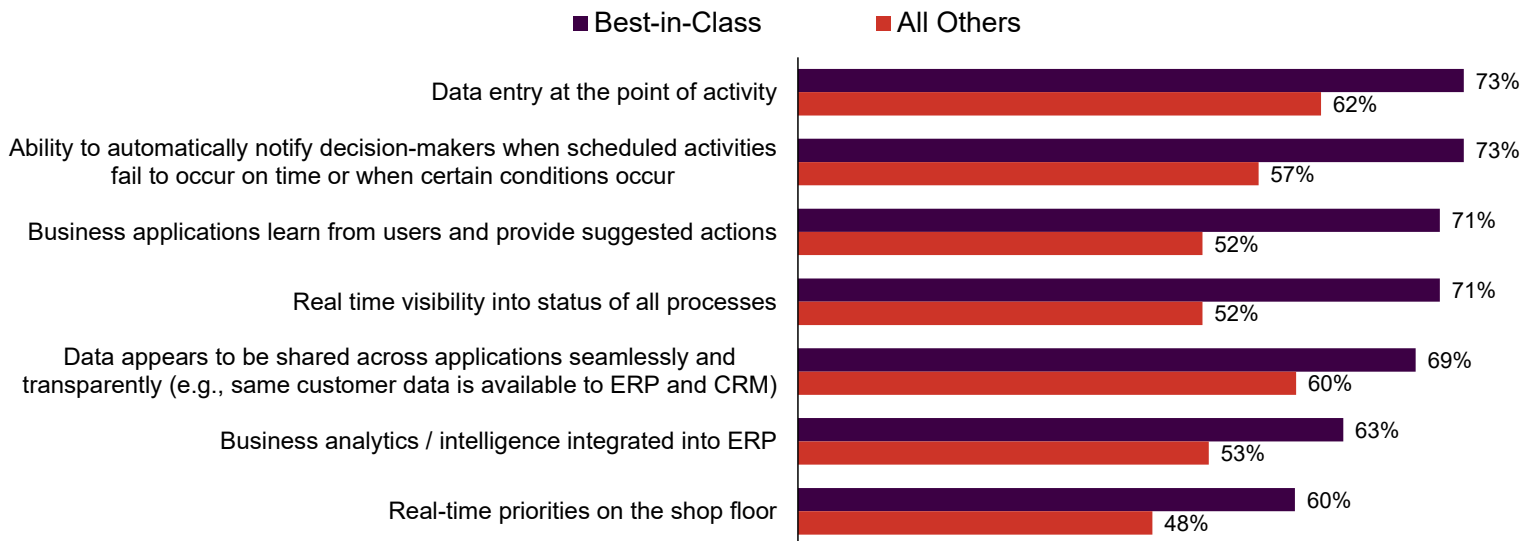
These capabilities are great for adjusting to business changes after they happen, but the Best-in-Class also have decision-making capabilities to proactively prevent disruptions (Figure 3).

Best-in-Class companies are

31%

more likely to have **automated equipment alerts to notify workers about delays in production.**

Figure 3. Best-in-Class Data Management & Intelligent Decision-Making



% of mid-market companies with each capability currently implemented

n=622, Source: Aberdeen, July 2023

Data entry at the point of activity, real-time visibility into the status of all processes, common data shared across organizational teams within manufacturing processes, and real-time priorities on the shop floor are useful for ensuring decision-makers are working from the most up-to-date information. For example, if quality assurance engineers at an automotive manufacturer can input beta test results off site, business leaders can make decisions about moving designs to production shortly after the tests have been successfully completed. They can then view statuses of current production operations and determine how to fit the new design into the schedule, and real-time priorities on the shop floor enable them to communicate higher priority for these new designs to get into the market. Cloud-based ERP solutions make it even easier to share data across teams and locations.

Automated notifications when scheduled activities fail to occur help to keep the entire supply chain operating smoothly and minimize the impact of disruptions. They can notify leaders if units are slow to move from quality checking to shipping, so they can bring in more quality workers to finish the checks on time or readjust timelines with distributors if needed. Sharing data across applications also prevents downtime by ensuring all employees have the information they need at their fingertips. Rather than pausing production to ask engineers about design changes or to double check customer orders with sales reps, manufacturing teams can access everything they need, and they can trust that the data is accurate. Cloud ERP solutions provide the intelligence and the real-time insights, empowering workers to take immediate action to prevent disruptions.

Best-in-Class companies also rely on BI tools that are integrated into their Cloud ERP systems and business applications that learn from users for smart manufacturing. These analytic capabilities enable manufacturing leaders to process greater volumes of data and gain actionable insights from them. Cloud computing features and scalable storage available within cloud-based ERP solutions ensure analyses can continue to support decisions even as their data expands. As mid-market organizations grow and feel pressure from the increased volume and complexity of data, they can leverage these tools and apps to make data-driven decisions without worrying about disruptions like slow processing speeds, incompatible datasets, or data bloating.

Cloud ERP solutions that enable resilient manufacturing and intelligent decision-making capabilities are helping the Best-in-Class achieve superior time to market performance compared to All Others (see sidebar). They experience 45% greater annual decreases in the cycle time of key business processes, 18% greater annual decreases in production cycle time, and 30% greater annual decrease in production downtime. The ability to quickly make decisions and adjust to changing business conditions allows them to still get

Time to Market Benefits for the Best-in-Class

YoY decrease in cycle time of key business processes:

- ▶ Best-in-Class: **15.1%**
- ▶ All Others: **10.4%**

YoY decrease in production cycle time:

- ▶ Best-in-Class: **13.7%**
- ▶ All Others: **11.6%**

YoY decrease in production downtime:

- ▶ Best-in-Class: **13.3%**
- ▶ All Others: **10.2%**

YoY improvement in time to decision:

- ▶ Best-in-Class: **12.6%**
- ▶ All Others: **5.1%**

YoY improvement in complete and on-time delivery:

- ▶ Best-in-Class: **11.1%**
- ▶ All Others: **3.5%**

Average % improvement over the past year

products out the door under nearly any circumstances. They also experience 1.5x greater annual improvement in time to decision and 2.2x greater annual improvement in complete and on-time delivery (of products, projects, service, etc.). They are better positioned to take advantage of new opportunities and continue meeting time to market goals as they grow.

Summary & Key Takeaways

To scale in today's volatile business environment, mid-market manufacturers need solutions that will help them prevent, identify, and address disruptions to ultimately reduce downtime and keep production on track as they grow. Capabilities to streamline supply chain operations like traceability, change management, and integrated operations are critical for keeping production up and running amidst existing challenges, and data management capabilities for greater visibility and intelligence help avoid looming future roadblocks. For organizations that hesitate to open new factories or invest in new frontline workers because of potential disruptions, Aberdeen recommends following in the footsteps of the Best-in-Class to implement Cloud ERP solutions that support a smart manufacturing strategy with these capabilities.

2023 ERP Benchmark Study: Improving Efficiency and Effectiveness with ERP and Business Management Solutions

Aberdeen Strategy & Research conducted a 15-minute online survey among 622 technology decision makers across the globe to discover market trends that are driving organizations to invest in ERP. 253 participating organizations had a total headcount between 500 and 5,000 employees. The analysis presented in this report focuses on this group of companies.

About Aberdeen Strategy & Research

Aberdeen Strategy & Research, a division of Spiceworks Ziff Davis, with over three decades of experience in independent, credible market research, helps **illuminate** market realities and inform business strategies. Our fact-based, unbiased, and outcome-centric research approach provides insights on technology, customer management, and business operations, to **inspire** critical thinking and **ignite** data-driven business actions.

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