



The Factory Execution Gap: What Aerospace Leaders Are Missing

A global study on the structural supply planning
failures putting 10% of revenue at risk



Introduction

Manufacturers today know more about what they expect to build than at any point in history. Planning has come a long way. There's more data, better tools, and more mature processes. And yet shortages still happen, production still gets disrupted, and teams are still stuck expediting and firefighting.

The question is no longer whether manufacturers have the right plan. It is whether they are ready to execute it effectively.

Readiness is the continuous work of ensuring materials, suppliers, and production priorities are aligned and actionable at the factory level. It is also one of the most under-managed disciplines in manufacturing supply chains today. It sits at the critical transition between what the business intends to produce and whether the factory can actually produce it. And it is where manufacturers are consistently breaking down.

This breakdown is not a forecasting problem. The failure is structural and sits on the execution side with supply planning. This discipline that translates demand signals into synchronized, executable priorities across buyers, suppliers, and factory floors is largely treated as a static output of

the demand planning process rather than the first act of operational execution. It is under-resourced, disconnected from factory reality, and not equipped to drive the kind of continuous readiness that modern production environments demand.

These outcomes share a single root cause: supply planning is not functioning as an execution discipline. It is not continuously synchronized with supplier reality, material availability, and shifting factory priorities. And without that continuous readiness layer, the gap between what was planned and what can be executed grows at the expense of production, working capital, and customer commitments.

This report examines the scale of that readiness gap, the financial and organizational cost of leaving it unaddressed, and what it will take to close it. The manufacturers who close this gap will not do it by investing more in forecasting. They will do it by treating supply planning for what it actually is: the discipline that determines whether the organization is ready and able to execute.



Three in four

manufacturers say supply plan failures are most likely to happen at the factory-specific execution stage



Nearly half report

that 10% or more of annual company revenue is lost or at risk as a direct consequence of supply plan failures



More than 80%

experience inventory shortages multiple times per year, not because their forecast was wrong, but because supply was not ready when production needed it

Research Objectives & Methodology

Research Objectives

LeanDNA partnered with Wakefield Research on quantitative research to:

- Expose the most urgent, costly pain points in supply planning
- Quantify the execution failures and consequences between supply planning and factory-specific reality
- Validate the need for factory-focused supply planning and increased end-to-end planning and execution visibility

Research Methodology

The market research survey was conducted by Wakefield Research (www.wakefieldresearch.com) among 150 senior-level decision makers at global discrete manufacturers, with a minimum annual revenue of \$250M, headquartered in the United States, Canada, Mexico, United Kingdom, France, and Germany.

Results of any sample are subject to sampling variation. For the interviews conducted in this study, the chances are 95 in 100 that a survey result does not vary by more than ± 8 percentage points from the result that would be obtained if interviews had been conducted with all persons in the represented population.



Key Findings

The Failure Isn't in the Forecast. It's in Readiness to Execute It.

Manufacturers have made significant investments in demand planning, and those capabilities are more advanced than ever. What the research highlights, however, is a different issue: the challenge begins after the plan is set.

Three in four senior manufacturing decision makers (75%) say supply plan failures are most likely to occur at the factory-specific execution stage. This is not a failure of strategic intent or forecasting accuracy. It is a failure of supply readiness - the work that must happen between the time a supply plan is created and the moment production begins. When that work is not happening continuously, plans arrive at the factory floor disconnected from supplier reality, material constraints, and shifting production priorities.

The frequency of disruption reflects how deeply unmanaged

that readiness layer has become. More than 80% of manufacturers face multiple production disruptions from supplier changes every quarter. For more than half, this is a monthly occurrence. Nearly three in four (72%) discovered a material shortage only after production delays were already unavoidable, meaning the risk existed well before it was visible, and the window to act had already closed.

When disruptions are finally detected, decision speed compounds the damage. More than half of manufacturers (51%) take a week or longer to determine corrective action in environments where production schedules are measured in hours, not weeks.

The gap between a known risk and a resolved action is where much of manufacturing's operational cost is hiding.

01

75%

say supply plan failures are most likely at the factory-specific execution stage

02

72%

discovered a material shortage only after delays were unavoidable

03

51%

take a week or longer to act once a production risk is identified

Supply Planning Has Been Left Out of Execution

Manufacturing organizations have two distinct types of planning and they operate very differently.

Demand planning sits at the strategic layer. It produces the forecasts, production targets, and inventory signals that drive what a manufacturer intends to build. This work has received significant investment: three in four manufacturers (74%) say improving forecasting has been a top organizational priority in recent years.

Supply planning is different. It determines **whether the factory is actually ready (and able) to build it**. It is the work of translating demand signals into executable priorities. It's aligning materials availability, supplier commitments, buyer actions, and production readiness at the factory level. Supply planning is not the output of the planning process. It is the first act of execution. And right now, it is being managed like an afterthought.

Four in five manufacturers (80%) acknowledge that forecasting can only take their organization so far. It cannot account for the real-world disruptions that define factory operations. 73% say

their ERP provides visibility into required materials but cannot prevent execution failures. Nearly all (93%) report difficulty getting ERP visibility into actual manufacturing execution outcomes.

The industry's planning infrastructure was designed to define intent rather than manage execution. ERP systems and demand planning tools establish what materials should be ordered, when, and in what quantities, but they are not built to manage how those decisions hold up in practice. They do not continuously account for supplier conditions, material constraints, or shifting production realities at the factory level.

That gap in tooling reflects a deeper gap in how organizations have invested. The resources, systems, and leadership attention allocated to demand planning far exceed what has been directed at factory-level supply planning. The downstream cost of that imbalance is visible throughout this research.

01

80%

say forecasting alone cannot account for major execution disruptions

02

73%

say ERP can provide supply data but cannot prevent execution failures

03

93%

report difficulty getting ERP visibility into factory execution outcomes

The Real Cost of Unmanaged Readiness is Top Line and Bottom-Line Revenue - Not Operational Efficiency

When supply readiness is not continuously managed, the costs do not stay contained to production scheduling. They compound in working capital, revenue, relationships, and in the confidence of the teams responsible for executing.

Nearly half of manufacturers (47%) report that 10% or more of annual company revenue has been lost or put at risk due to misalignment between demand planning and factory-level execution. Over the past 12 months, 84% experienced inventory shortages at least twice. 85% saw on-time delivery disrupted multiple times. Excess inventory, driven by the same misalignment, affected more than 80%.

Manufacturers state that the most immediate financial consequences are expediting costs (37%), production delays (31%), and direct revenue loss (28%). But 64% of manufacturers are spending 10% or more of their total manufacturing budget simply reacting to disruptions they could not prevent through premium freight, emergency sourcing, and last-minute production changes. That is not a cost of doing business. It

is the recurring cost of operating without supply readiness.

The damage extends beyond balance sheets. Nearly three in four decision makers (74%) say that being permanently stuck in reactive mode erodes organizational trust between planning and operations teams, across supplier relationships, and in the credibility of the supply plan itself. A plan that teams do not trust is a plan they will not follow. And a plan that teams will not follow produces exactly the kind of ad hoc, siloed, exception-driven operations that define the manufacturing environments most at risk.

For the individuals accountable for these outcomes, the pressure is acute. 77% face direct pressure to improve capital flow. 82% are concerned that continued factory execution failures could cost them their job. The readiness gap is not an abstract operational challenge. It is a career liability for the people who own it.

01

47%

report 10%+ of annual revenue lost
or at risk

02

84% / 85%

experienced multiple inventory
shortages / on-time delivery failures
in the past 12 months

03

64%

spend 10% or more of manufacturing
budget reacting to disruptions

The Industry Is Ready for Supply Planning to Become an Execution Discipline and AI Is the Enabler

There is no shortage of awareness that the current model is broken. What this research surfaces, across every finding, is a consistent readiness signal from the manufacturing industry: the organizations that fix this problem will fix it by treating supply planning differently, not as a planning output, but as a continuous execution discipline powered by real-time intelligence.

Nearly all decision makers (92%) report that their leadership has at least some confidence in AI to address the misalignment between demand planning and factory-level execution. 80% view AI as essential for eliminating execution drag. This is not generalized enthusiasm for emerging technology, but rather a recognition that managing material availability, supplier alignment, and production priorities dynamically and at

scale cannot be achieved through manual processes and static reports.

The shift manufacturers are describing is specific: from supply planning as a scheduled process that produces a plan, to supply planning as a continuous system that ensures the organization remains ready to execute that plan across every site, every supplier, and every buyer workflow, updated in real time as conditions change.

This is not a new category of software. It is a new standard for supply planning. Manufacturers that get there first will not just reduce disruptions, they will compete differently, with lower inventory, higher delivery reliability, and execution driven by intent rather than exceptions.

01

92%

report leadership has at least some confidence in AI to close the planning-to-execution gap

02

80%

say AI is essential for eliminating execution drag



Supply Plans Are Failing at the Factory Level

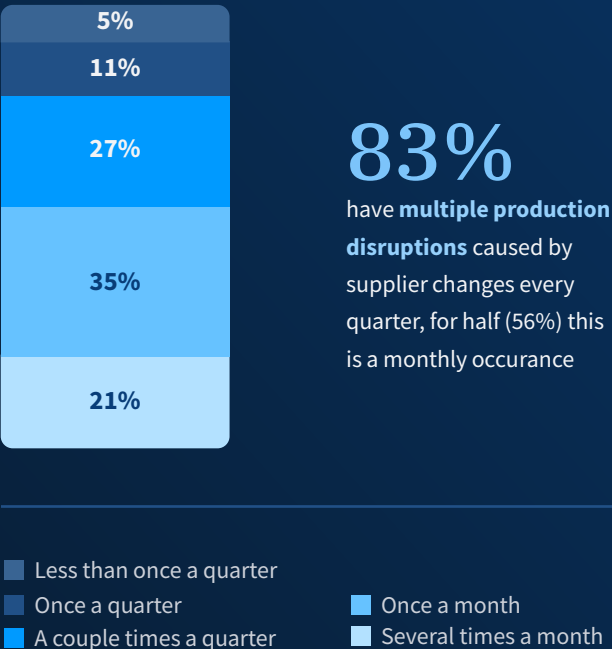
Production Disruptions Are Now a Regular Recurrence

More than four out of five senior-level decision makers (83%) report supplier changes creating multiple disruptions to production on a quarterly basis, with over half (56%) saying this happens at least once a month or more often. These widespread disruptions are most commonly viewed as happening at the factory-specific execution stage.

Shortages Aren’t Discovered Until It’s Already Too Late

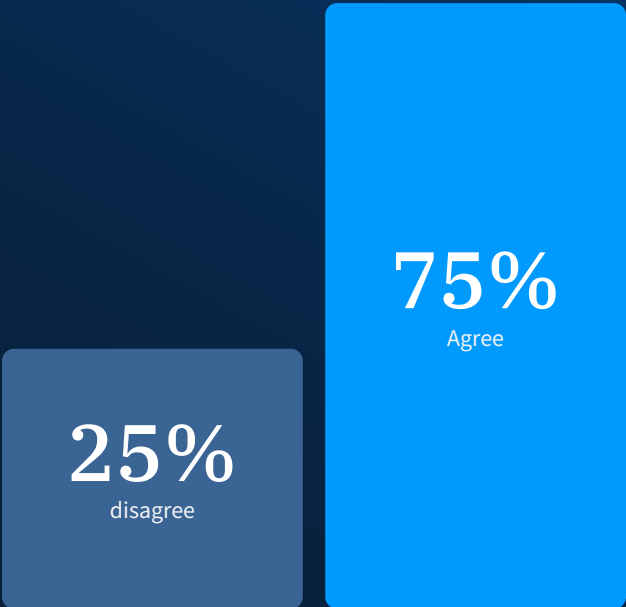
Compounding the problem, in the past year, a significant majority (72%) experienced a supply chain incident where a materials shortage wasn’t discovered in time to avoid production delays. Manufacturers routinely grapple with not just disruptions, but also a lack of visibility into impending problems.

How Often Supplies Changes Create Disruption



N=150

Supply Plan Failures Are Most Likely to Happen At the Factory-Specific Execution Stage



N=150

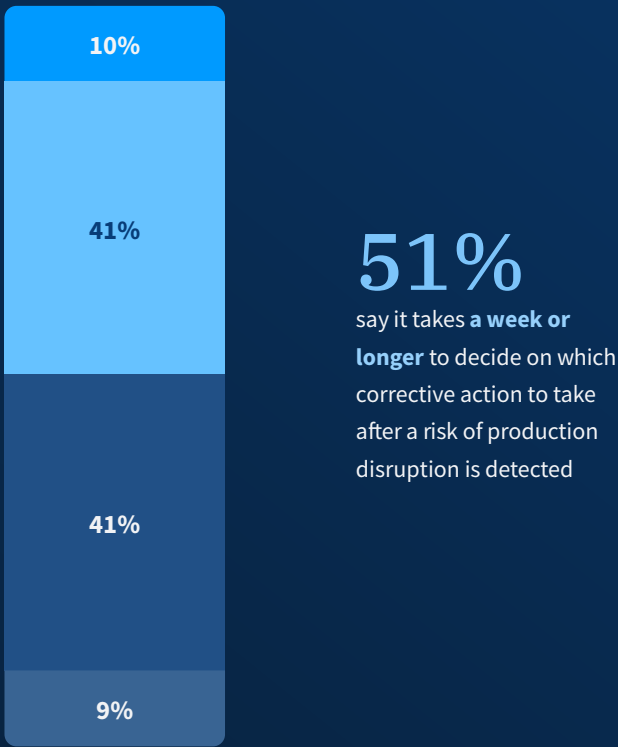
Detection Isn't Enough - Response Takes Far Too Long

After facing disruptions and delays, which are often not known about until it's too late to do anything about them, it takes half of manufacturers a week or longer to decide which corrective action to take. For 10%, it can take several weeks. Very few manufacturers are in a position to make same-day course adjustments after a risk to production is identified.

Market Shifts Expose What is Already Vulnerable at the Factory Level

While external factors can make matters worse, the most common cause of supply chain disruptions are economic shifts (51%) and demand shifts (44%), suggesting that manufacturers are often caught flat-footed when reality doesn't match their projections. This leads to a misalignment between their demand planning and factory-specific reality.

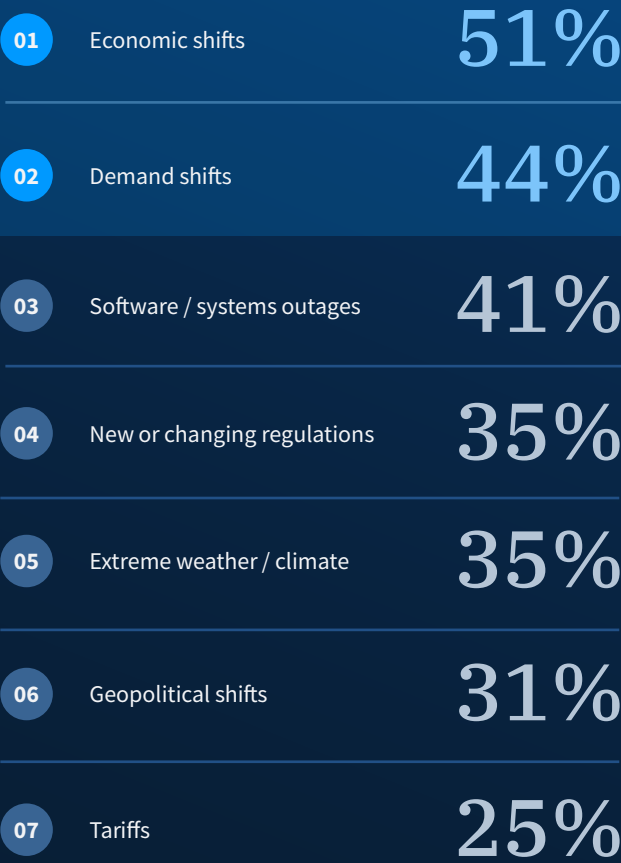
How Long After Disruption To Decide Which Action to Take



- Same day
- A couple of days
- About a week
- A couple of weeks or longer

N=150

External Factors With Biggest Impact on Misalignment



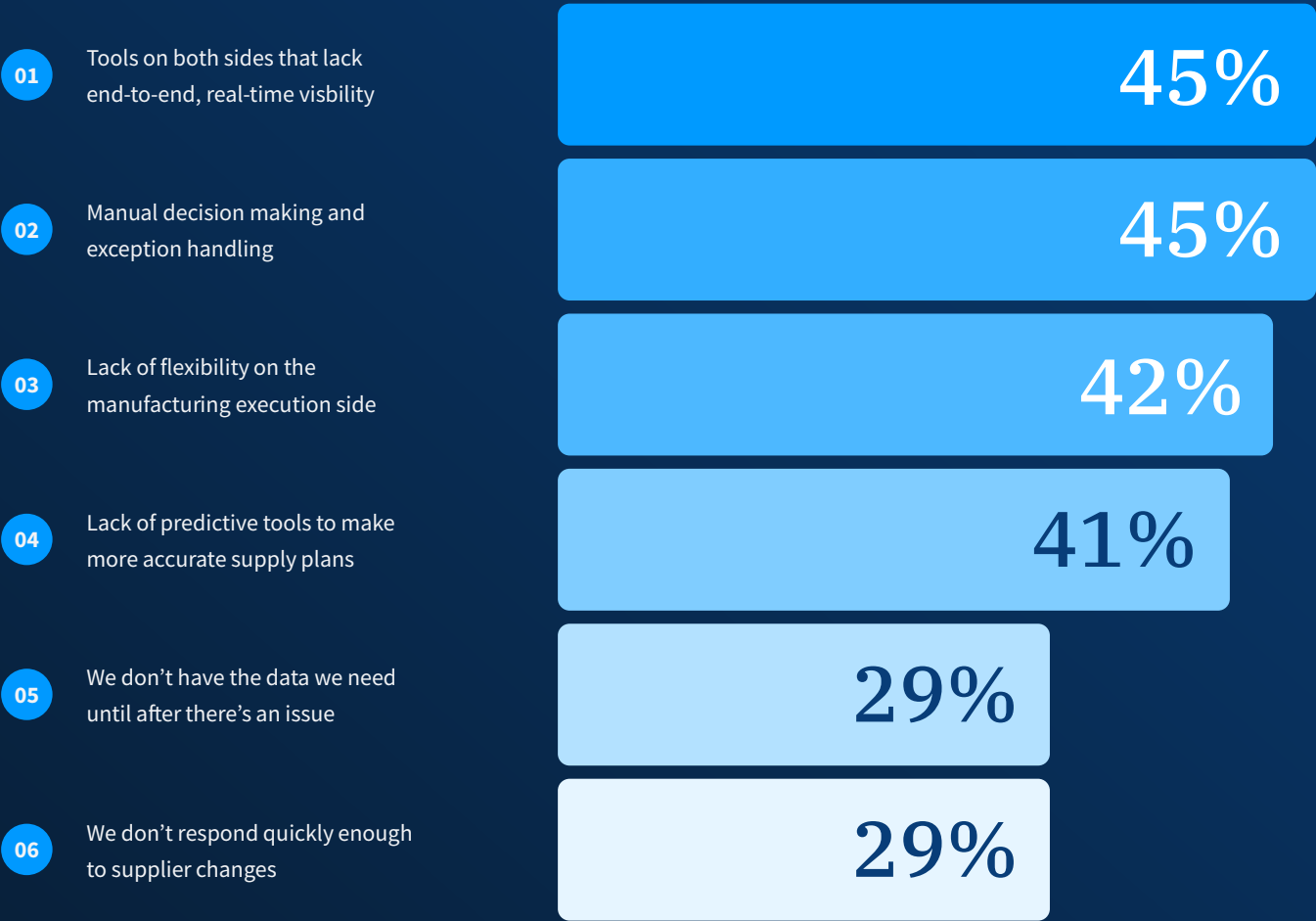
N=144
Asked among those whose company ever experienced misalignment between demand planning and its factory-specific supply planning reality

Manufacturers Lack the Tools to Manage Supply Readiness

This misalignment between planning and production reality is embedded into the operational processes of manufacturers. For nearly half (45%), decision makers report either lacking end-to-end tools that provide real-time visibility or manual decision-making as common reasons for this. They also report lack of flexibility on the execution side (42%) and a lack of predictive supply planning tools (41%).



Operational Reasons for Misalignment



N=150

Demand Planning Gets the Investment.

Supply Readiness Gets the Consequences.

The Industry Has Over-Invested in Demand Planning

Manufacturers have spent a lot of effort improving demand-forecasting, with three-quarters (74%) making that a priority, if not the top priority for their organization in the past two years.

Most Manufacturers Know Forecasting Won't Solve This

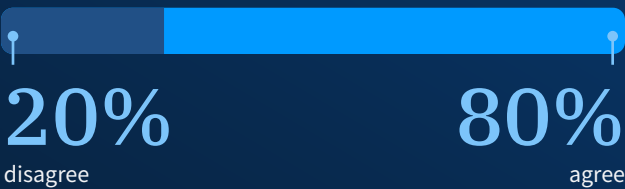
Despite its prioritization over the past two years, four out of five decision makers (80%) agree that forecasting can only get their company so far. There is also broad agreement that their ERP can provide data about materials requirements but is powerless to prevent execution failures. Nearly three in four (73%) share this sentiment.

How Has Improving Forecasting Been Prioritized?



N=150

Forecasting Can Only Get You So Far



ERP Is Powerless To Prevent Execution Failures



N=150

ERP Cannot See or Drive Factory-Level Readiness

Ultimately, their efforts in forecasting haven’t improved their ERP’s visibility into execution, with nearly all (93%) reporting some difficulty with this. For a quarter (25%), having that visibility is very to extremely difficult.

The Readiness Gap Is Known and Still Not Addressed

The most common reason why manufacturers haven’t addressed this misalignment between materials management execution challenges is because other priorities have been placed ahead of it as they grapple with conflicting internal priorities and limited budgets. For another 39%, their organization doesn’t know if any solutions available could help prevent these types of disruptions.

Difficult For ERP to Get Visibility Into Execution



- Not at all difficult
- A little difficult
- Somewhat difficult
- Very difficult
- Extremely difficult

N=150

What Keeps Organizations From Making It a Priority To Address Misalignment

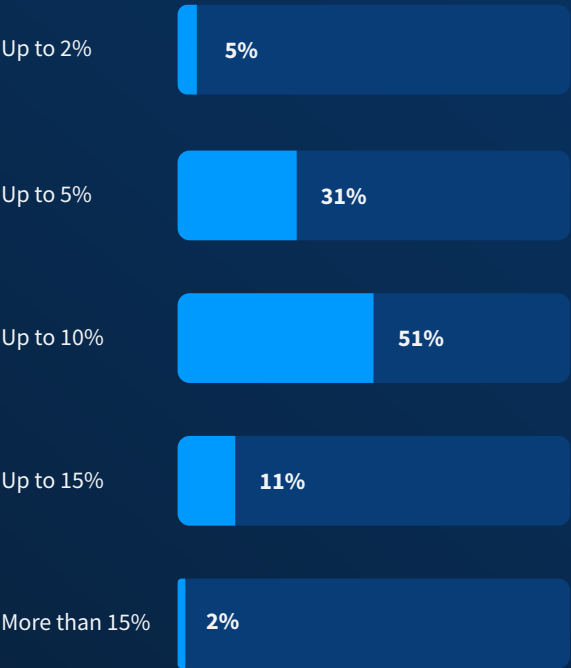


N=150

Without Solutions, Manufacturers Keep Paying to React

Instead of prioritizing addressing this misalignment between demand planning and execution, manufacturers burn cash, with a strong majority (64%) reporting that they spend 10% or more of their manufacturing budget on reacting to disruptions and misalignments, resorting to premium freight, expediting shipping, and making other costly last-minute changes.

Percent of Manufacturing Budget Used To React To Disruptions



64%

spend up to 10% or more of their manufacturing budget reacting to disruptions and misalignments

N=150

Silos Between Demand Planning and Manufacturing Deepen the Divide

A lack of communication between departmental silos complicates matters as the demand planning teams and the manufacturing teams find that they’re not on the same page. It’s possible that more business leaders would work to improve this if there wasn’t a sense of fatalism that gaps between demand planning and execution are simply inevitable and can’t be helped.

Organizational Factors for Gap Between Demand Planning and Execution



N=150

The Readiness Gap Has a Measurable Price:

Revenue, Inventory, and Careers

Nearly Half of Manufacturers Have 10% of Revenue Lost or at Risk

The consequences of misalignment between manufacturer’s demand planning and factory-specific supply planning reality can be massive, as nearly half (47%) of respondents report that 10% or more of their company’s annual revenue is lost or put at risk due to this gap.

The Metrics Most at Risk Are the Ones Manufacturers Rely on Most: On-Time Delivery and Inventory Turns

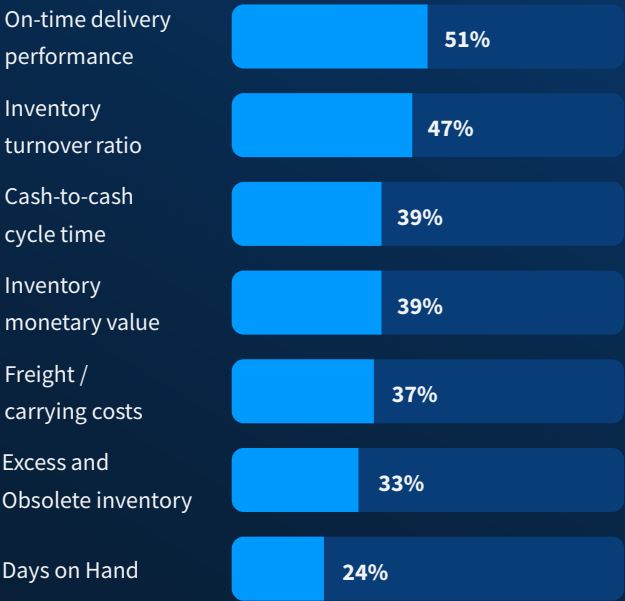
To understand the business impact of misalignment between demand planning and factory-specific execution, it’s helpful to understand what organizations use to measure supply chain efficiency. On-time delivery (51%) and inventory turnover (47%) are the most common metrics and are the most at risk by disruptions.

How Much Revenue Is Lost or At Risk Due to Misalignment



N=144
Asked among those whose company ever experienced misalignment between demand planning and its factory-specific supply planning reality

Metrics Used to Measure Supply-Chain Efficiency



N=150

Shortages and Late Deliveries Are No Longer Exceptions, They're the Pattern

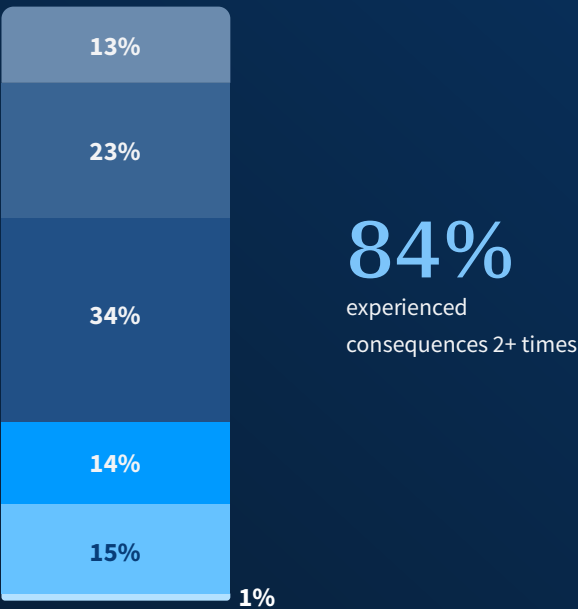
Among those who report this misalignment happening, the consequences pile up. Nearly all respondents report inventory shortages and disruptions to on-time delivery happening at least once in the past 12 months, and more than 80% have seen it happen multiple times. More than a third (36%) report four or more inventory shortages, and even more (45%) report four or more late deliveries.



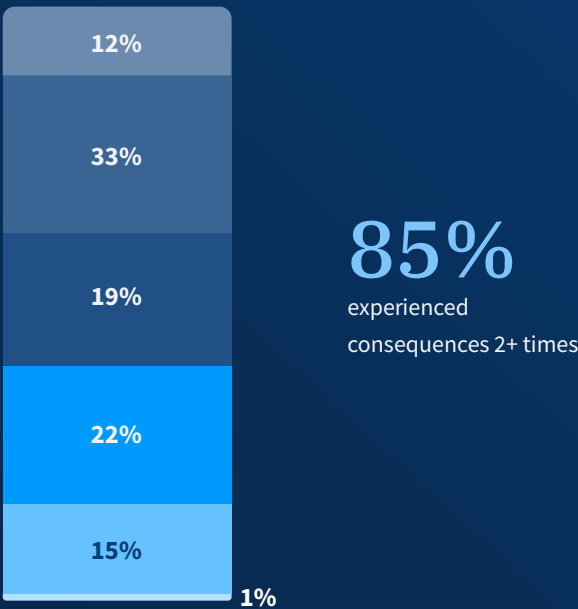
Times Experienced Consequences Due to Misalignment in Last 12 Months

■ 5+ times ■ 4 times ■ 3 times ■ 2 times ■ 1 time ■ 0 time

Inventory Shortages



Disruption to Our On-Time Delivery



N=144
Asked among those whose company ever experienced misalignment between demand planning and its factory-specific supply planning reality

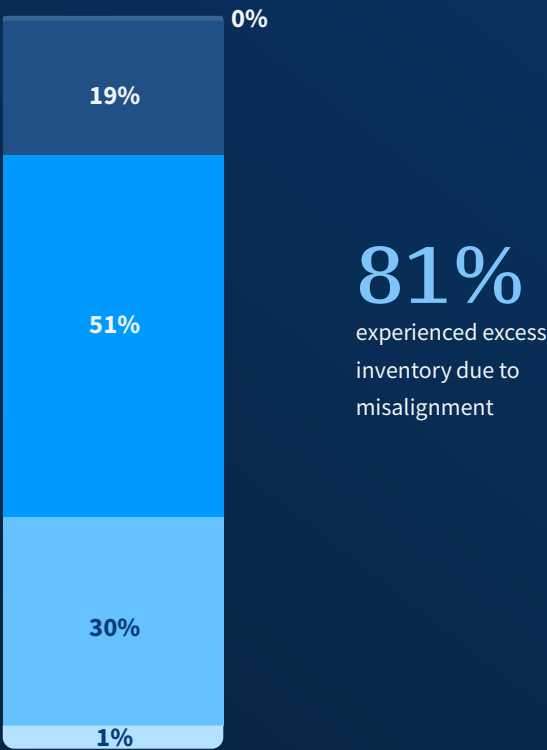
Unmanaged Supply Planning Readiness Produces Shortage and Excess at the Same Time

Similarly, more than 80% of respondents report excess inventory due to misalignment between demand planning and factory-specific supply planning reality in the past year, with 30% reporting that excess inventory happens often.

Expediting Is the Most Visible Cost, But Far From the Biggest One

The most common consequence of misalignment is the cost of expediting materials for production (37%), but a myriad other negative impacts affect manufacturers, including delays in production (31%), revenue loss (28%), and loss of reputation (28%).

Frequency Experienced Excess Inventory Due to Misalignment in Past 12 Months



- Never
- Rarely
- Sometimes
- Often
- All the time

N=144
Asked among those whose company ever experienced misalignment between demand planning and its factory-specific supply planning reality

Most Impactful Business Consequences of Misalignment

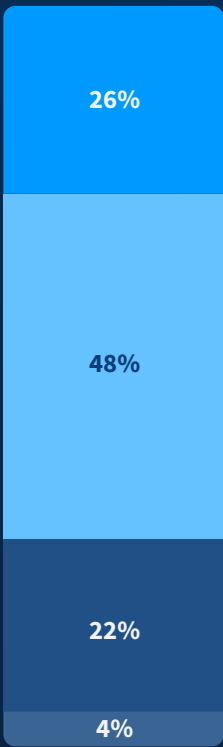


N=144
Asked among those whose company ever experienced misalignment between demand planning and its factory-specific supply planning reality

Firefighting Without Resolution Destroys Organizational Trust

The consequences are also felt internally, as most decision-makers notice that always being stuck in reactive mode has worn their teams thin. Constantly putting out fires without seeing an improvement in execution has eroded trust within the organization for nearly three-fourths (74%) of respondents.

Trust Erodes When Execution Doesn't Improve After Spending Too Much Time Reacting to Disruptions



74% describe an erosion of trust when their teams spend **too much time trapped in reaction mode**, putting out fires, **without improving execution**

- Strongly agree
- Somewhat agree
- Somewhat disagree
- Strongly disagree

N=150

Execution Failures Are Becoming a Personal Career Risk

At the same time, decision-makers are also under pressure to improve capital flow, and an overwhelming majority fear execution failures will cost them their job if there isn't improvement.

Pressure Executives Are Under to Improve Capital Flow

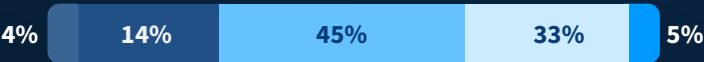
- Somewhat disagree
- Strongly disagree
- Strongly agree
- Somewhat agree



77% feel **pressure** to improve cash flow

Concern Over Losing Job Due to Execution Failures

- Not at all concerned
- A little concerned
- Somewhat concerned
- Very concerned
- Extremely concerned



82% are concerned they'll **lose their job** due to execution failures

N=150

Manufacturers Are Ready for a Different Approach - AI Points the Way Forward

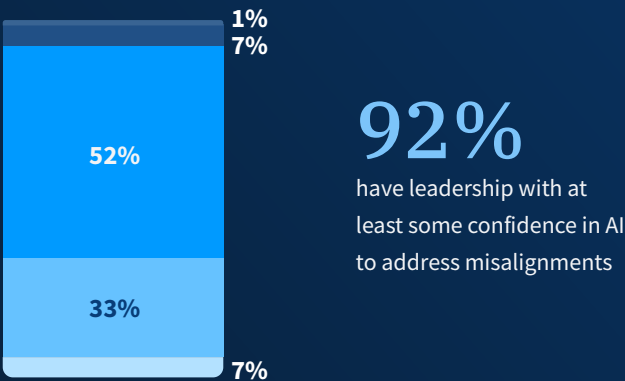
Leadership Confidence in AI to Close This Gap Is Near-Universal

There's faith in the future amid the emergence of new technologies. Nearly all executives find their leadership has at least some confidence in AI to address the misalignment between demand planning and factory-specific execution, with 40% having a lot or complete confidence.

AI Is Seen as Essential, Not Optional, for Closing the Execution Gap

Moreover, AI is viewed as essential for eliminating execution drag, with 21% calling it “completely essential.” Of the remainder, 59% say it’s somewhat essential, another 17% find it helpful, with just 3% lacking faith that AI can help.

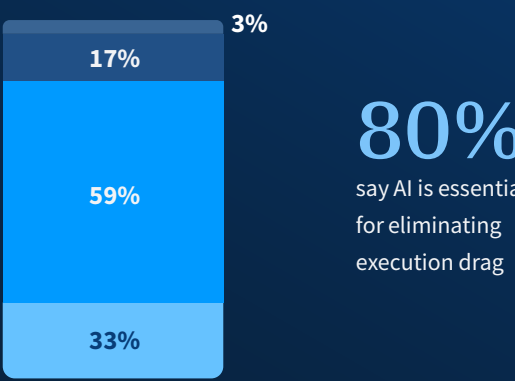
Leadership Confidence in AI to Address Misalignments



- No confidence at all
- Not too much confidence
- Some confidence
- A lot of confidence
- Complete confidence

N=150

Essentiality of AI Eliminating Execution Drag



- Neither helpful nor essential
- Helpful, but not essential
- Somewhat essential
- Completely essential

N=150

Closing the Readiness Gap

The findings in this report are consistent and connected to one another.

Manufacturers are not struggling because they lack planning capability. They are struggling because supply planning, the discipline that determines whether the organization is ready to execute, is being managed like a byproduct of planning rather than as the first and most critical act of execution. The path forward requires a specific shift in how supply planning is understood, resourced, and operated.

01

Treat supply readiness as a continuous discipline, not a static output.

A supply plan is not the same as supply readiness; a plan defines what should happen, while readiness determines whether it can. The manufacturers that close this gap will do it by establishing supply planning as a live, continuous process that monitors material availability, supplier commitments, and factory-floor priorities in real time and surfaces the right actions to the right people before disruptions occur.

02

Close the gap between demand signals and factory-level action.

The breakdown documented in this research happens at a specific moment: when demand plans transition into factory execution and the operational layer cannot absorb them. Closing that gap means giving supply planning teams the tools to continuously translate high-level production targets into prioritized, executable actions, for buyers, planners, and suppliers, aligned to what the factory actually needs today, not what was scheduled last week.

03

Invest in supply planning the way the industry has invested in demand planning.

The investment imbalance this research reveals is real. Demand planning has received decades of tooling, process development, and executive attention. Factory-level supply planning has not. Closing the readiness gap is not a matter of optimizing what already exists, it requires organizations to build supply planning capabilities that match the sophistication of their demand planning environment.

04

Make decision speed a competitive advantage.

In a supply chain environment defined by supplier volatility, shifting demand, and daily production constraints, the manufacturers who act fastest win. Not fastest to detect a problem - fastest to resolve it. Reducing the time between a supply risk signal and a corrective action is one of the highest-leverage investments a manufacturing organization can make. And it is only possible when supply planning is operating as a real-time, AI-powered execution discipline rather than a weekly review cycle.



LeanDNA built APEX to be the system that closes this gap.

Factory-first by design, APEX operationalizes supply planning as a continuous execution discipline, giving buyers, planners, suppliers, and supply chain leaders the real-time visibility, AI-driven prioritization, and cross-functional alignment needed to ensure the factory is always ready to execute.

The readiness gap is real. It is measurable. And it is closable.

See how APEX closes the readiness gap.

[Schedule a Demo](#)



Appendix

Level (Total N=150)

Owner or Equivalent (Partner, Principal, President, etc.)	—
C-Level Executive	9%
Other Senior Executive (Senior VP, Managing Director, etc.)	5%
Vice President	9%
Senior Director	26%
Director	25%
Senior Manager	26%

C-Level Titles (Total N=13)

COO	—
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Industry (Total N=150)

Aerospace and Defense Manufacturing	7%
Automotive Manufacturing	33%
Industrial Manufacturing	53%
Medical Device Manufacturing	7%

Responsibility (Total N=150)

Manufacturing	28%
Materials	92%
Operations	11%
Supply Chain	22%
Supply Planning	5%
Digital Transformation	6%
Planning	14%
Sales, Inventory and Operations	9%
Sales and Operations Execution	3%
Other	—

Sector (Total N=150)

Private	89%
Public	11%

Revenue U.S. (Total N=150)

Asked Among Those from U.S.

Less than \$250 million	—
\$250 million to under \$500 million	17%
\$500 million to under \$1 billion	24%
\$1 billion to under \$2.5 billion	22%
\$2.5 billion to under \$5 billion	25%
\$5 billion to under \$7.5 billion	—
\$7.5 billion to under \$10 billion	—
\$10 billion to under \$25 billion	—
\$25 billion or more	—

Revenue Mexico (Total N=5)

Asked Among Those from Mexico

Under \$4.5 billion	—
\$4.5 billion to under \$9 billion	60%
\$9 billion to under \$17.8 billion	40%
\$17.8 billion to under \$44.5 billion	—
\$44.5 billion to under \$89 billion	—
\$89 billion to under \$133.5 billion	—
\$133.5 billion to under \$178 billion	—
\$178 billion to under \$445 billion	—
\$445 billion or more	—

Revenue Canada (Total N=5)

Asked Among Those from Canada

Under \$350 million CAD	—
\$350 million CAD to under \$695 million CAD	60%
\$695 million CAD to under \$1.4 billion CAD	40%
\$1.4 billion CAD to under \$3.5 billion CAD	—
\$3.5 billion CAD to under \$7 billion CAD	—
\$7 billion CAD to under \$10.4 billion CAD	—
\$10.4 billion CAD to under \$14 billion CAD	—
\$14 billion CAD to under \$34.8 billion CAD	—
\$34.8 billion CAD or more	—

Revenue U.K. (Total N=5)

Asked Among Those from U.K.

Less than £185 million	—
£185 million to under £370 million	20%
£370 million to under £740 million	60%
£740 million to under £1.9 billion	—
£1.9 billion to under £3.7 billion	20%
£3.7 billion to under £5.6 billion	—
£5.6 billion to under £7.4 billion	—
£7.4 billion to under £18.5 billion	—
£18.5 billion or more	—

Revenue EU (Total N=5)

Asked Among Those from France

Less than €215 million	—
€215 million to under €430 million	80%
€430 million to under €860 million	20%
€860 million to under €2.2 billion	—
€2.2 billion to under €4.3 billion	—
€4.3 billion to under €6.5 billion	—
€6.5 billion to under €8.6 billion	—
€8.6 billion to under €21.5 billion	—
€21.5 billion or more	—

Revenue EU (Total N=25)

Asked Among Those from Germany

Less than €215 million	—
€215 million to under €430 million	80%
€430 million to under €860 million	20%
€860 million to under €2.2 billion	—
€2.2 billion to under €4.3 billion	—
€4.3 billion to under €6.5 billion	—
€6.5 billion to under €8.6 billion	—
€8.6 billion to under €21.5 billion	—
€21.5 billion or more	—

Employee Size (Total N=150)

500 or less	15%
More than 500	85%

Years in Business (Total N=150)

20 years or less	74%
More than 20 years	26%

Gender (Total N=150)

Male	78%
Female	22%
Non-binary	—

Age (Total N=150)

Under 45	67%
45+	33%

Years at Company (Total N=150)

Less than 10 years	73%
10 years or more	27%

Years in Role (Total N=150)

Less than 5 years	61%
5 years or more	39%

Education U.S. (Total N=105)

Asked Among Those from the U.S.

Grade school	—
Some high school	—
Graduated from high school or equivalent	—
Some college	—
Associate degree	2%
Bachelor's degree	42%
Graduate or post-graduate work	56%

Country (Total N=150)

United States	70%
Canada	3%
Mexico	3%
United Kingdom	3%
France	3%
Germany	17%

Company Region U.S. (Total N=105)

Asked Among Those from the U.S.

Northeast	21%
South	37%
Midwest	23%
West	19%