

# Manufacturing Industry Report

Presented by:



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# Executive Summary

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The past year has tested manufacturers of all sizes on every level. From supply chain planning to safety and operations planning, the Covid-19 pandemic has many organizations reevaluating investment priorities and strategies.

While all manufacturers are contending with challenges related to the pandemic, small and midsize enterprises are more vulnerable than larger organizations. This gap is evident in the *gener8tor Manufacturing Industry Report*. Large-size manufacturers, those with revenues over \$1 billion, already hold a significant advantage over smaller organizations when it comes to technology implementation.

Nearly 80% of large manufacturers are using automation compared with 60% of companies with revenues of \$100 million to \$999 million and 40% of manufacturers with revenues of less than \$100 million. Less than one-third of small manufacturers have implemented the Internet of Things (IoT) compared with 39% of midsize organizations and 47% of large manufacturers.

The findings indicate that many smaller organizations may lack financial resources to adopt smart technologies. Advanced technologies are critical for operational flexibility and market responsiveness, especially during unexpected disruptions, such as the current pandemic.

In fact, 35% of large manufacturers plan to increase their technology investments in response to the Covid-19 pandemic compared with 22% of midsize companies and 21% of small organizations. This means many larger manufacturers are raising the stakes, betting that technology is essential for future growth as they seek ways to remain nimble amid uncertain times.

Technological capabilities may also impact operational strategies. That's because high-tech solutions, such as automation, edge computing and analytics, are key enabling tools for many continuous improvement initiatives. Process optimization programs, such as lean manufacturing and Six Sigma and the Toyota Production System, help manufacturers minimize waste and increase efficiencies. Nearly 80% of large manufacturers have implemented lean manufacturing practices versus 56% of midsize organizations and 43% of small companies.

Size also plays a role in research and development (R&D) activity. Nearly half of large manufacturers rate their R&D capabilities as "effective" compared with 37% of midsize organizations and 27% of small manufacturers. Also, 21% of small manufacturers rate their R&D capabilities as being "below average" versus 7% of large manufacturers that indicate the same level of confidence.

The findings demonstrate opportunities for more strategic alliances, including third-party investments and partnerships. This is particularly true for smaller firms and startups as they try to keep pace with larger competitors in 2021 and beyond.

# Introduction & Methodology

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## OVERVIEW

Methodology, data collection and analysis by *IndustryWeek* on behalf of gener8tor. Data collected January 25, 2021 through February 9, 2021.

Methodology conforms to accepted marketing research methods, practices and procedures.

## METHODOLOGY

On January 25, 2021, Endeavor Business Media emailed invitations to participate in an online survey to members of the *IndustryWeek* database.

A follow-up email was sent to non-respondents on February 2, 2021.

By February 9, 2021, Endeavor Business Media had received 442 completed surveys.

## RESPONSIVE MOTIVATION

To encourage prompt response and increase the response rate overall, a live link to the survey was included in the email invitation to route respondents directly to the online survey.

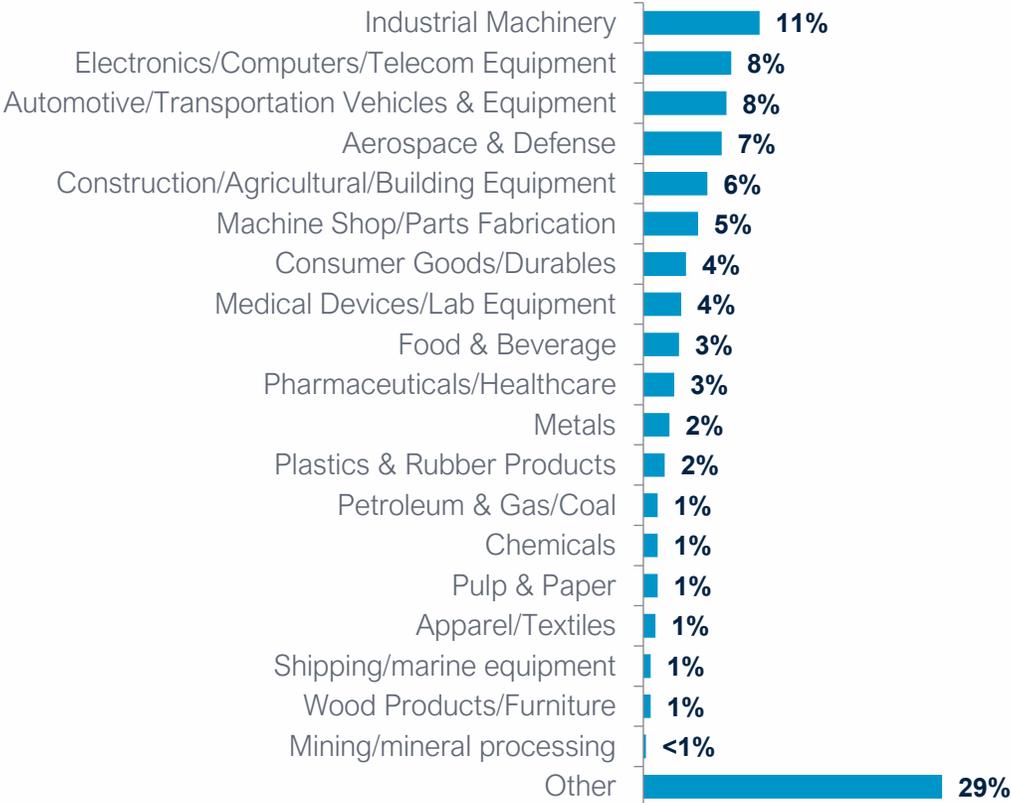
The invitations and survey were branded with the *IndustryWeek* logo in an effort to capitalize on user affinity for this valued brand.

Each respondent was afforded the opportunity to enter a drawing for one of four \$100 Amazon.com gift cards.

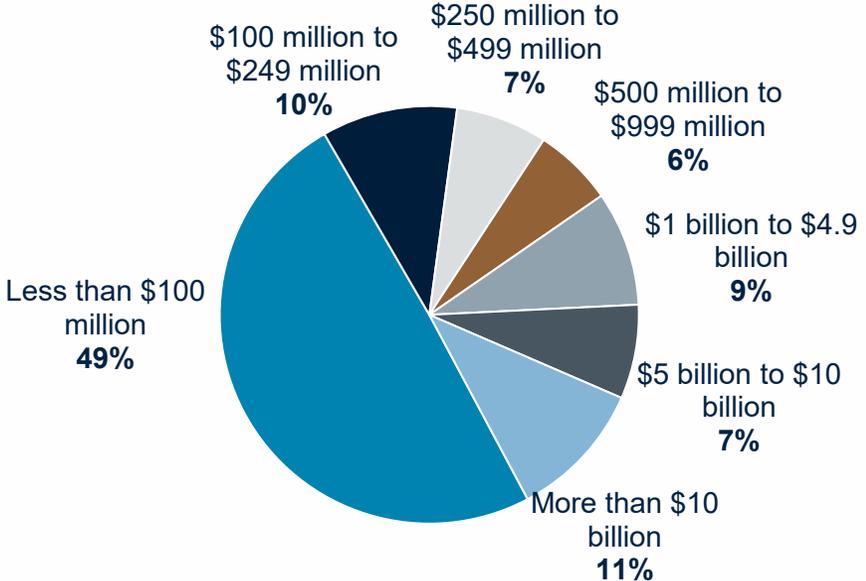
# Respondent Profile

# Company Profile

Respondents work in a variety of industries, with the largest percentage in Industrial Machinery. A variety of company sizes are represented, as 49% of respondents have annual revenues under \$100 million, 24% of respondents have annual revenues between \$100 million and \$1 billion, and 27% have revenues of \$1 billion or more. The key findings are presented in total and by company size.



**Question: Which of the following best describes the primary industry segment of your company?**  
 Base: All respondents (n=442).

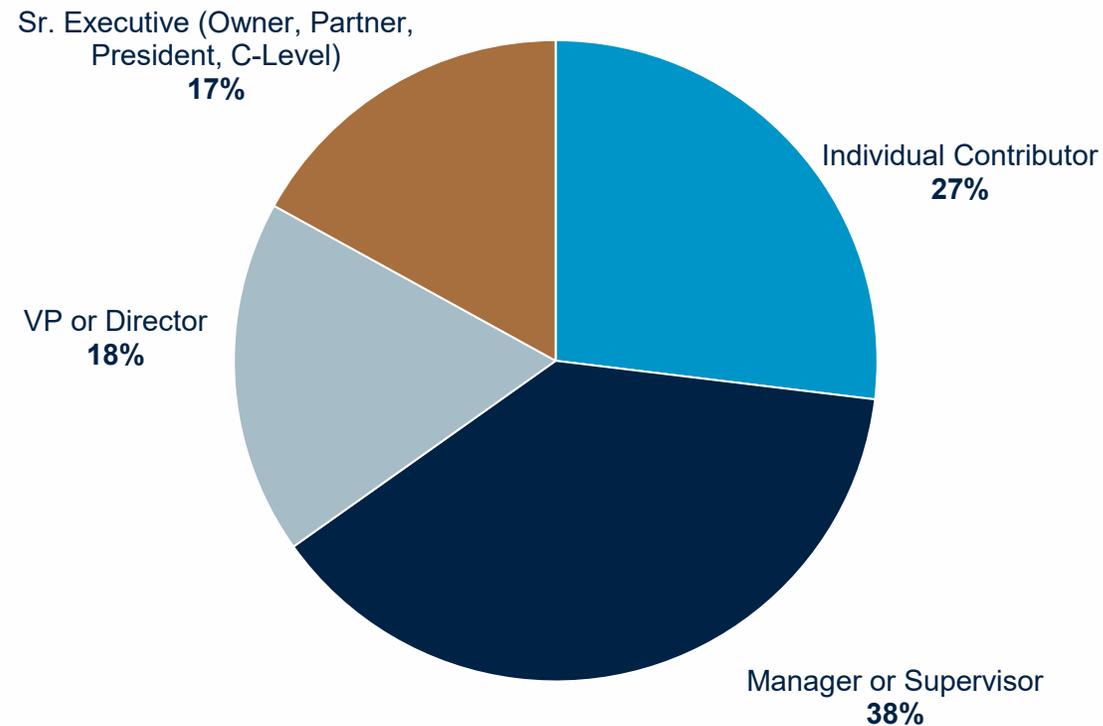


**Question: Into which of the following ranges does your company's annual revenue fall?**  
 Base: All respondents (n=439).

# Respondent Profile

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The majority of respondents indicate their job level as manager or higher. Seventeen percent of respondents are a senior executive within their company.



**Question:** Which of the following best describes your job level?

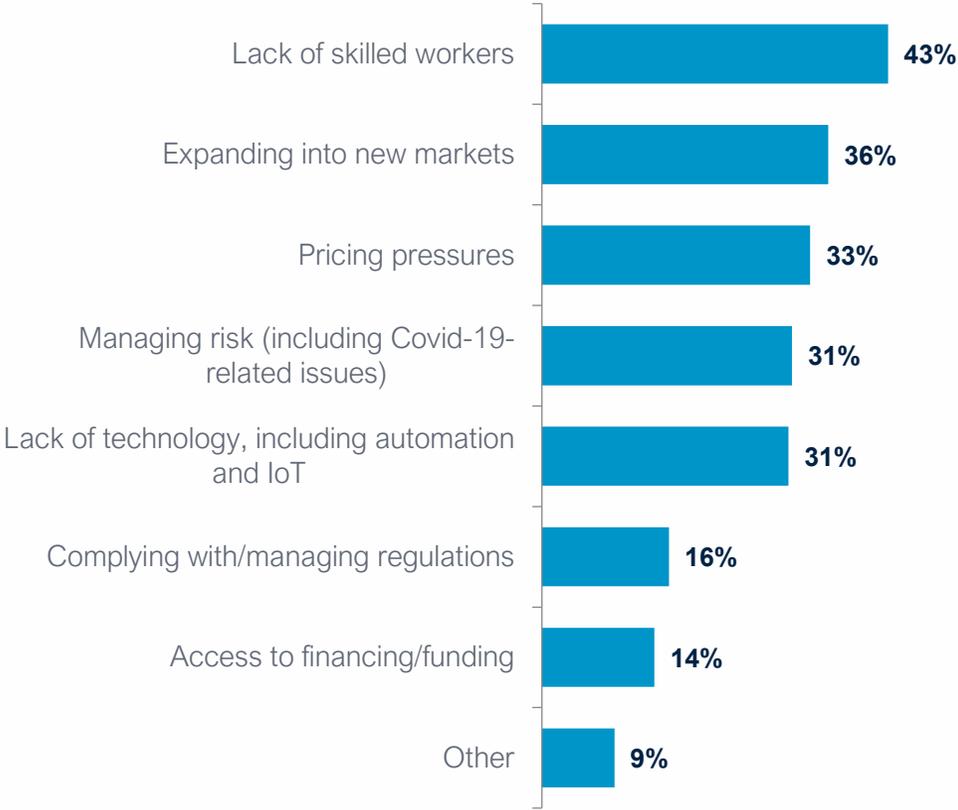
Base: All respondents (n=442).

# Key Findings

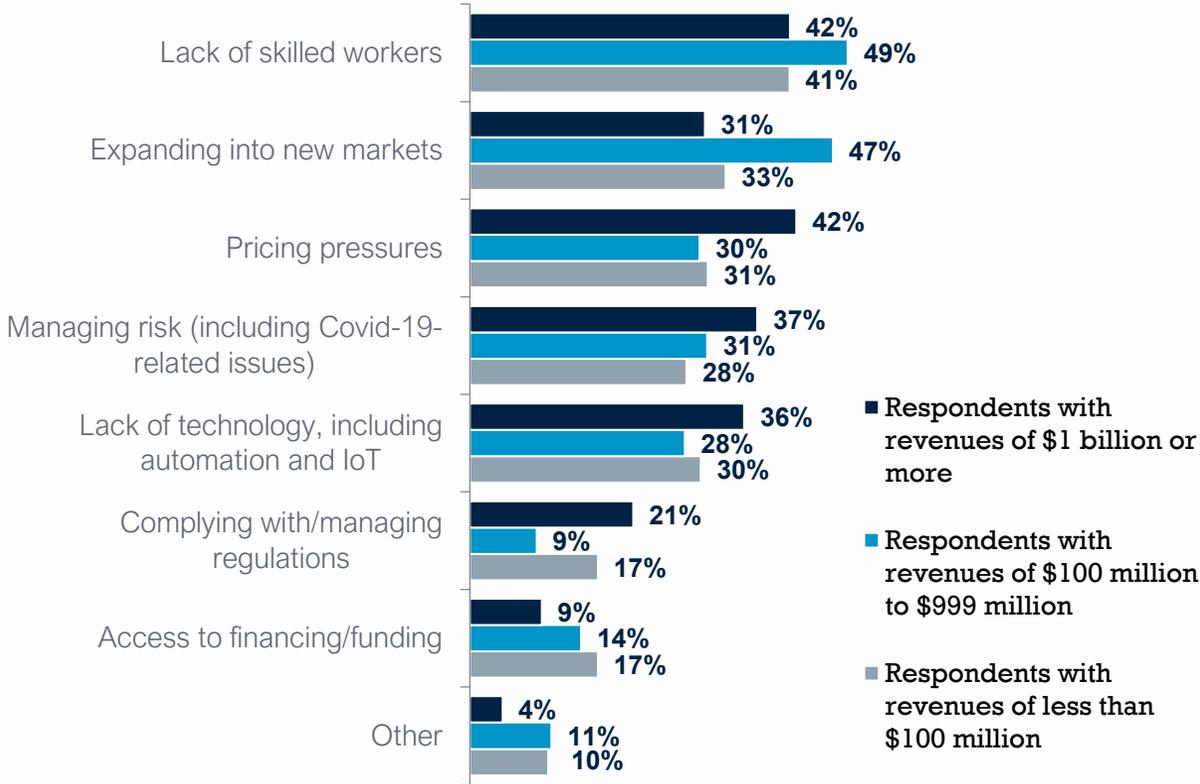
# Growth Impediments

A lack of skilled workers is the most frequently mentioned impediment to growth across all company sizes. Expanding into new markets, pricing pressures, managing risk, and lack of technology are also mentioned by companies of all sizes.

## All Respondents



## Responses by Company Size



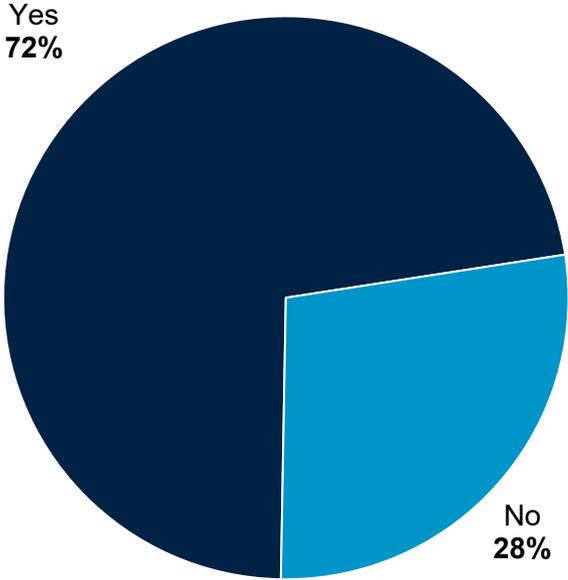
Question: What would you consider to be your top impediments to corporate growth?

Base: All respondents (n=442). Multiple answers allowed.

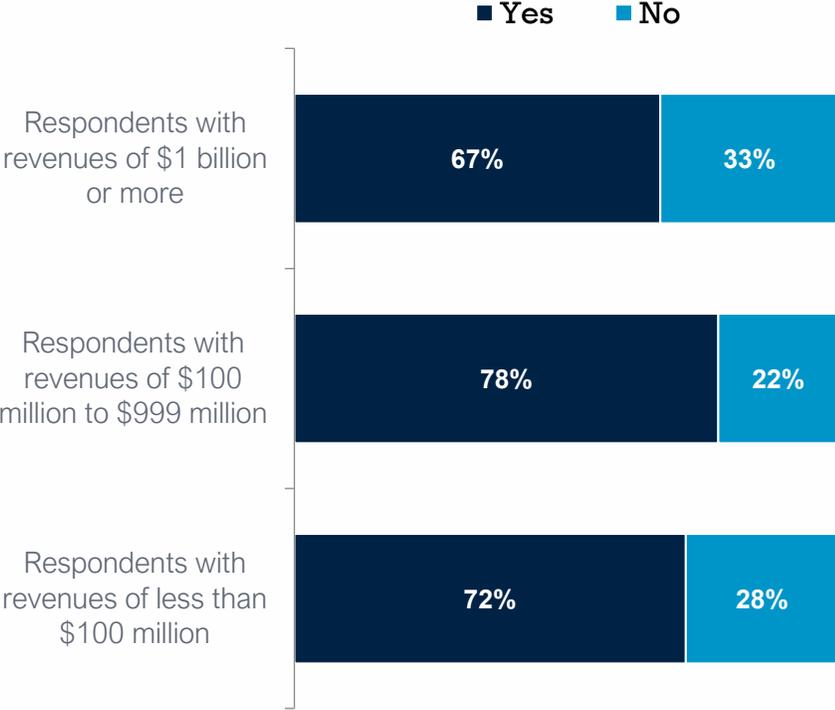
# Expansion Interest

Nearly three in four companies are interested in expanding their products to other markets. At 78%, mid-sized companies are most likely to be interested in expanding their products to other markets.

**All Respondents**



**Responses by Company Size**



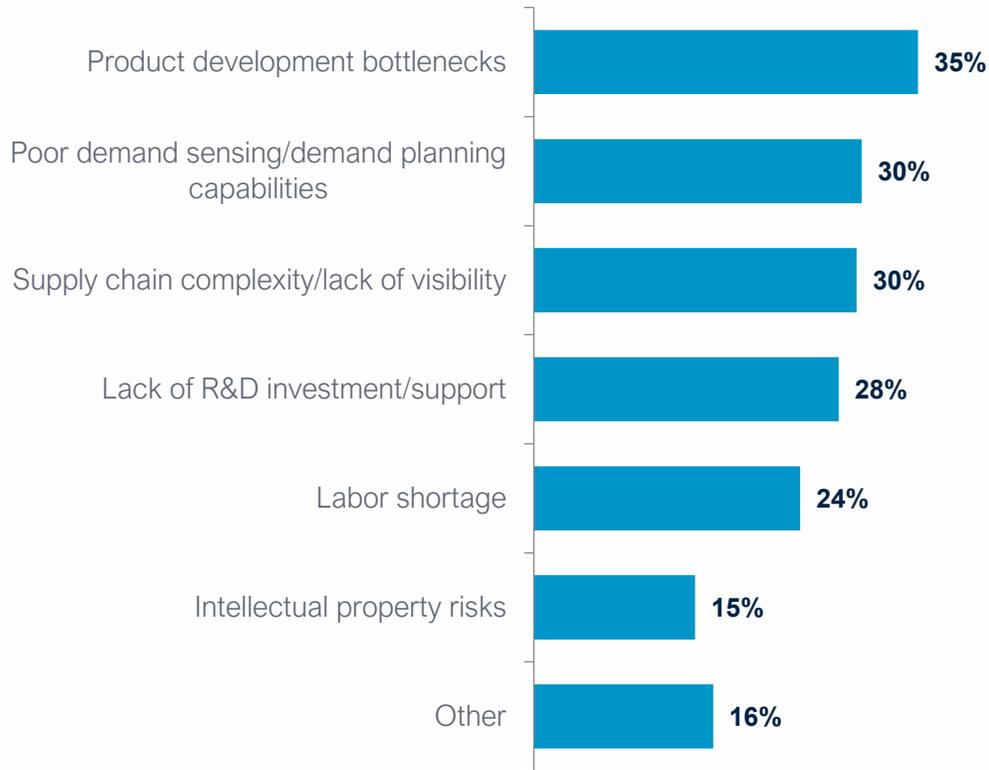
**Question:** Are you currently interested in expanding your products to other markets?

Base: All respondents (n = 440).

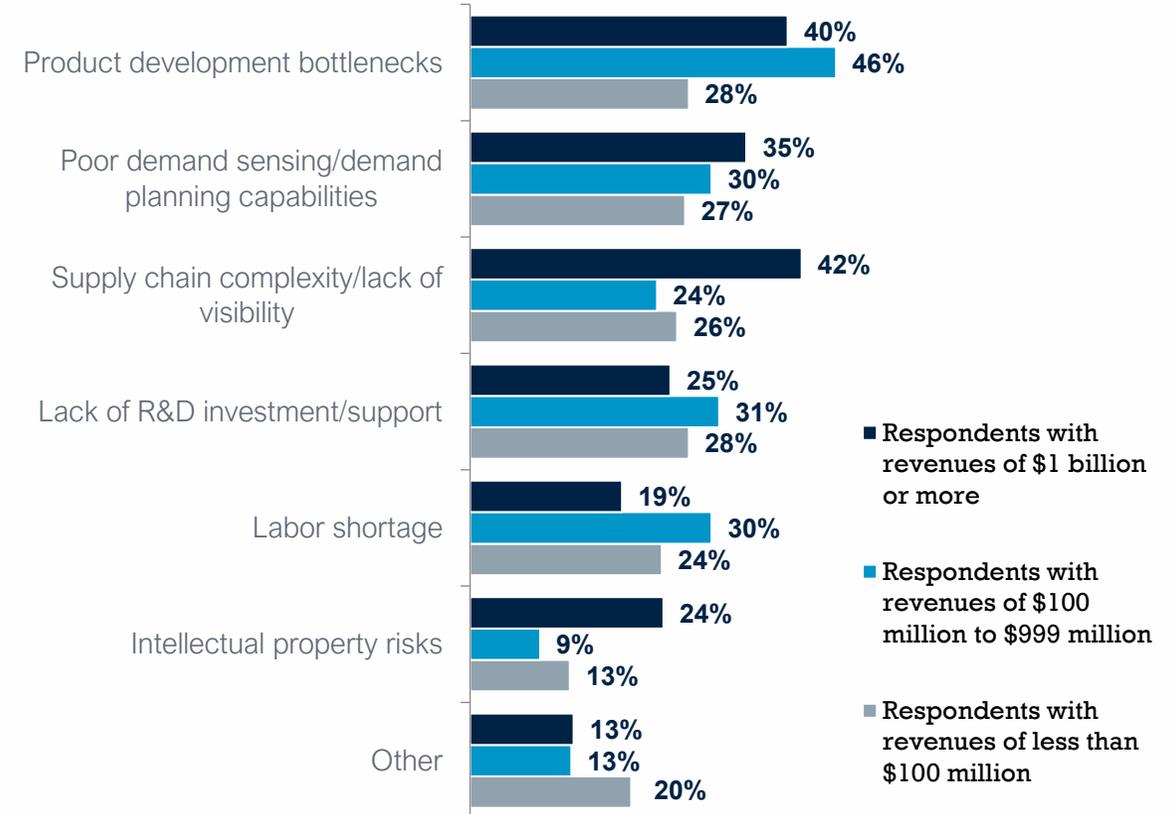
# Market Reach Expansion Inhibitors

Respondents are most likely to consider **product development bottlenecks** as the top inhibitor to expanding their market reach. Companies are likely to need better real-time insights into their internal operations and across the supply chain, particularly as supply chain complexity increases as companies grow.

## All Respondents



## Responses by Company Size



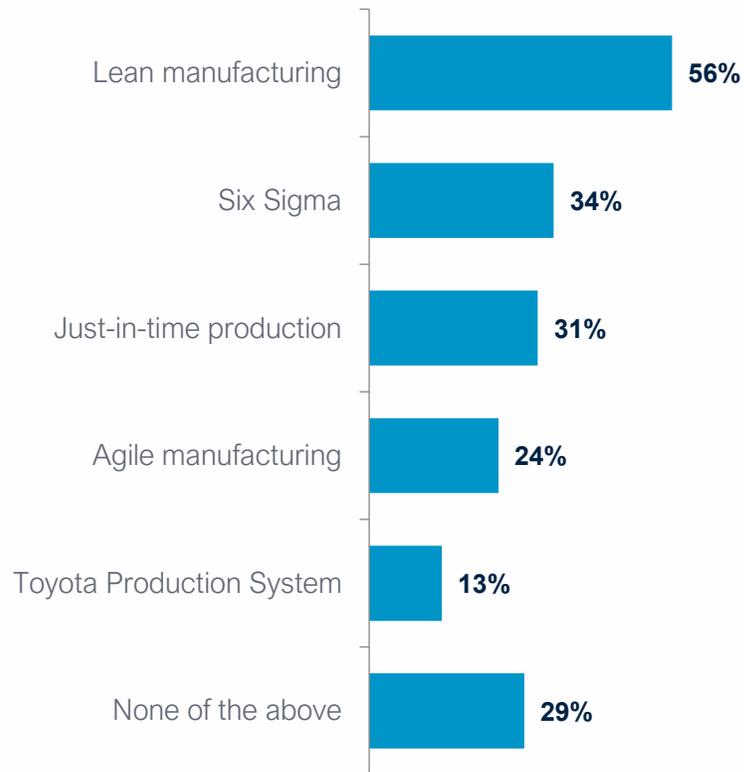
**Question:** What are the top inhibitors to expanding your market reach?

Base: All respondents (n=426). Multiple answers allowed.

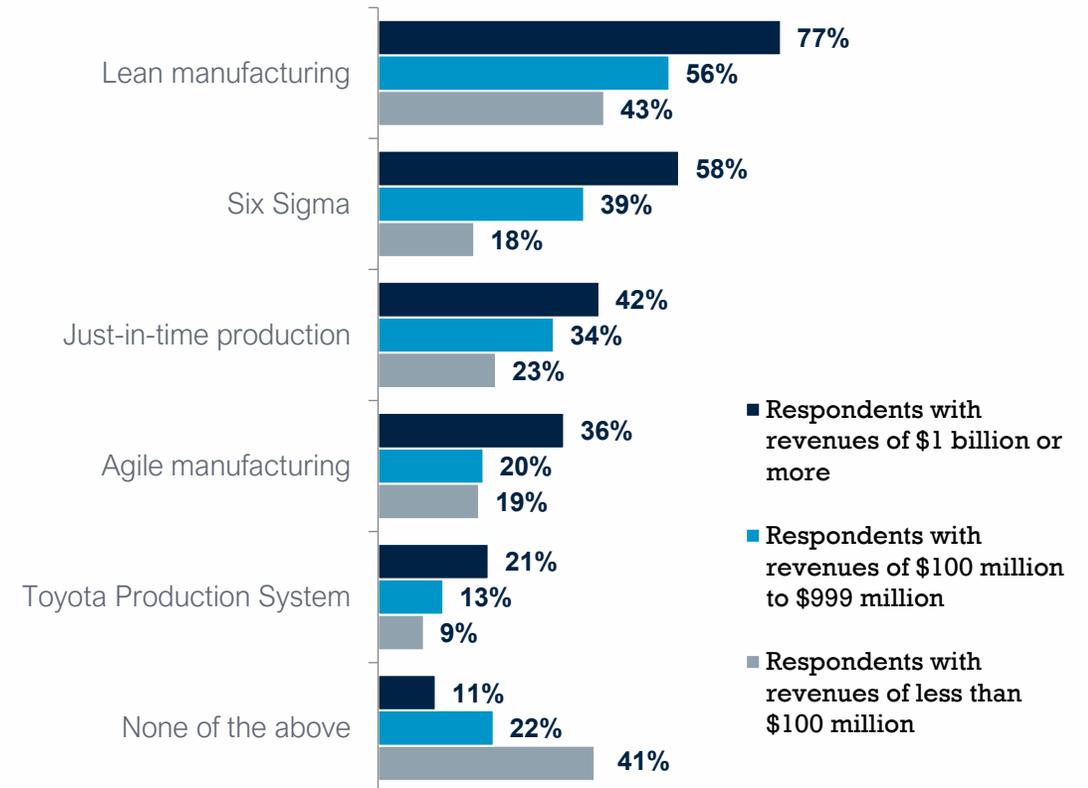
# Manufacturing Production Strategies

Seventy-one percent of respondents have implemented one or more of the listed manufacturing production strategies. More than half have implemented lean manufacturing. The chart on the right shows the extent to which smaller companies are less mature when it comes to implementing continuous improvement initiatives.

**All Respondents**



**Responses by Company Size**



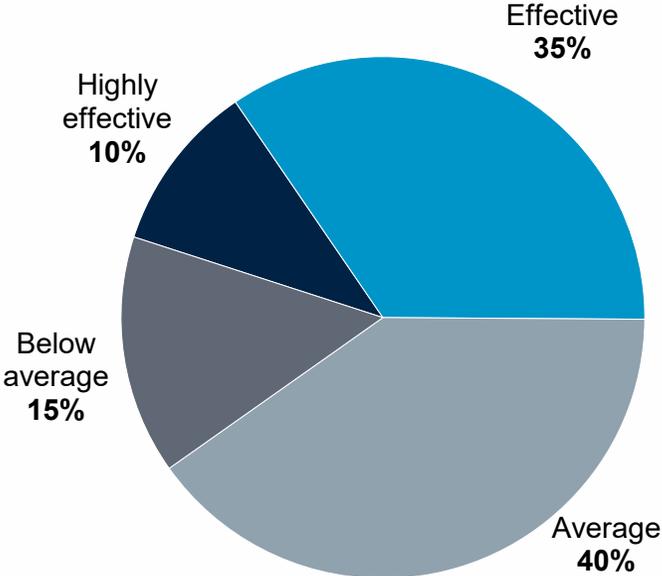
**Question:** Which of the following manufacturing production strategies have you implemented?

Base: All respondents (n=442). Multiple answers allowed.

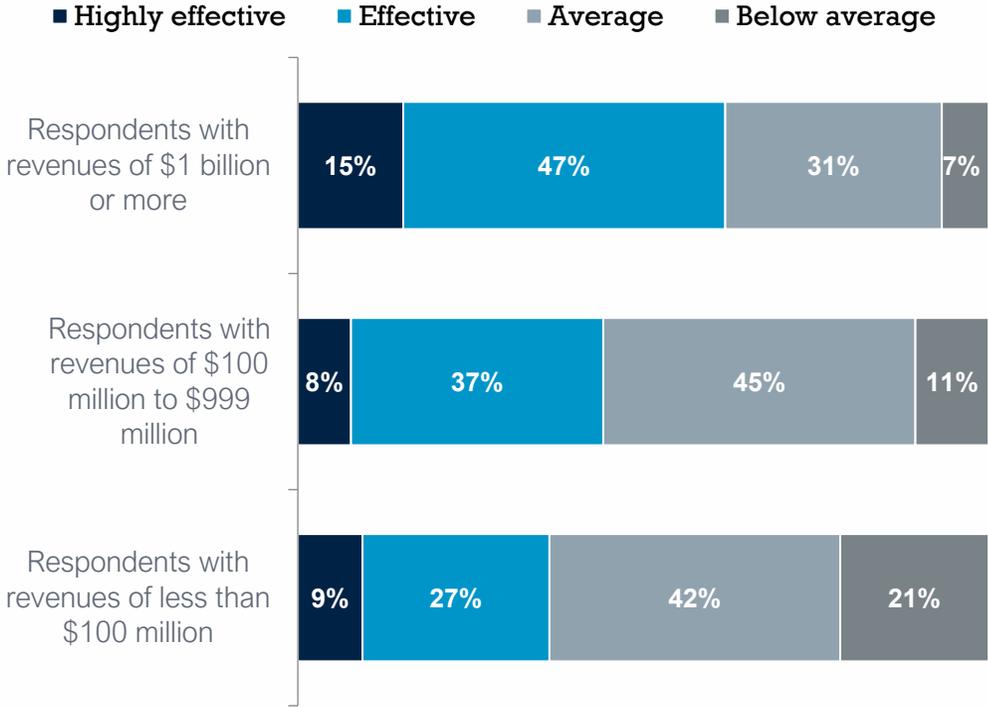
# Current R&D Capabilities

Respondents are unlikely to consider their current R&D capabilities highly effective. Smaller companies are particularly likely to consider their capabilities as below average or average.

**All Respondents**



**Responses by Company Size**



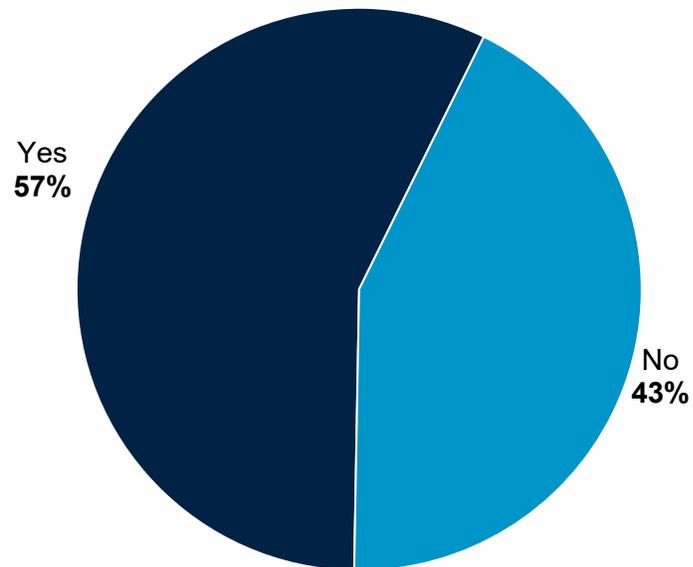
**Question: How would you characterize your current R&D capabilities?**

Base: All respondents (n = 439).

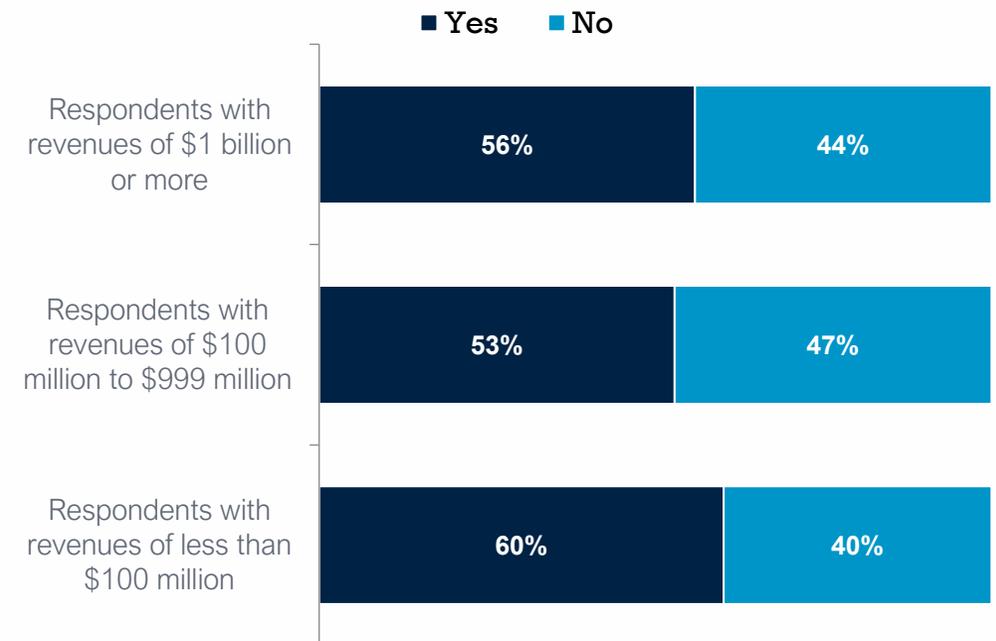
# Price Increase Struggle

The majority of respondents are struggling to increase prices.

## All Respondents



## Responses by Company Size



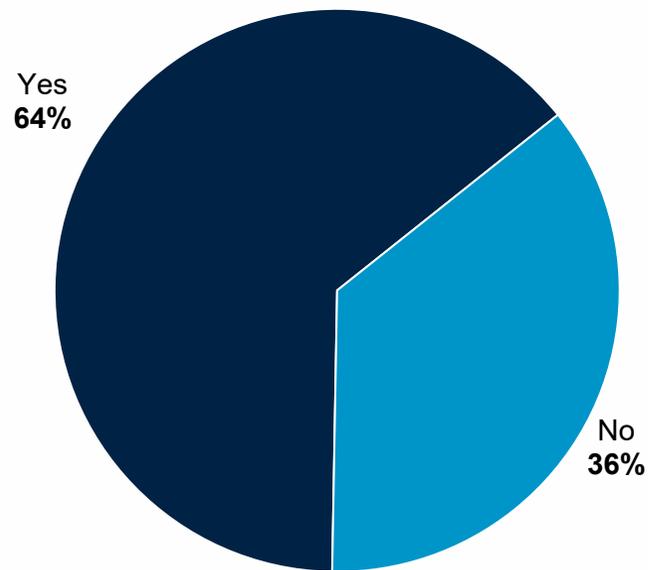
**Question: Are you struggling to increase prices?**

Base: All respondents (n = 441).

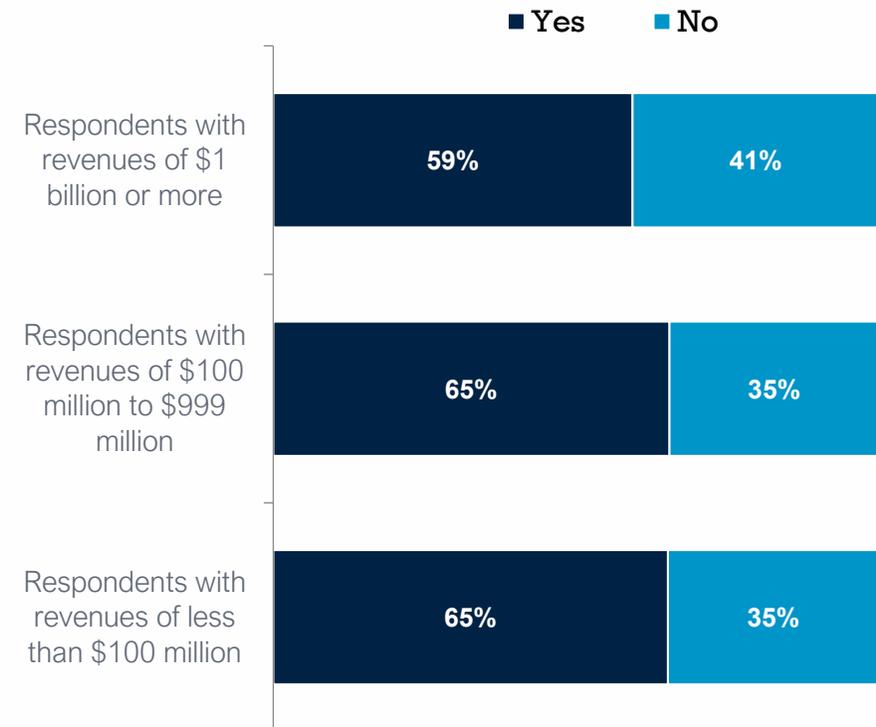
# Price Increase Opportunities

As shown on the previous page, 57% of respondents are struggling to increase prices. However, 64% of respondents believe there are opportunities to increase pricing without losing customers.

**All Respondents**



**Responses by Company Size**



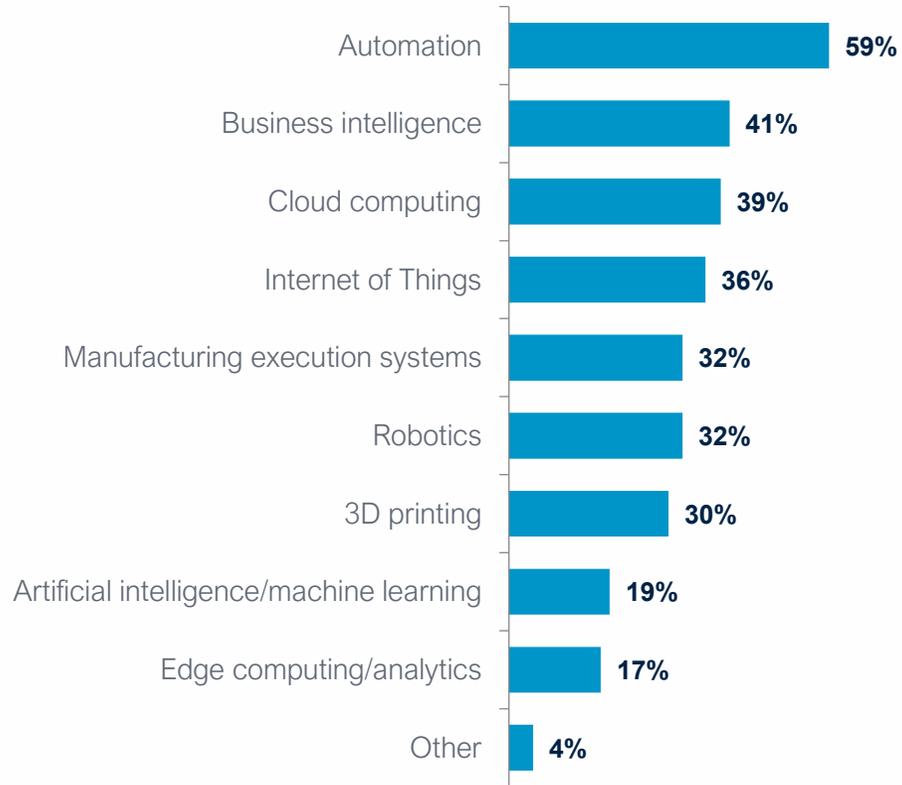
**Question: Do you think there are opportunities to increase pricing without losing customers?**

Base: All respondents (n = 440).

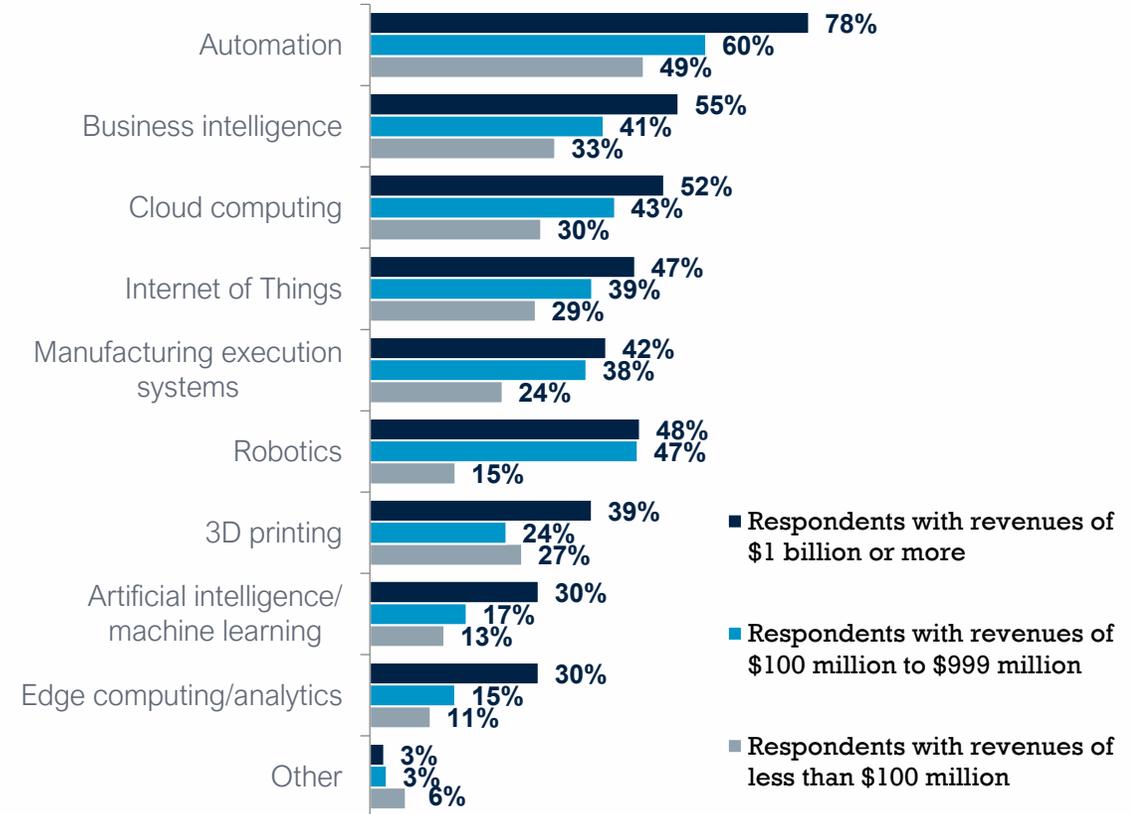
# Technologies Implemented

Companies are likely to have implemented one or more of the technologies listed below. Each technology studied is more likely to have been implemented by large companies than by small companies.

## All Respondents



## Responses by Company Size



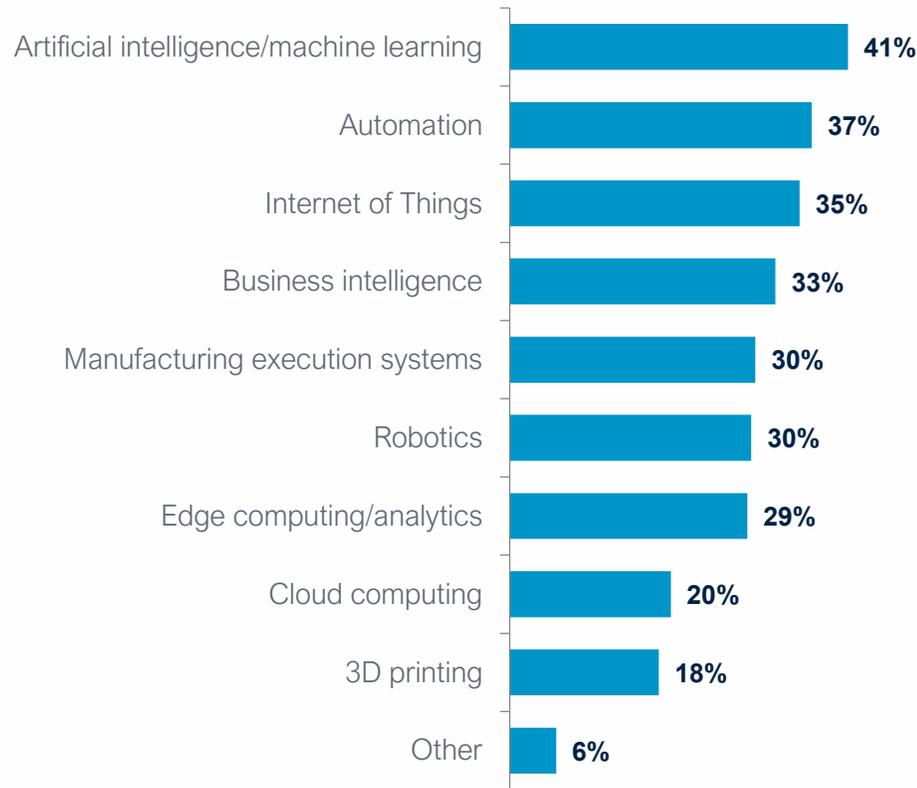
**Question:** Which of the following technologies have you implemented?

Base: All respondents (n=423). Multiple answers allowed.

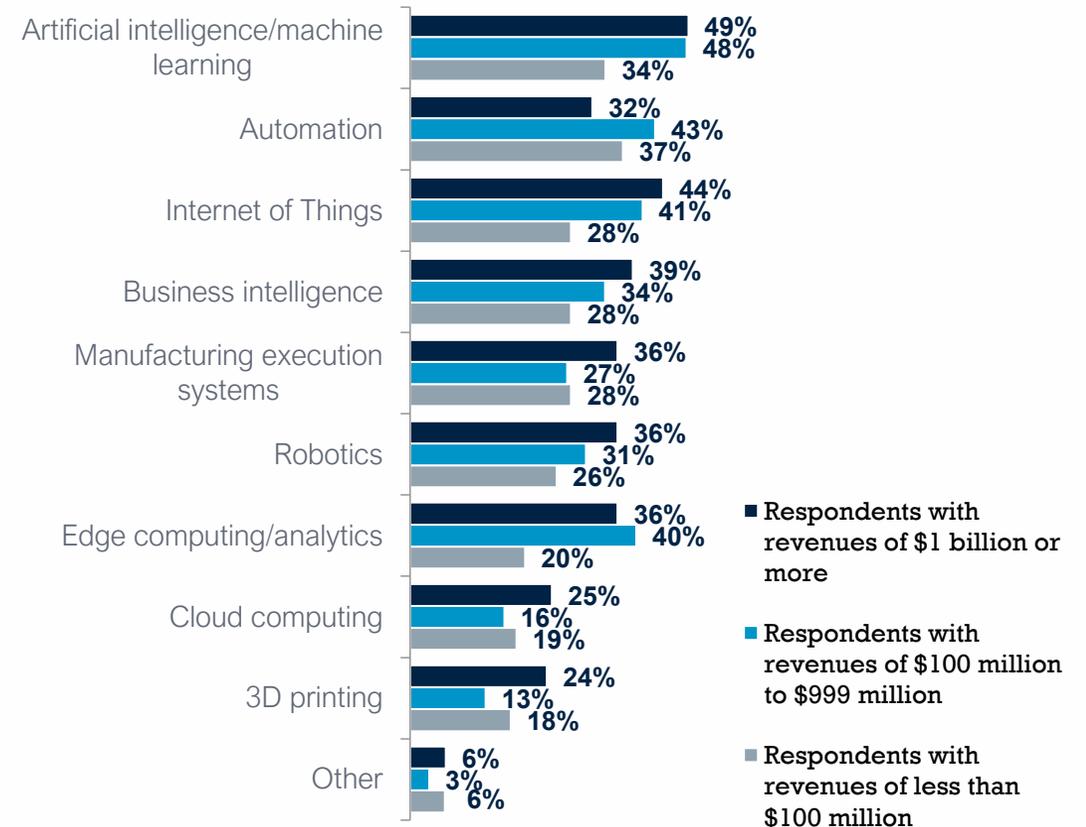
# Technologies of Interest

The largest percentage of respondents is interested in implementing artificial intelligence/machine learning. One in three respondents is interested in implementing automation, IoT, and/or business intelligence.

## All Respondents



## Responses by Company Size



**Question:** Which of the following technologies would you be interested in implementing?

Base: All respondents (n=406). Multiple answers allowed.

# Drivers of Technology Strategy

External factors, such as new customer demands and competitive pressures, are most likely to be impacting technology strategies/decisions. Covid-19 is having an impact as well, as companies realize the need to do more with fewer workers on the plant floor for safety reasons.

## All Respondents



## Responses by Company Size



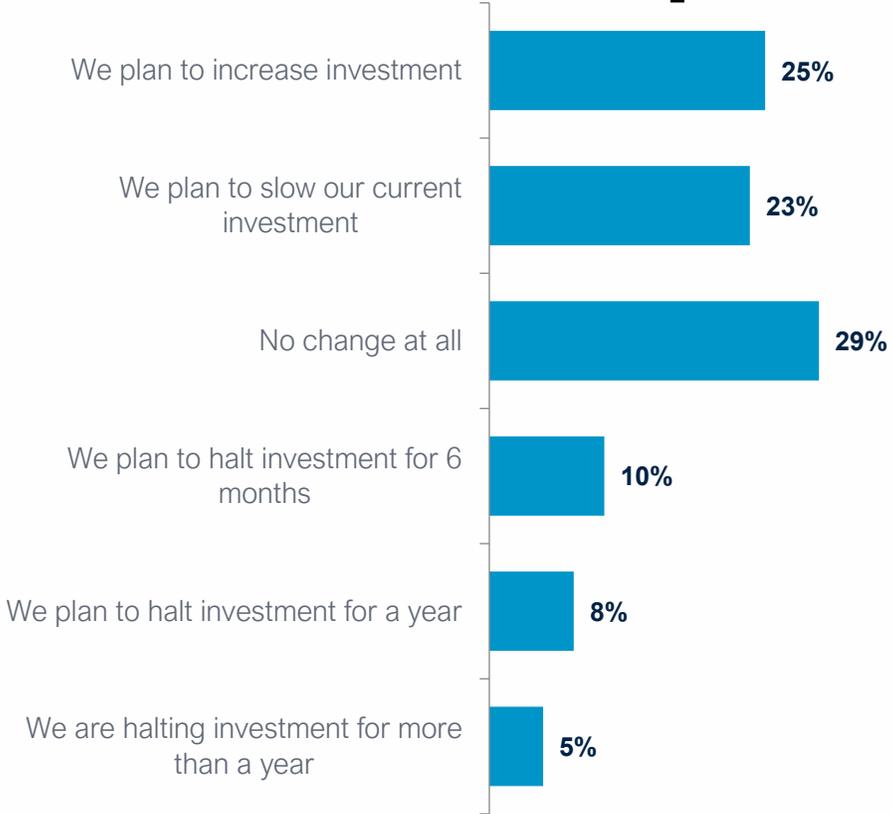
**Question:** What business drivers are impacting your technology strategies/decisions?

Base: All respondents (n=433). Multiple answers allowed.

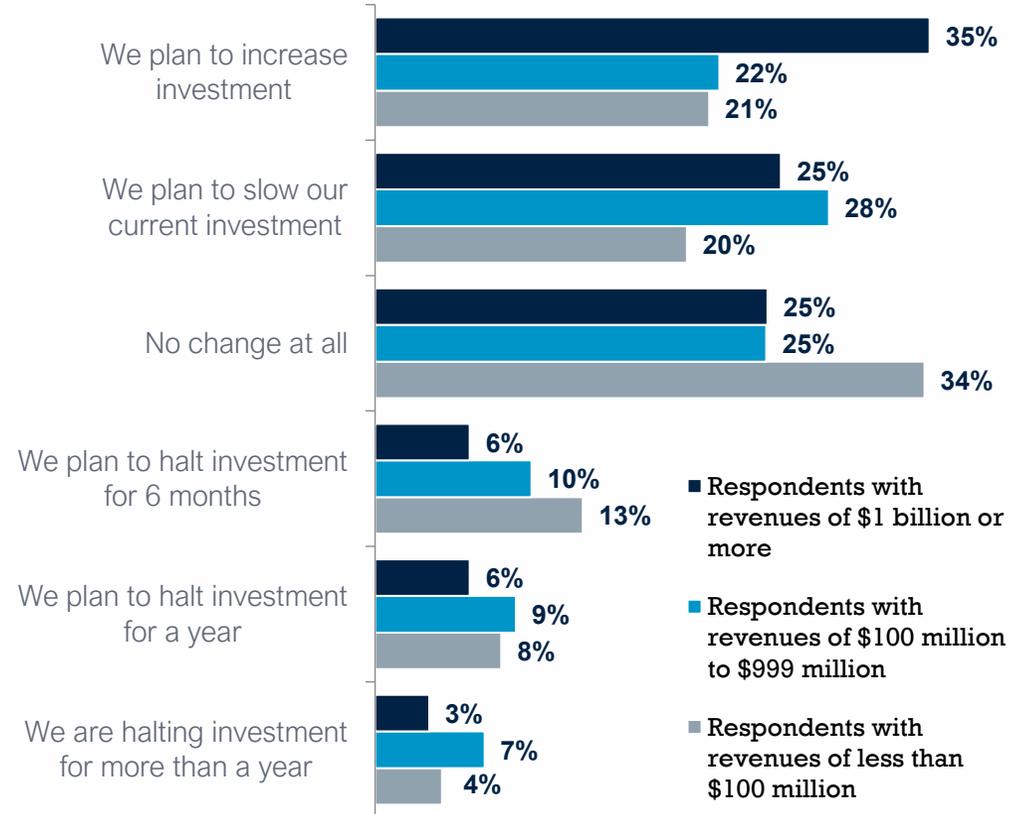
# Covid-19 Impact on Investments

The impact of Covid-19 varies across companies. Twenty-three percent indicate they have halted investments. An additional 23% have slowed investments, while 29% have experienced no change, and 25% plan to increase technology investments.

**All Respondents**



**Responses by Company Size**

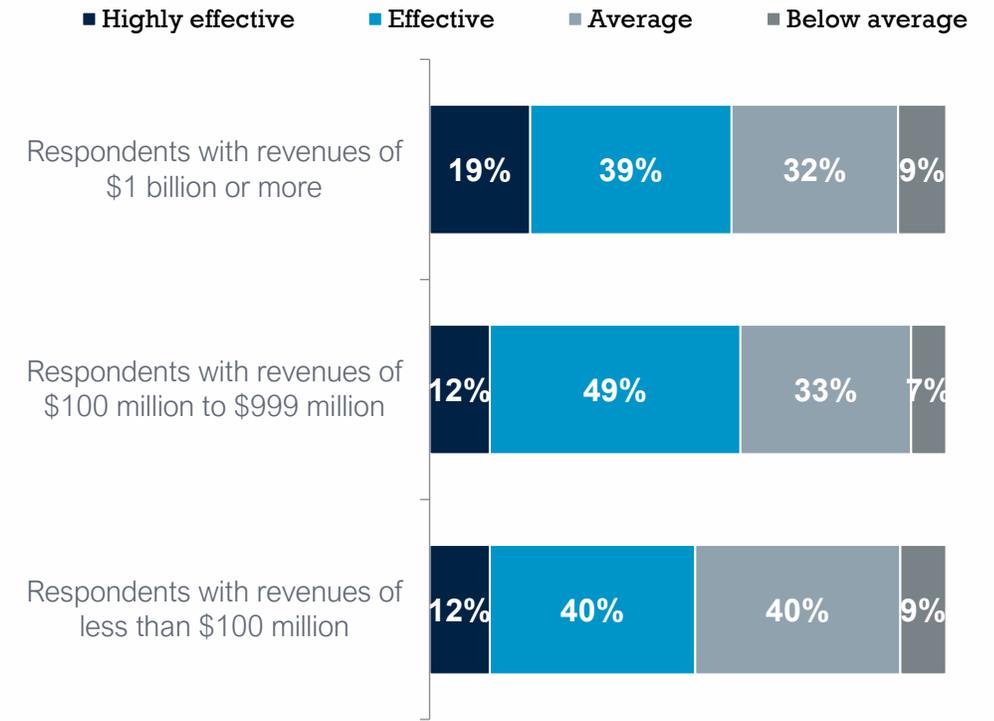
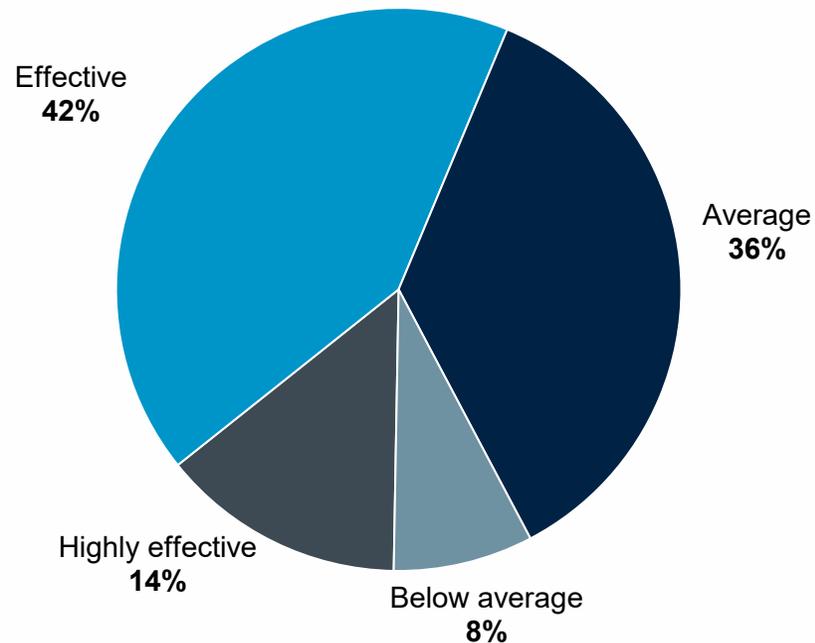


**Question: How has Covid-19 impacted your planned technology investments?**

Base: All respondents (n=438).

# Ability to Leverage Technology

The majority of respondents consider their ability to leverage technology to improve performance as effective or highly effective. Nearly one in five large companies indicate they are highly effective when it comes to leveraging technology to improve performance.



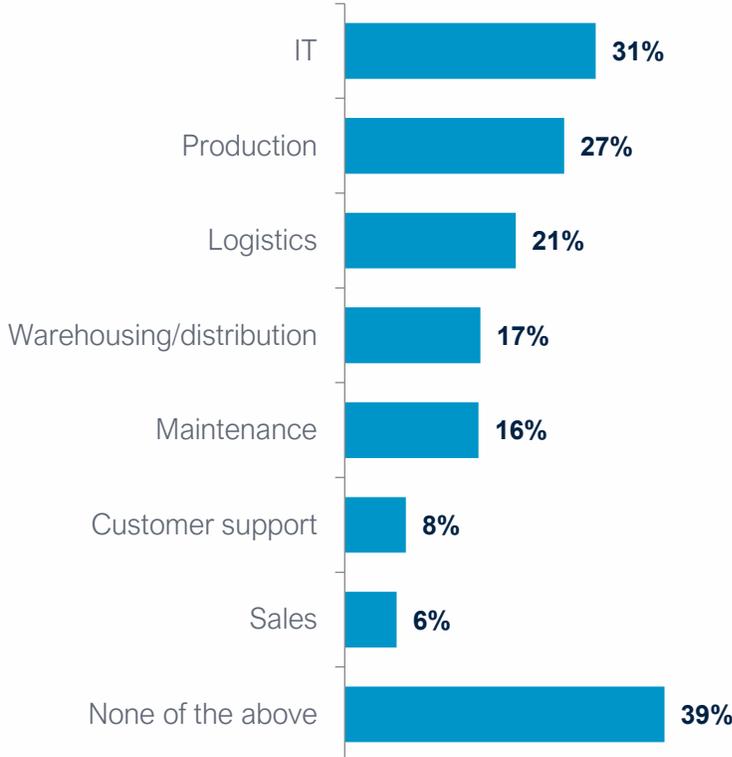
**Question:** How would you rate your ability to leverage technology to improve performance?

Base: All respondents (n = 438).

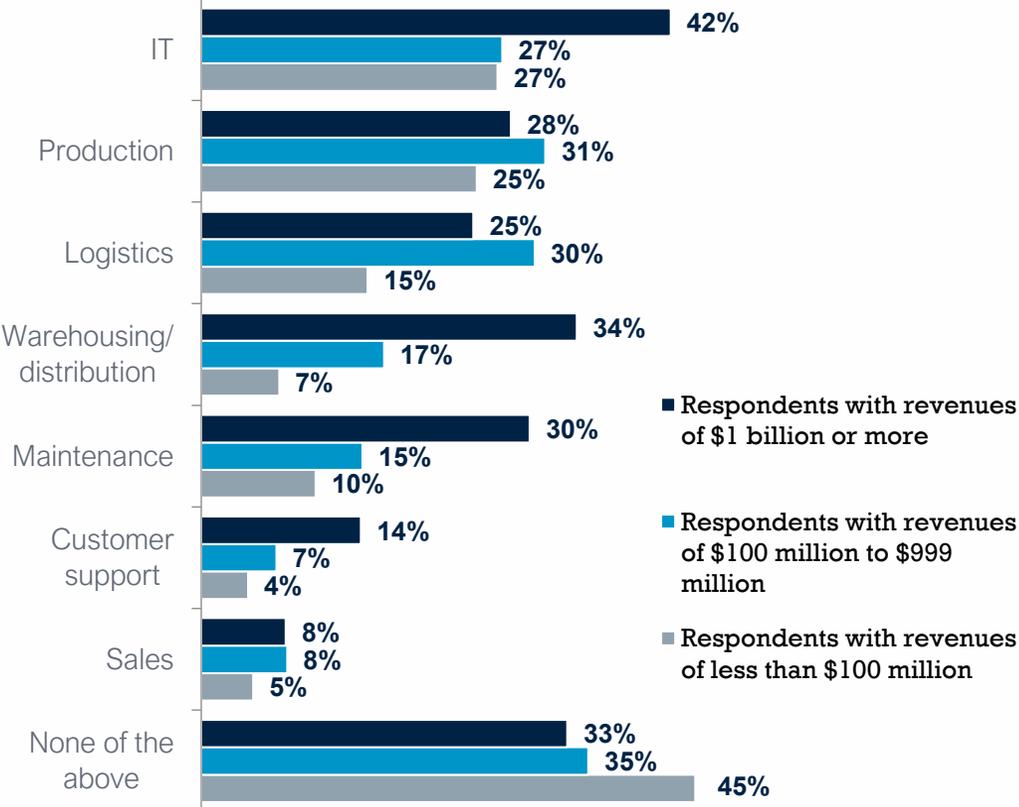
# Current Outsourcing Activity

Sixty-one percent of respondents outsource one or more of the activities listed below. As companies grow, they look to third-party providers to handle non-core functions such as IT, warehousing and distribution, and maintenance.

**All Respondents**



**Responses by Company Size**

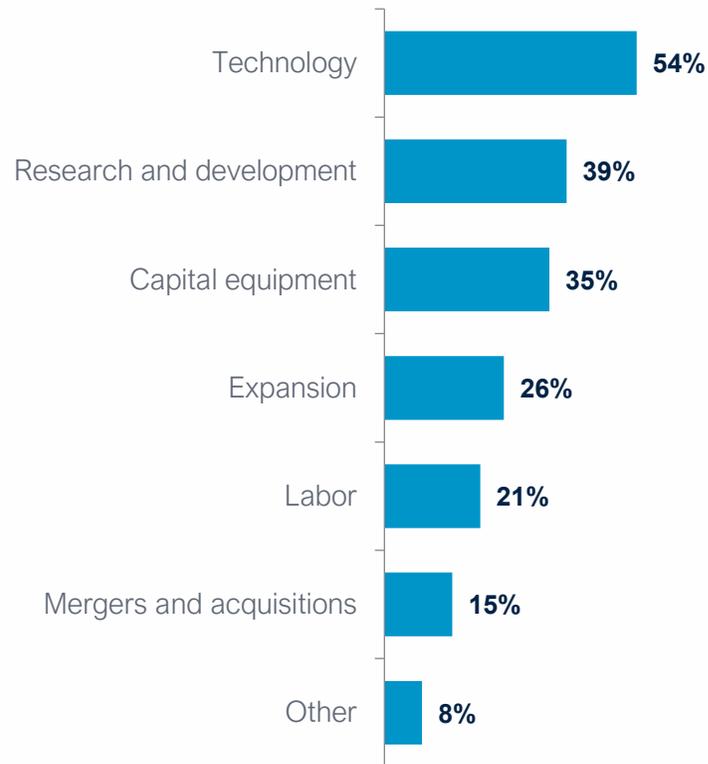


**Question: Are you currently outsourcing a portion of any of the following activities?**  
 Base: All respondents (n=437). Multiple answers allowed.

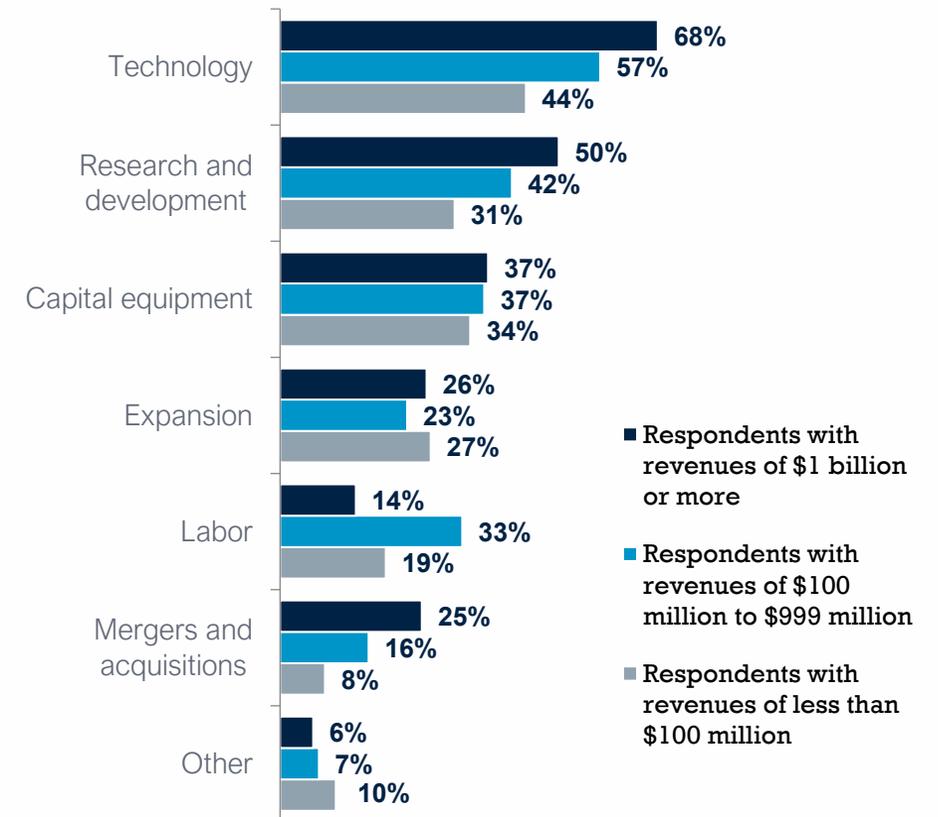
# Top Investment Priorities

Respondents are prioritizing technology, research and development, and capital equipment investments in 2021. Large companies are likely to have investments planned in multiple areas.

## All Respondents



## Responses by Company Size



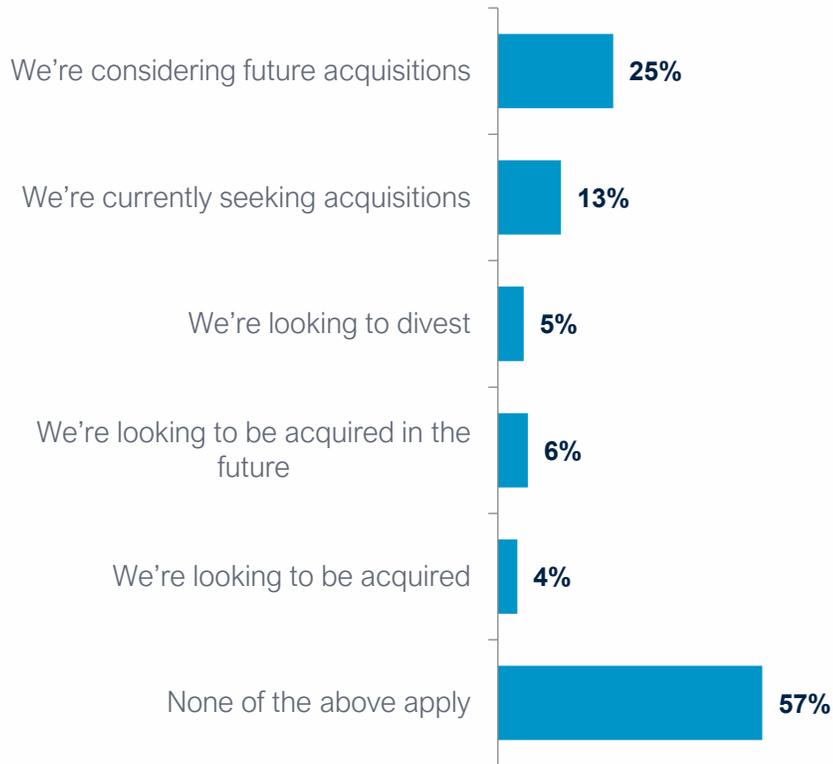
**Question:** Which of the following areas are your top investment priorities in 2021?

Base: All respondents (n=433). Multiple answers allowed.

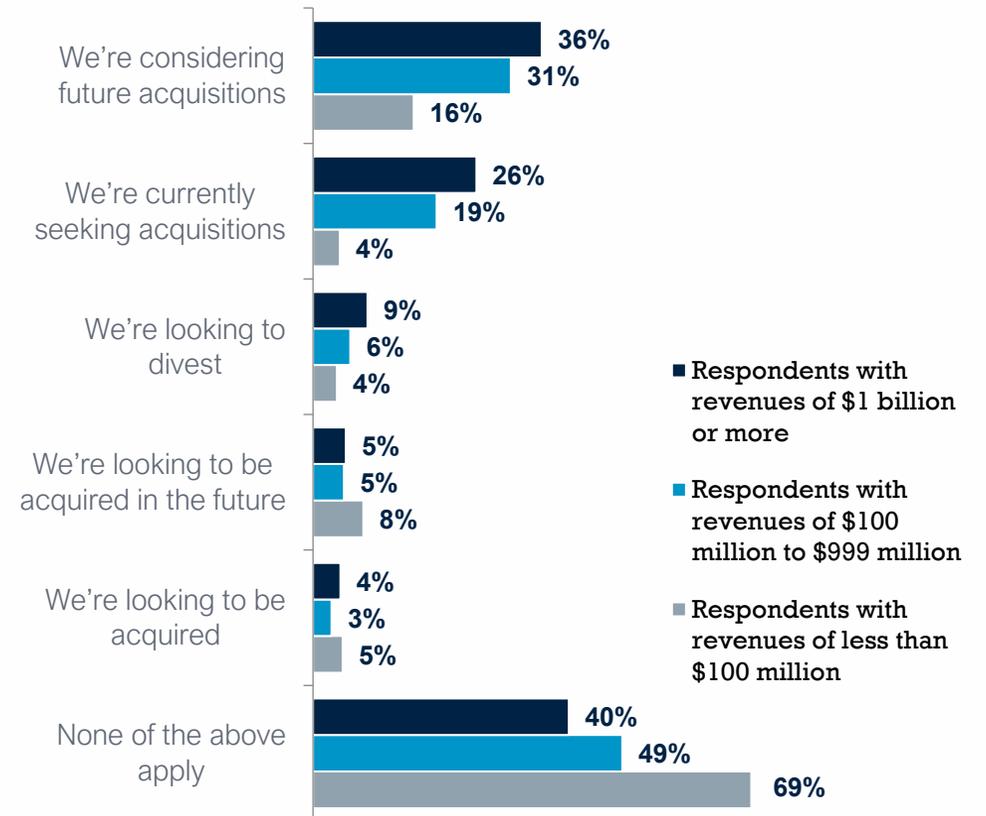
# M&A Activity

The majority of respondents are not currently considering M&A activity. Twenty-six percent of large companies are currently seeking acquisitions, while 36% of large companies are considering future acquisitions.

## All Respondents



## Responses by Company Size



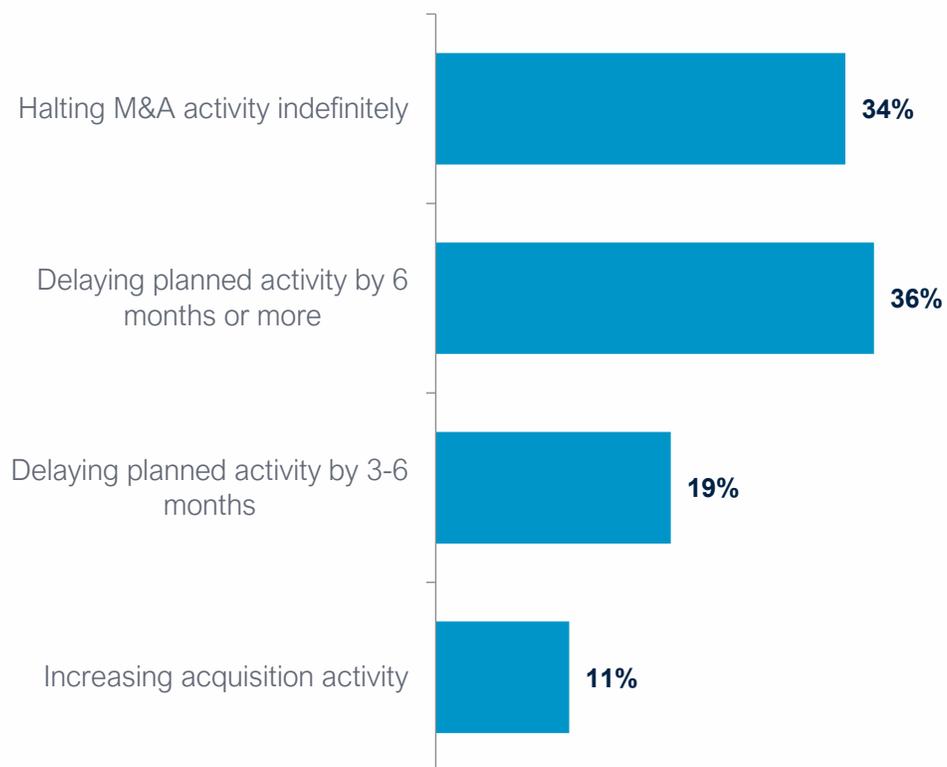
**Question:** How would you characterize your M&A activity?

Base: All respondents (n=438). Multiple answers allowed.

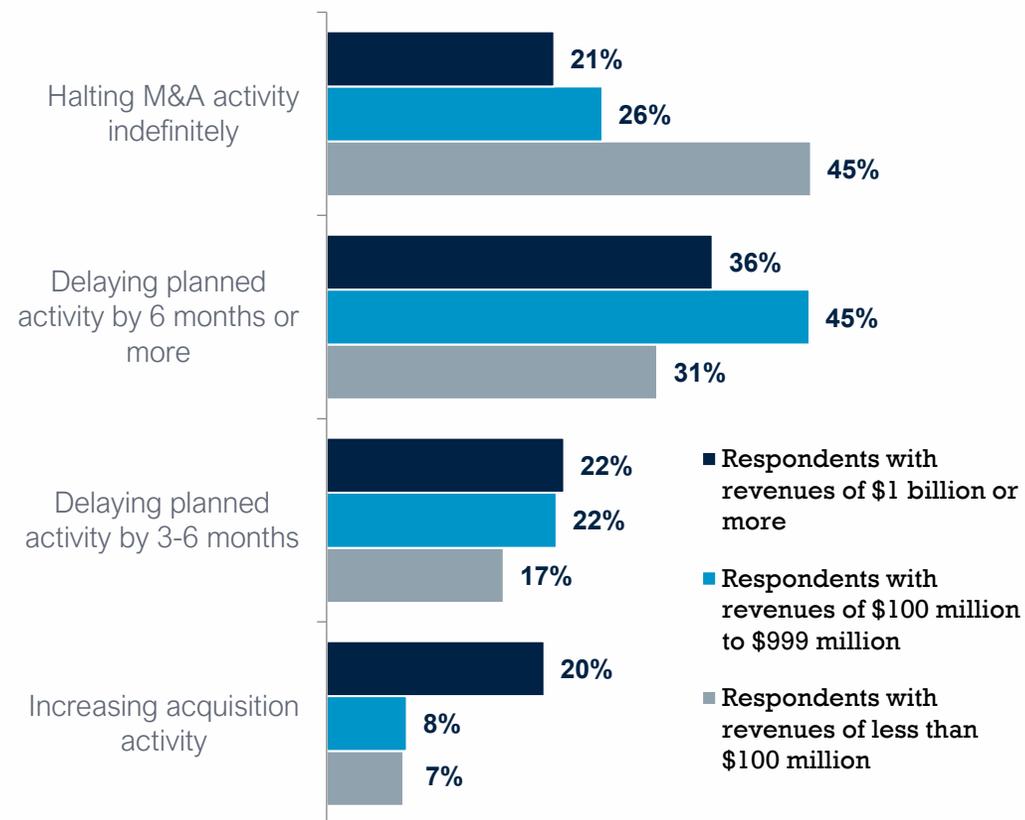
# Impact of Covid-19 on M&A Activity

Covid-19 has had a significant impact on M&A activity, as 36% of respondents indicate they have delayed planned activity by 6 months or more, and an additional 34% have halted activity indefinitely.

## All Respondents



## Responses by Company Size



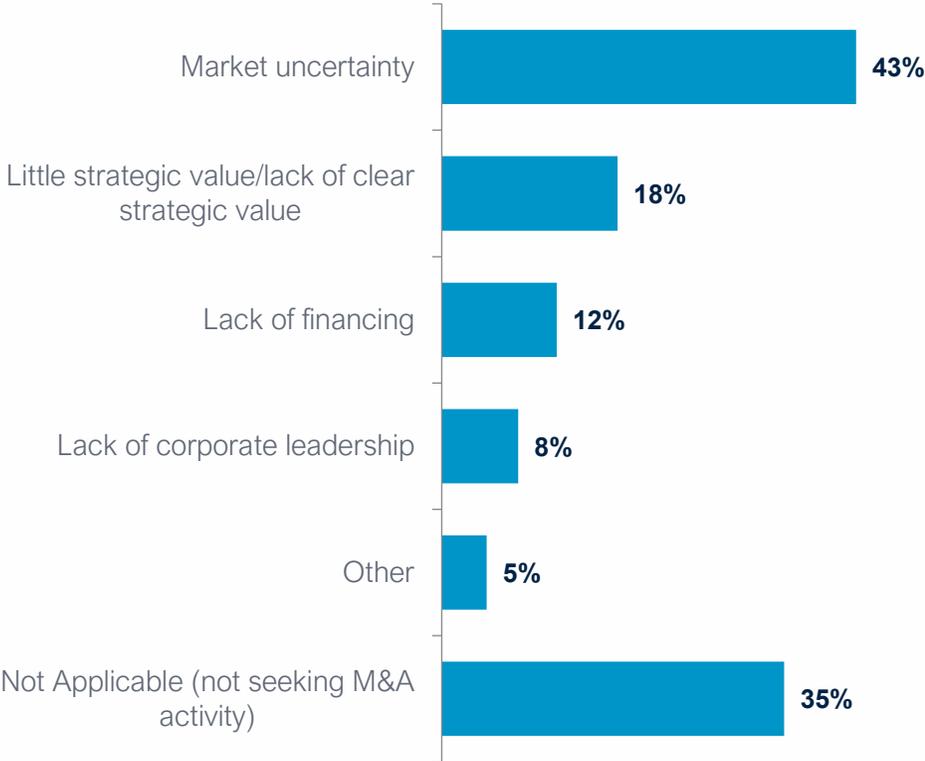
Question: How has Covid-19 impacted your M&A activity?

Base: All respondents (n=383).

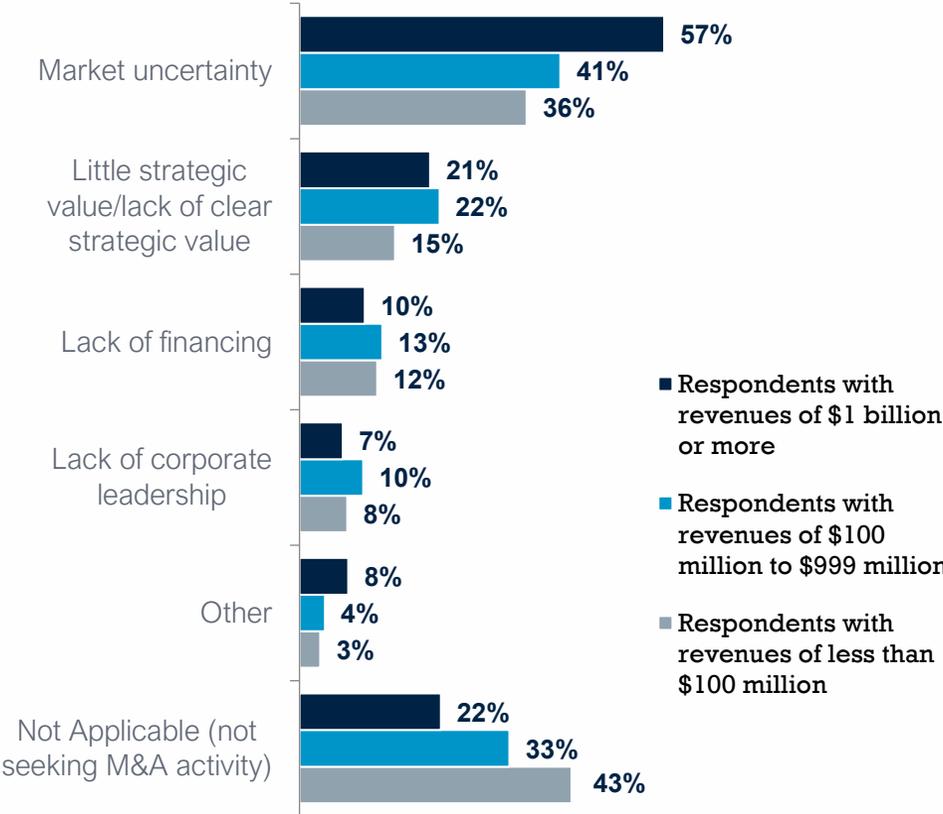
# Greatest Hindrance to M&A Strategy

Market uncertainty is the greatest hinderance to current M&A strategies.

## All Respondents



## Responses by Company Size



Question: What is the greatest hinderance to your current M&A strategy?

Base: All respondents (n=432). Multiple answers allowed.

Write-in Comments

# Write-in comments

What is your company's primary product at your location/division? Other responses:

- Advertising Service
- Advisor – 2 mentions
- Airline
- Appliances
- Architecture & Engineering firm
- Automation Products
- Automotive Electrical
- Business Services
- Cabinet Manufacturers Association
- City Municipality
- Coating and adhesives manufacture
- Computer software
- Consulting – 21 mentions
- Contract Manufacturing
- Economic Development
- Education – 6 mentions
- Electro Hydraulic manufacturer
- Electrical Supply & Industrial Automation Distributor
- Electronic wire and cable
- Electronics Components
- Electronics Manufacturing
- EMS
- Energy
- Engineering – 3 mentions
- Equipment Procurement/Maintenance
- Family entertainment development and ancillaries
- Fluid Power Products – 2 mentions
- Government – 3 mentions
- Grinding, Turning and Milling CNC machine manufacturer
- Health service
- hydraulic repair
- IIoT SW platforms
- Industrial Automation, robotics, cnc, industrial repairs, cable harness lab, system integration
- Industrial Controls via our "Air Logic" systems & components.
- Industrial Development
- Industrial instrumentation
- Industrial textile
- Insurance & safety
- Integration of solutions across industrial manufacturing
- Interiors to vehicles
- Label Manufacturing
- Logistics – 2 mentions
- Manufacturing (Building Products)
- Medical Media
- Metal fabrication
- Mineral Processing Automation
- ML development
- Nonprofit
- Paints- Auto, Powder, GI, HPC, Architectural, etc.
- PCB's for Areo/Mil/Med/products
- PLM and related Software
- Poles, harness/ electric lighting products
- Power distribution
- Power Generation
- Printing Inks
- Products: Mechanical Design, Security, Software, Hardware, VLSI & Testing & Validation.
- Pumps
- Radiation sources – 2 mentions
- Renewable energy
- Robotic Automation
- Safety products
- Services – 9 mentions
- Software – 4 mentions
- Team Rescue
- Technical and Research
- temperature instrumentation
- Tooling Components
- Trade advice.
- Training
- Training online courses
- Utility
- Waste water
- Water Industry
- We are a Workforce Board
- Welding fabrication
- Wood/Plastic Composites

# Write-in comments

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What would you consider to be your top impediments to corporate growth? Other responses:

- AI Knowledge
- All of the above
- Attrition
- Change to electrification
- Commercial airline's financial health
- Company pullback - wait and see
- Covid – 3 mentions
- Culture – 2 mentions
- Digitalization
- Economy & lack of industrial growth.
- Employee attitudes
- Facility Space
- Finding/keeping enough unskilled workers
- Getting training to students
- Industry slow down
- Lack of executive leadership.
- Lack of labor in general
- Lack of leadership qualities; Meritocracy, Pragmatism & Ethics (consisting of character & competencies)
- Lack of management full support
- Lack of manufacturing expertise in a variety of industries
- Lack of open mind from management to invest in new ways to improve.
- Lack of skilled management
- Lack of skilled workers comes up over and over in discussions with Manufacturers.
- Loss of tribal knowledge caused by too many reorganizations
- Market adoption of IIoT
- Market Saturation
- Marketing
- Organizational culture
- Process adherence.
- raw material price increases
- Retaining existing clients
- Revenue
- Stalling markets
- Students

# Write-in comments

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What are the top inhibitors to expanding your market reach? Other responses:

- 30 years of tradition unimpeded by progress
- Ability to promote.
- Access to other industries
- Appropriateness
- being known to potential customers
- Big growth in the last 6 years
- Business development
- Business Development/Sales
- Commercial Partner
- company debts
- Competition – 2 mentions
- Corporate Constraint
- Covid – 3 mentions
- COVID pandemic Governmental restrictions
- Covid restrictions worldwide
- Current demand
- Customer control
- Customer's investment
- Economy & lack of industrial growth
- Fear of failure
- Gaining credibility
- Global regulations & compliance to thereof
- Government
- Government privacy & employment laws
- In-house development
- Internal Revenue Service
- International Competition
- Lack of ability to handle coursework. Lack of advanced technology platforms to do CAD virtually at home, poorer households.
- Lack of ability to be on factory floor during pandemic
- Lack of management talent
- Lack of marketing skills
- Limited floor space
- Local market intelligence
- Management overload, no time
- Managing to continuously improve and adapt.
- Market is mature
- Market Knowledge
- Market readiness and risk aversion
- Marketing – 2 mentions
- Marketing
- Pandemic limiting business development opportunities
- Partnered competition
- Partnerships
- Penetrating military markets
- Production capability
- Raw materials supply issues
- Regulations
- regulations in foreign countries
- Revenue
- Sales Strategy
- Shortage of business development resources
- Skill labor shortage
- Strategy shortcomings
- Technical expertise
- Technology change/innovation
- Trained Resources
- Travel restrictions
- Upper management
- We have a made to order product

# Write-in comments

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Which of the following technologies have you implemented? Other responses:

- 3D CAD
- Autocad
- Data mining
- Digitalization
- Direct Targeted Marketing
- Off site data storage
- Robust Continuous Improvement employee program
- WMS

Which of the following technologies would you be interested in implementing? Other responses:

- 3D printing of rubber & plastic molds
- Blockchain – 2 mentions
- FEA
- JIT
- lean
- Macroeconomic Analysis
- management & presentation of BIG DATA in real time
- Not considered with current executive leadership team.
- Other more affordable & scalable options as a
- replacement for Open Text prosthetics
- Supply chain control tower
- Training

What business drivers are impacting your technology strategies/decisions? Other responses:

- Budget
- CAPEX availability
- Cash flow
- Community growth
- Cost – 5 mentions
- Cost to experiment
- Cost to implement these technologies
- COVID pandemic Governmental restrictions
- Customer collapse due to no jobs
- Customer is the boss
- Economy
- Funding
- Insufficient financing
- International Competition
- Lack of customer awareness.
- Lack of skilled labor & training of such
- Leadership
- Logistic Lead Times
- Marketing
- Needed commercial partners
- Next future market demands
- R&D Enablement
- Revenue
- Total landed costs
- We see all these factors at play in customer decisions
- With latest trends

# Write-in comments

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Which of the following areas are your top investment priorities in 2021? Other responses:

- AI
- balancing the current portfolios to ensure productivity & ROI
- Compensation
- Customer analysis
- Demand Sensing
- Digital presence
- Diversification
- Diversity
- Keeping the doors open due to the COVID pandemic
- Governmental restrictions
- Legal Tax changes
- Market Research
- Marketing – 3 mentions
- Marketing and Sales
- Marketing/Strategy skills
- new market penetration
- New Product Introductions
- Our customers are investing in Tech and M&A activity
- Patents
- put on hold currently
- Sales – 2 mentions
- Sales and Marketing
- Survive
- Survival of the economy
- Time to value
- Training

What is the greatest hinderance to your current M&A strategy? Other responses:

- COVID pandemic
- Governmental restrictions
- Currently restructuring previous acquisitions - no bandwidth
- Economic uncertainty
- Higher priorities
- Just merged
- Lack of acq targets
- Lack of AI programming.
- Lack of appropriate targets
- Lack of management
- Price
- Quality from supply stream resources
- Right Fit
- Sought major Maritime partner
- Speed to close

**Thank you!**

