



ISM-NEW JERSEY *BREAKFAST MEETING*

Presented by CAPS Research

22 February 2024

CAPS Research provides insights to
supply chain leaders at
leading global companies.

**Measure up.
Move forward.**



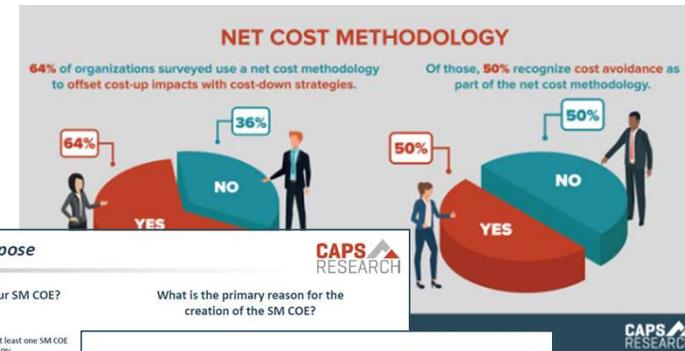
A BRIEF BIO – DENIS WOLOWIECKI



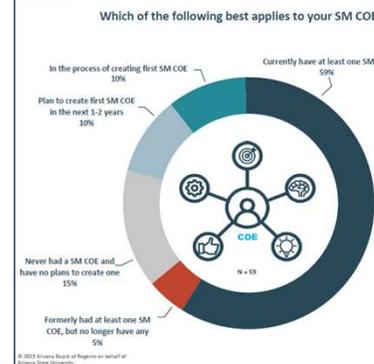
- Executive Managing Director of CAPS Research
- Nearly 30 years of leading Supply Chain and Procurement transformations in several industries
- Strategic consulting experience with TriVista, Accenture and KPMG
- Executive leader at Neenah Foundry, Vitalant, Husqvarna, Aleris, and Goodyear Tire & Rubber
- Industry experiences include Oil & Gas, Aerospace, Metals, Machinery, Automotive, and Healthcare
- DWolowiecki@CAPSResearch.org
- <https://www.linkedin.com/in/dmw500/>

CAPS RESEARCH

- Center for **A**dvanced **P**rocurement **S**trategy (CAPS)
- Established in 1986 through an agreement with Arizona State University and ISM
- Services provided:
 - *Benchmarking, Metrics & Best Practices*
 - *Primary Research on leading topics*
 - *Networking among Executive Leaders*
- Improving the supply management profession with *actionable insights*



2023 SM COE – Prevalence and Purpose



What is the primary reason for the creation of the SM COE?

4.1. Drivers of Category Management Effectiveness

Several factors are perceived to be responsible for the effectiveness of category management. In the survey with executives, we asked them to indicate on a scale from 1 (not important) to 5 (extremely important) the factors driving effectiveness in category management. Figure 10 shows the average levels of importance reported by the executives. Alignment with business drivers was rated as the most important (5/5), followed by training of category team (4.42/5) and close relationships with suppliers (4.42/5), top management support (4.25/5), and organizational design (3.75/5).



4.2. Other Critical Success Factors for Effective Category Management

Implementing category management was not smooth sailing for many of the organizations that we interviewed. Several barriers, including resistance to change and lack of understanding of the initiative, were encountered. The barriers encountered were overcome by implementing the following key success factors:

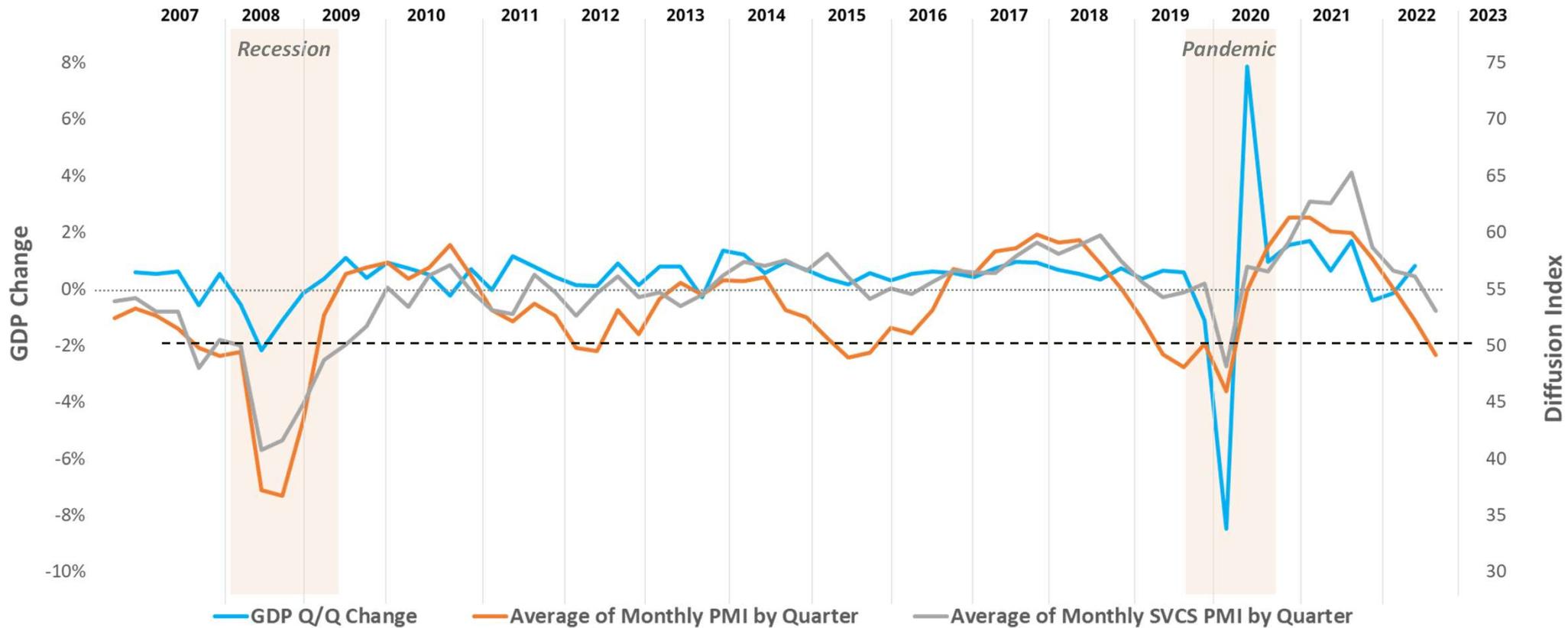
- Stakeholder education and engagement
 - People tend to resist change due to a lack of understanding of what the change is about and the potential impact of change. Effective education, communication, and consultation with relevant stakeholders about the change and the reasons for the change help to alleviate such fears.
- Articulating the value of category management to the business
 - "You need to understand what the business drivers are ... what is important to the business, and develop the value proposition of category management to help the business succeed"



Economic Outlook

(A high-level, macro view.)

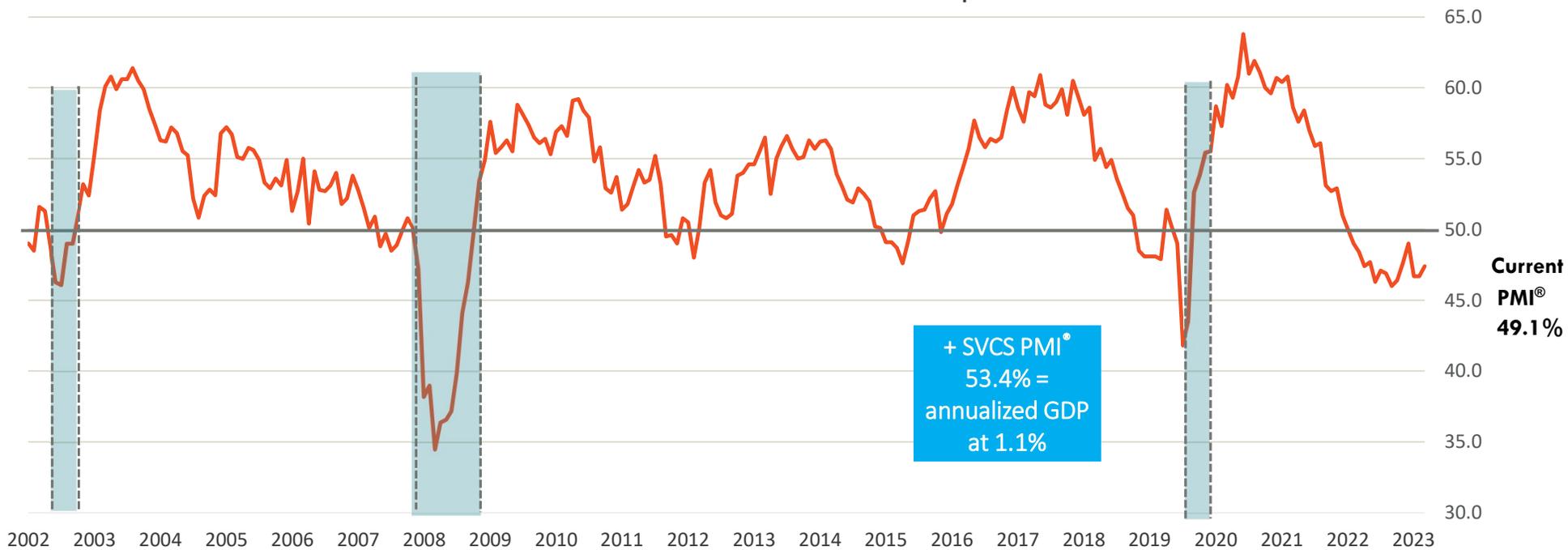
GDP, MANUFACTURING PMI[®], AND SERVICES PMI[®] (2007- LATE 2023)



PMI® 2002 - 2024

We are 15 Months into Contraction out of a Typical 35+ Month Expansion Cycle

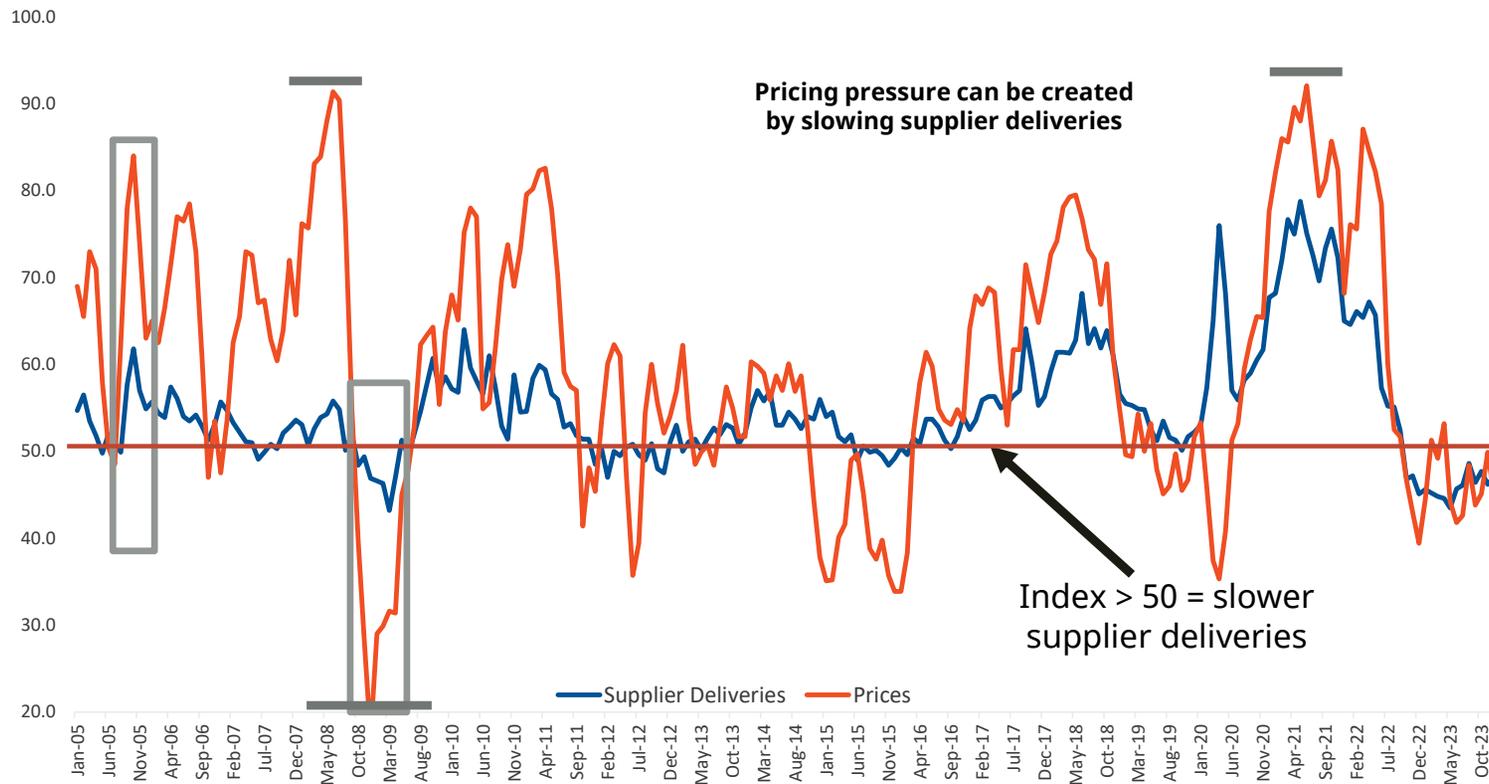
U.S. Economic Outlook and GDP 'Speedometer'



Shaded areas indicate U.S. recessions

LEAD TIMES, MARKET CONDITIONS, COMMODITY DETAIL

ISM[®] Manufacturing Supplier Deliveries and Prices 2005-2024



Up in Price

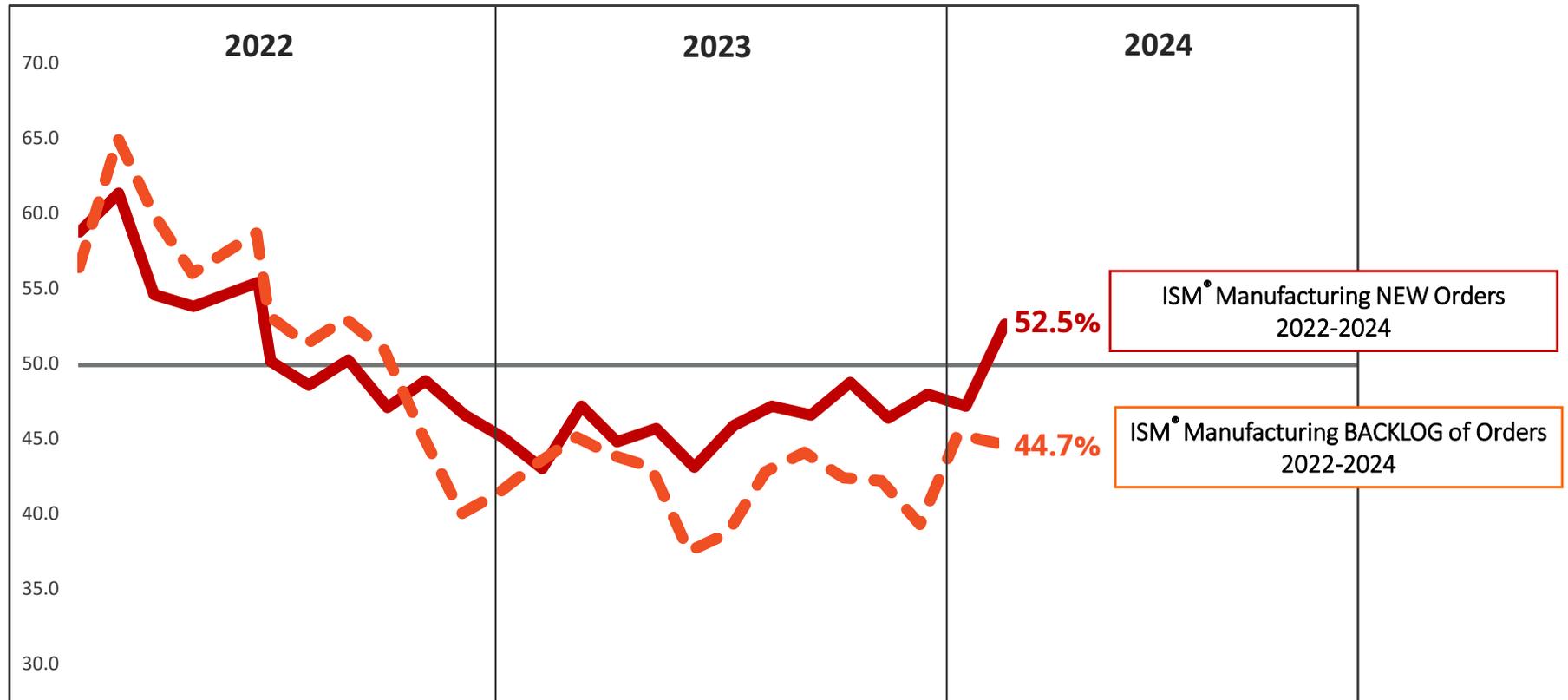
- Aluminum (2)*
- Labor — Temporary (5)
- Ocean Freight
- Plastic Resins
- Polypropylene (4)
- Steel (7)
- Steel — Carbon
- Steel — Hot Rolled (3)
- Steel Products (2)
- Steel Wire

Short Supply

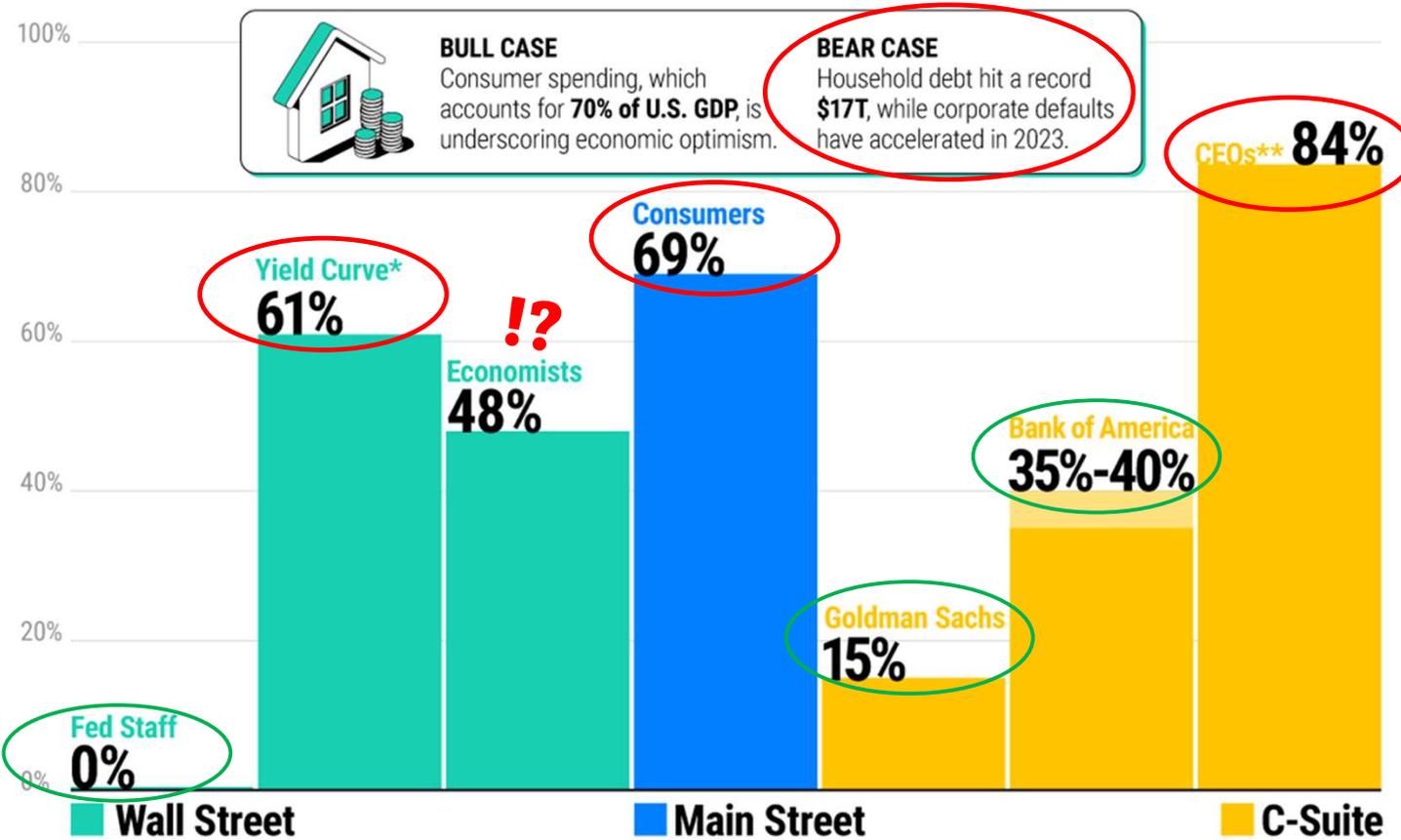
- Electrical Components (40)
- Electronic Components (38)
- Steel — Alloy

*indicates both up and down in price

MANUFACTURING BACKLOG AND NEW ORDERS INDICES



WHO THINKS A RECESSION IS COMING - NEXT 12 MONTHS?



BULL CASE
Consumer spending, which accounts for **70% of U.S. GDP**, is underscoring economic optimism.

BEAR CASE
Household debt hit a record **\$17T**, while corporate defaults have accelerated in 2023.

Fed Reserve Staff and Banks indicated a LOW risk of a recession in the next 12 months.

However, the spread on Treasury bonds, Consumer sentiment, and 84% of CEOs surveyed indicate a HIGH risk of a recession.

CAPS Research notes record levels of consumer credit card debt, and we see anecdotal evidence of budget tightening across our corporate members.

Source: Federal Reserve Bank of New York, Wolters Kluwer, The Conference Board, Goldman Sachs Investment Research, Bank of America. Data based on surveys and projections conducted August-September.

*Based on a New York Fed model estimating recession probabilities using 10-year minus 3-month Treasury yield spreads, based on data from 1959-2009.

**Conference Board Q3 CEO survey probability of a recession over the next 12-18 months.

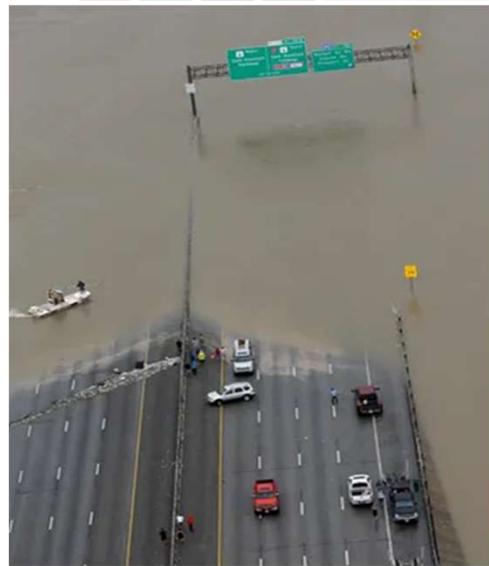
Source: <https://advisor.visualcapitalist.com/u-s-economic-forecasts-whats-the-probability-of-a-recession-in-2024/>



Risk & Resilience

(EVERYONE has skin in this game.)

CAN YOU SPOT THE SUPPLY CHAIN RISK?



WHERE TO BEGIN? BASIC DEFINITIONS

RISK – Exposure to danger, harm, disruption, or significant loss

RECOVERY – Return to a normal state; re-taking control

RESILIENCE – Toughness; the ability to recover quickly from disruption

MITIGATION – Actions that reduce the severity or impact of a problem

AVOIDANCE – Actions to prevent, keep away, or nullify a risk

Supply Chain leaders should focus on AVOIDANCE and MITIGATION, resorting to RESILIENCE and RECOVERY only when necessary

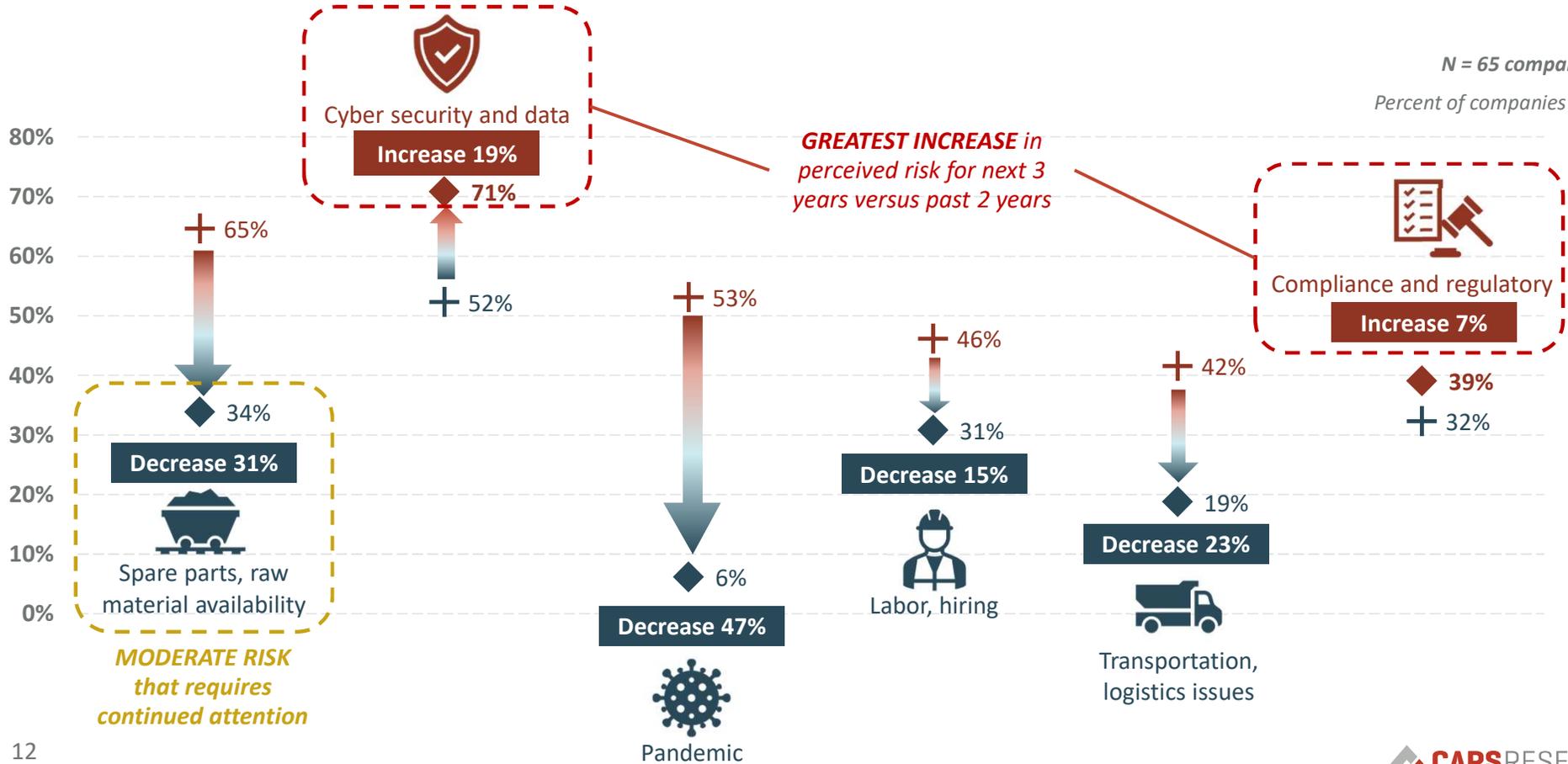
LEVEL OF RISK – 2021-2022 (PAST 2) VS. 2023-2025 (NEXT 3)

+ Considered high risk the last two years

◆ Considered high risk for the next three years

N = 65 companies

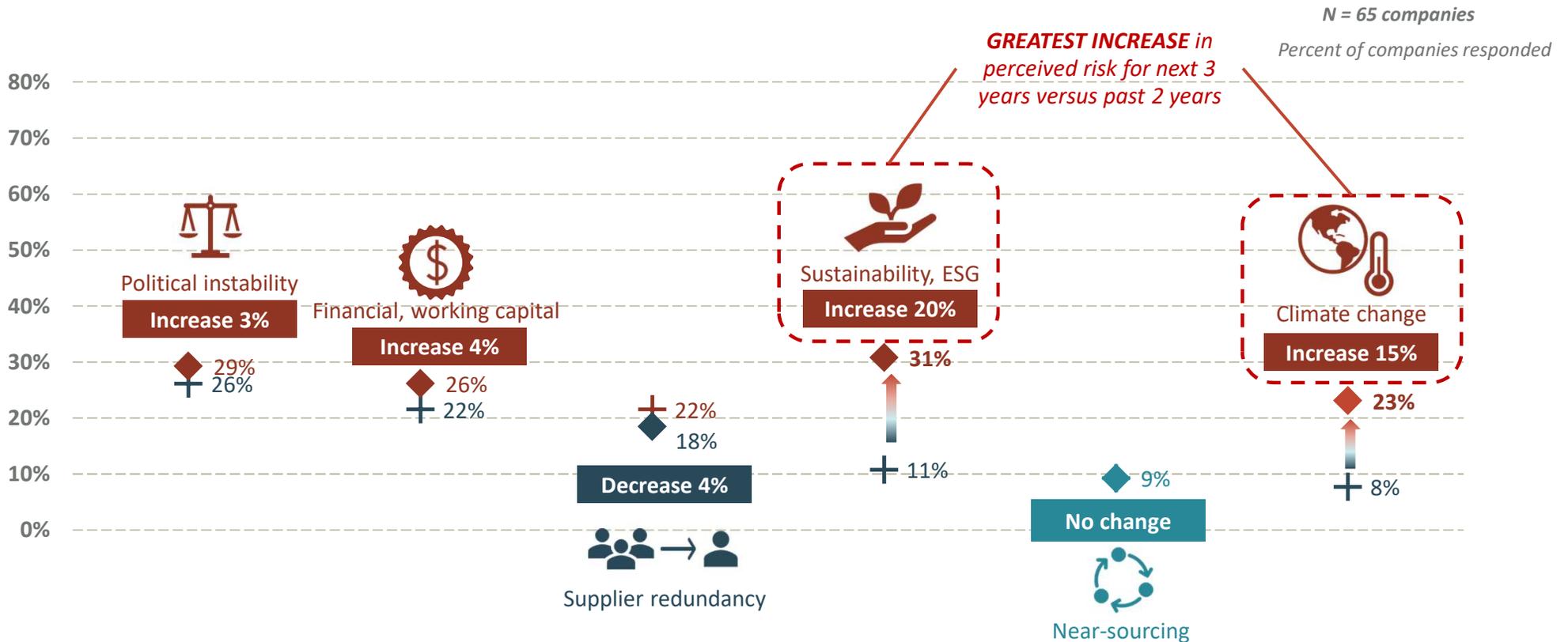
Percent of companies responded



(CONTINUED) LEVEL OF RISK – 2021-2022 VS. 2023-2025

+ Considered high risk the last two years

◆ Considered high risk for the next three years



OPERATIONAL RISKS & PREPAREDNESS (2023)

What are the major risks that your firm and supply chain faces?

Inflationary impact

Increased price of goods, services, energy, wages, etc.



72%

Poor/zero visibility into 2nd tier suppliers and beyond



61%

Labor shortages/ lack of skilled workers



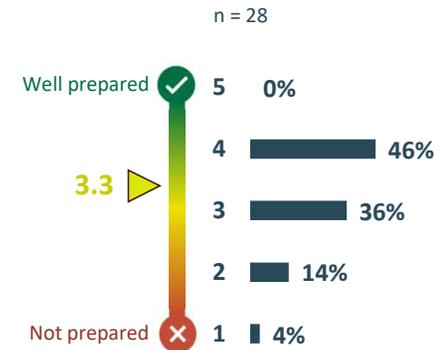
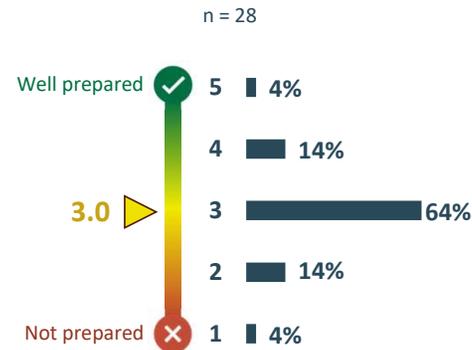
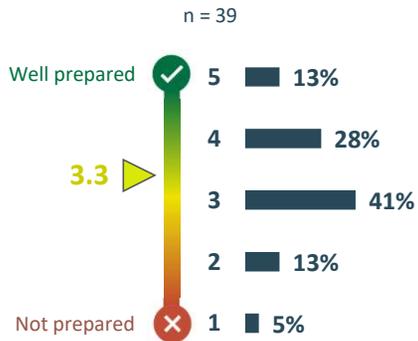
52%

Supply shortages



52%

To what extent is your organization's supply chain prepared to handle the risk?

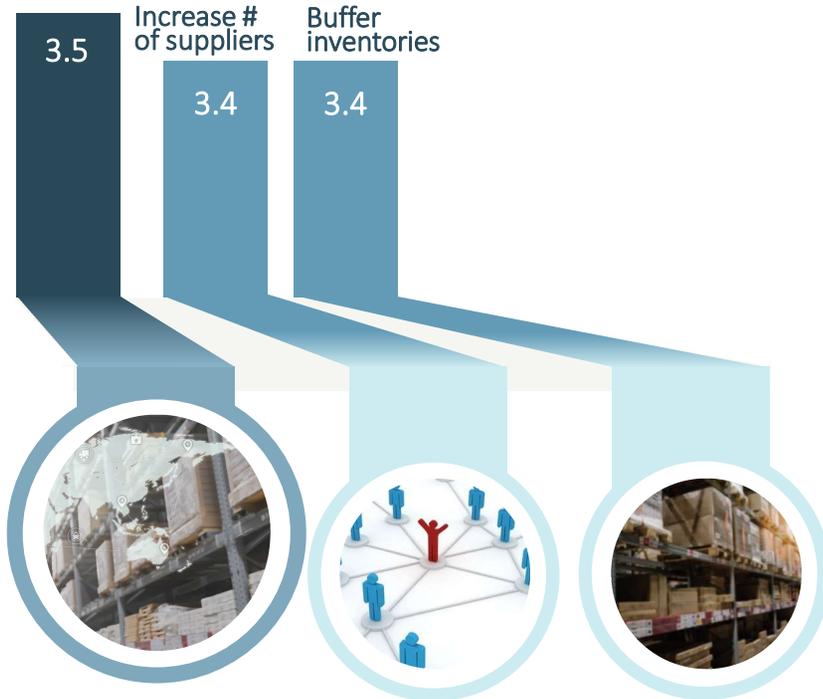


MANAGING GEOPOLITICAL & OPERATIONAL RISKS (2023)

Geopolitical Risks

1: No Use, 5: High Use

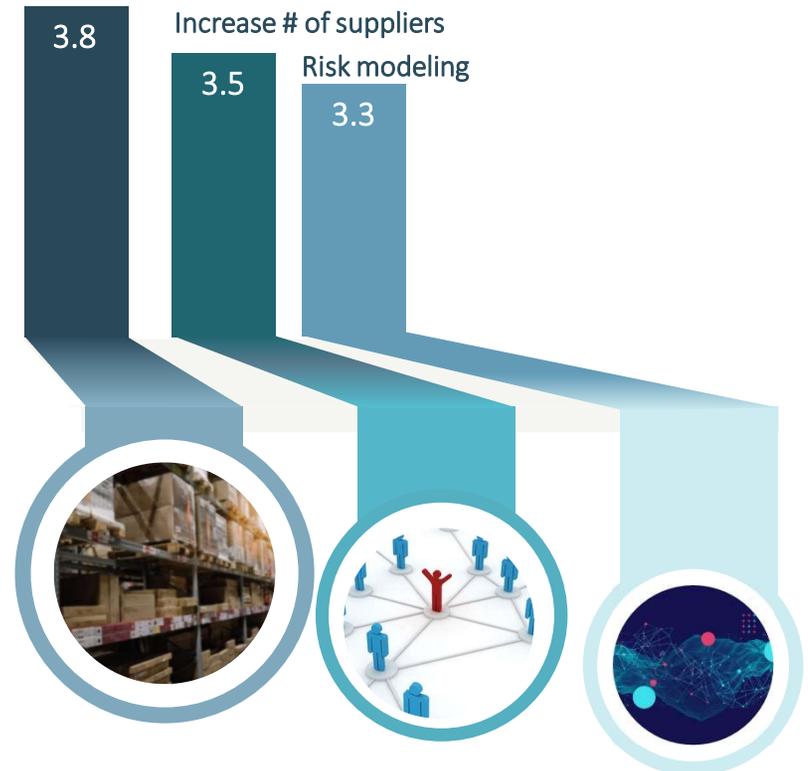
Increase # of countries as sources of supply



Operational Risks

1: No Use, 5: High Use

Buffer inventories



TOP RESPONSES FOR MANAGING GEOPOLITICAL RISK (2023)



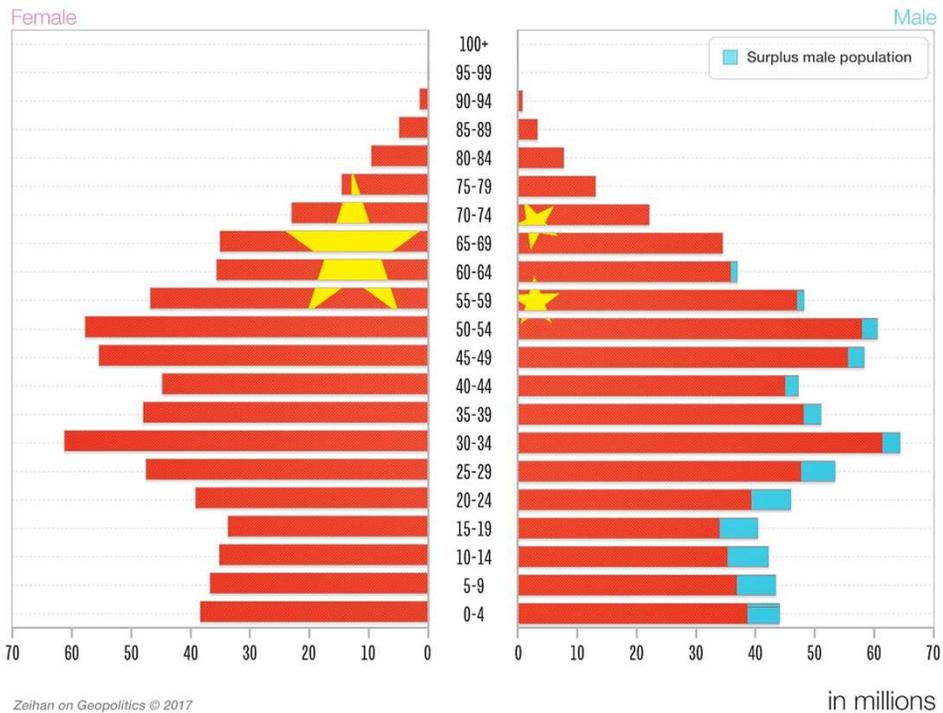
WHAT DO WE MEAN BY “X-SHORING”

- **Onshoring / Re-Shoring** – *Bringing it home*
- **Nearshoring** – *Shortening the supply chain*
- **China + 1** – *Mitigating risk by dual or triple sourcing*
- **Region-for-Region** – *Disaggregating to serve individual regional markets*
- **Friendshoring** – *relocating to politically supportive countries*

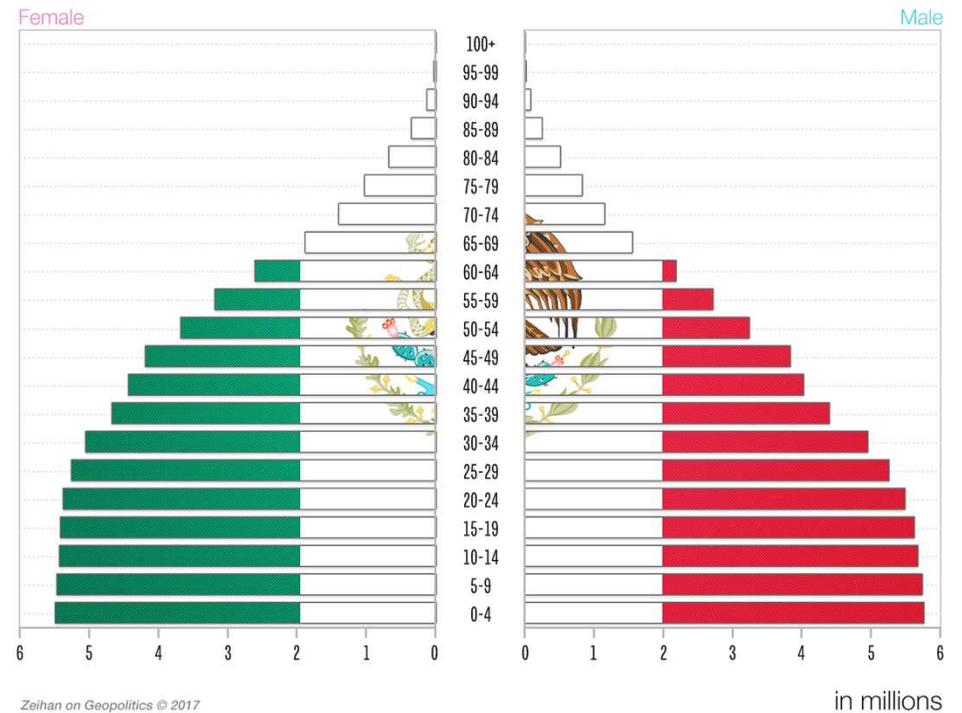
The X-Shoring strategies are directed at rebalancing supply chains and mitigating risks

LABOR FORCE IS AN IMPORTANT X-SHORE CONSIDERATION

CHINA DEMOGRAPHY 2020



MEXICO DEMOGRAPHY 2020



Key Facts

- China's population is **11x** Mexico's population but labor costs rising!
- 15-44 year demographics skewed by one-child policy; young singles,
- However, China has **extensively developed** industry supply networks

Key Facts

- Mexico's population has a more sustainable pyramid profile
- A smaller but significant workforce that is **logistically closer to the US**
- But with weaker supply networks, cartel violence and freight theft

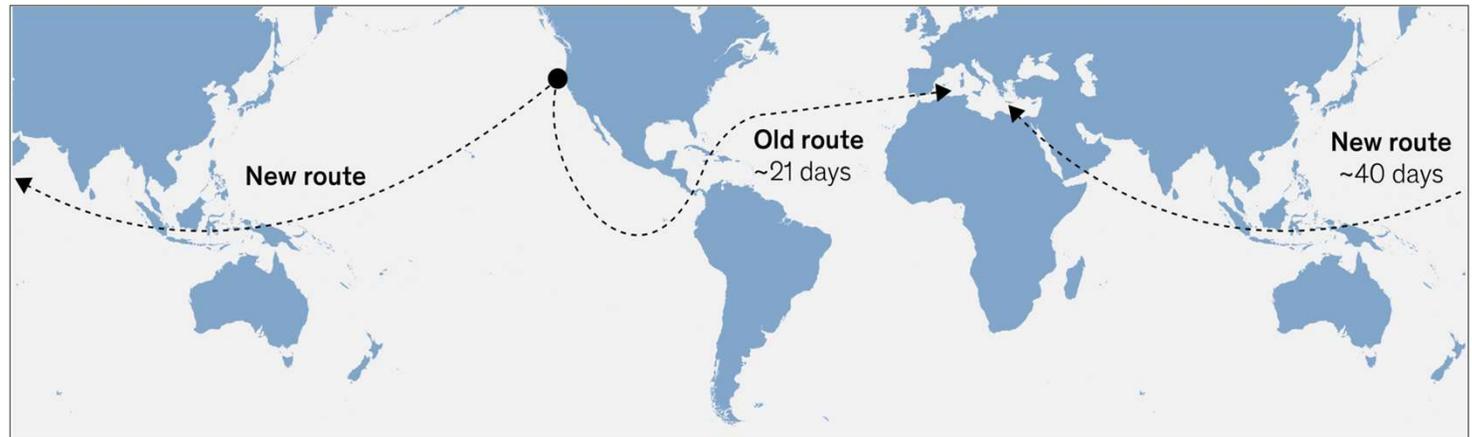
OCEAN LOGISTICS LEAD TIME IS ANOTHER CONSIDERATION

Asia to US East Coast
+13 days



US West Coast to EU
+19 days (minimum)

Red Sea issues must also be considered

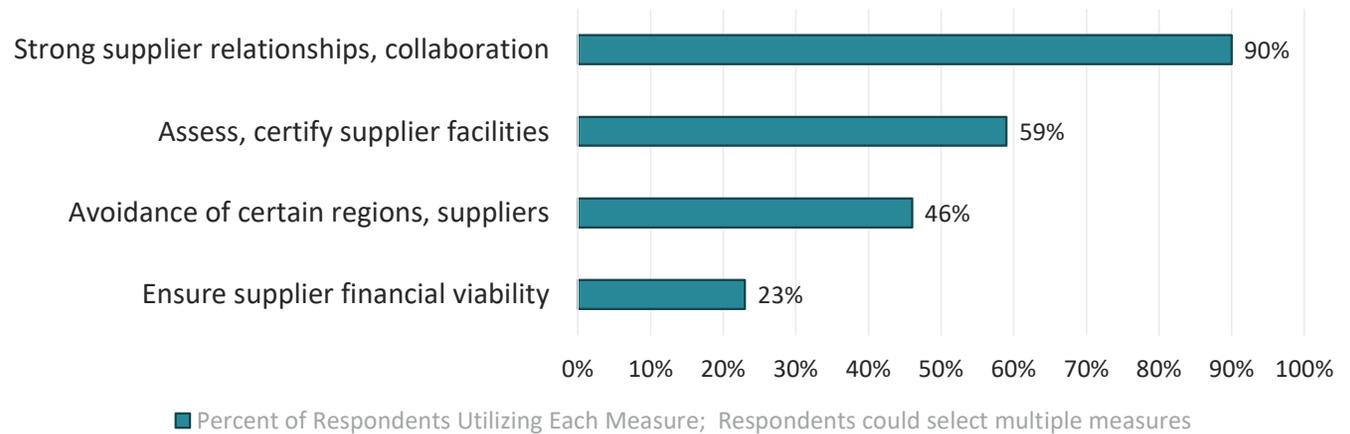


SUPPLY CHAIN MAPPING FOR RISK & RESILIENCY (2021-2022)

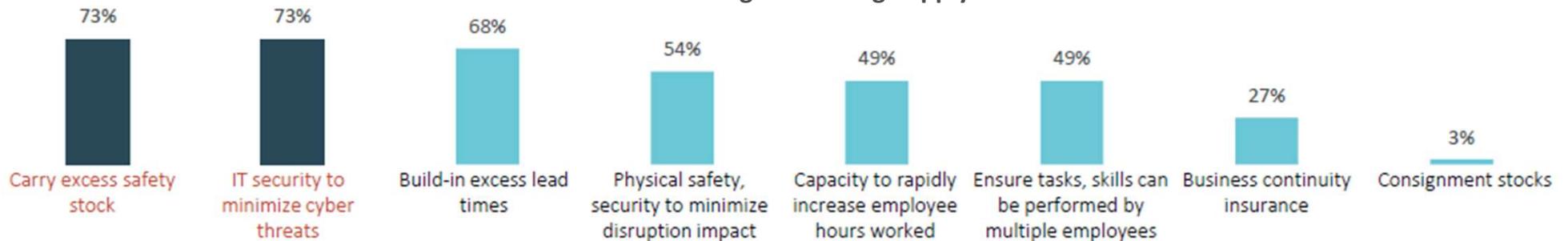
2/3 of Companies Do NOT Map Risks



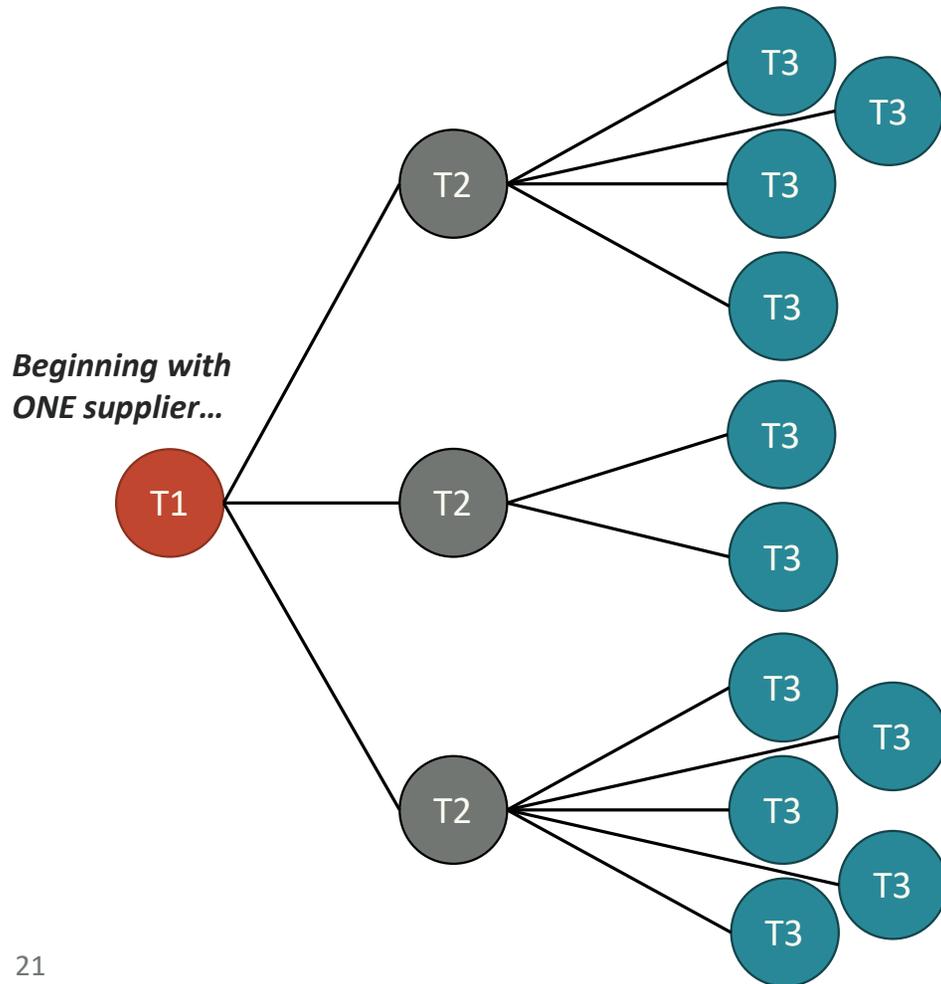
Supplier Interaction Strategies to Aid Resiliency



Methods of Buffering & Assuring Supply



MAPPING THE RISKS IN SUPPLY NETWORKS IS DIFFICULT



KEY INSIGHTS from CAPS Research

- Supply chains are **often global** – spread over many regions of the world
- Only **1/3 of companies proactively map risks** and very few assess Tier 2 risks
- **A proliferation in supplier count and the complexity of assessment** means that most companies do not assess Tier 3+ risks
- **Difficult to predict and manage** geo-political upsets, financial breakdowns or natural disasters; most companies respond to these situations after-the-fact
- Supplier risk mapping is dependent on ***skilled people to take action, persistent efforts***, and ***cooperation from suppliers***

KEY TAKE-AWAYS ON RISK MITIGATION & AVOIDANCE

- Companies tend to be avoiding the more strategic solutions
- This is likely because strategic solutions are more difficult and time-consuming to implement
- Suppliers tend to hold information “close to the chest” for fear of repercussions or disadvantaged negotiations
- Companies tend to be pressing the “Easy Button” and implementing dual/triple sources and adding buffer inventory
- The easy solutions tend to increase operating costs while also creating process complexities and other risks
- Resorting to the “easy” approach is likely related to a shortage of analytical skills and experienced supply chain talent



Cyber Risk & Resilience

(This deserves a special section.)

CYBER-RISK IS EVERYONE'S RISK IN A CONNECTED WORLD

Malwarebytes LABS Personal Business Pricing Partners



NEWS | RANSOMWARE

Chip company loses \$250m after ransomware hits supply chain

Posted: February 20, 2023 by Pieter Arntz

CPO MAGAZINE HOME NEWS INSIGHTS RESOURCES



CYBER SECURITY NEWS · 4 MIN READ

Toyota's Supply Chain Cyber Attack Stopped Production, Cutting Down a Third of Its Global Output

ALICIA HOPE · MARCH 9, 2022

Novartis Latest Target in Cyberattack Extortion Plot

Published: Jun 07, 2022 | By Alex Keown



CYBER SECURITY INTELLIGENCE Search News

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Update: BBC, British Airways & Boots In Supply Chain Attack

Uploaded on 2023-06-07 in TECHNOLOGY--Hackers, INTELLIGENCE-Hot Spots-Russia, FREE TO VIEW

PHARMA

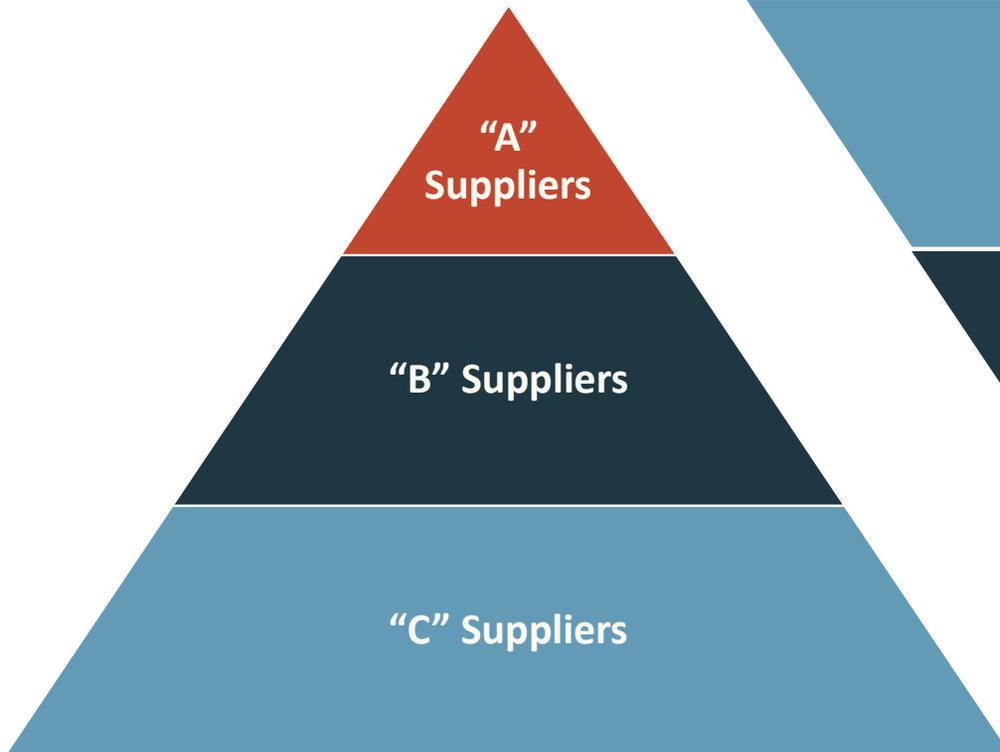
Eisai hit with ransomware attack, launches investigation into possible data leaks

By Zoey Becker · Jun 6, 2023 11:12am

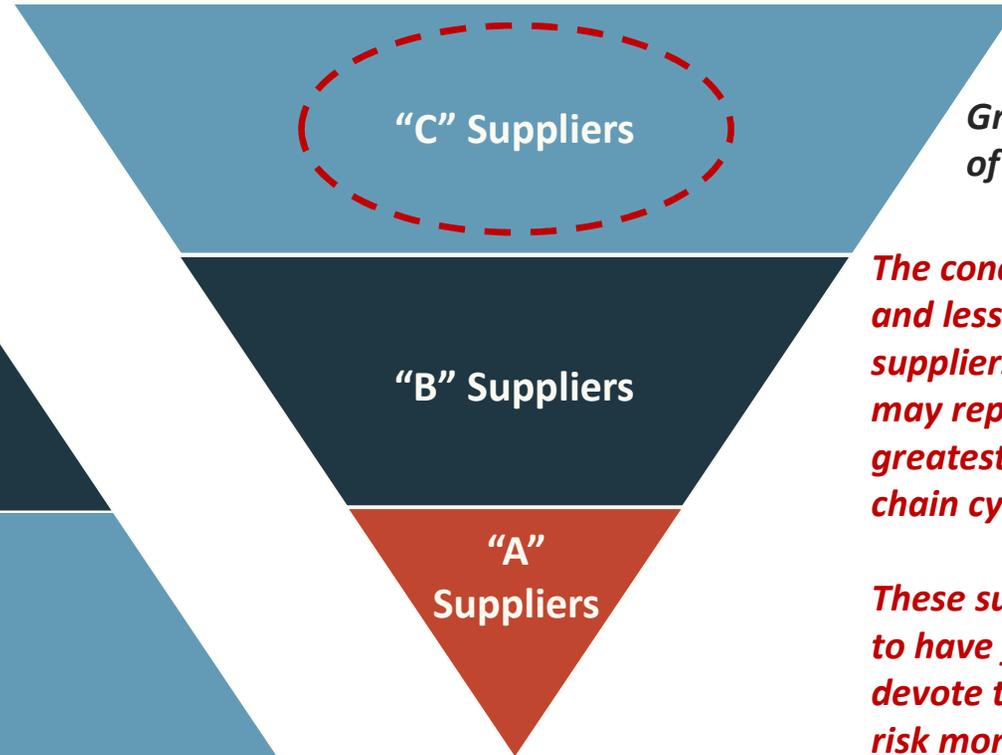
Eisai Ransomware Cybersecurity

SMALLER COMPANIES MAY REPRESENT THE GREATEST RISK

Your Supplier Segmentation



...But This is Your Probable Concentration of Supplier Cyber-Risk



Greatest number of suppliers!

The concentration of small and less sophisticated suppliers in your network may represent the greatest risk of a supply chain cyber-attack

These suppliers are likely to have fewer resources to devote to IT security and risk monitoring



ESG, Scope 3, & Net-Zero*

(Because you didn't have enough to worry about.)

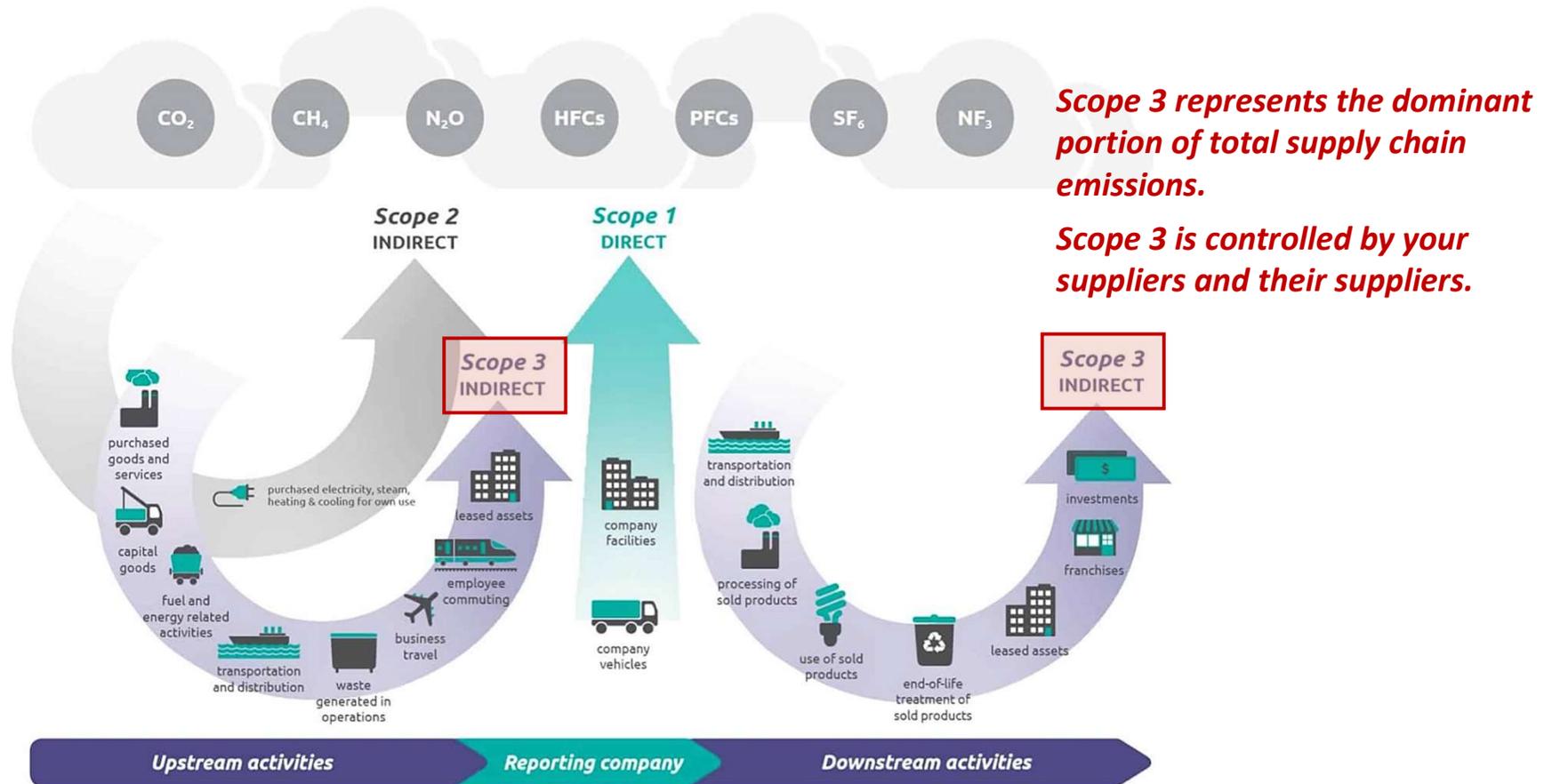
**Environmental, Social and Governance*

ALTERNATE ENERGY SOURCES BRING NEW CHALLENGES



- Reliability issues
- Power capacity vs. footprint
- Weather impact on output levels
- Ramp-Up/Ramp-Down of traditional power plants to balance uncertainties
- End-of-life recycling issues

DEFINITIONS: SCOPE 1, 2 AND 3 GREENHOUSE GASES (GHG)



Source: GHG Protocol

56% OF COMPANIES LACK CLEAR ESG GOALS FOR SUPPLIERS

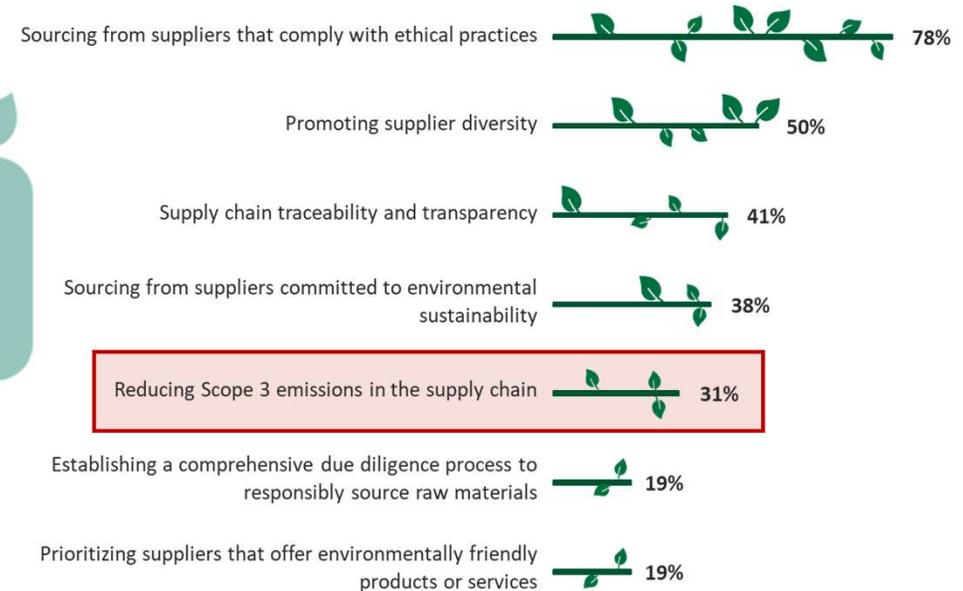
Which statement best describes established ESG sourcing criteria?

n = 57



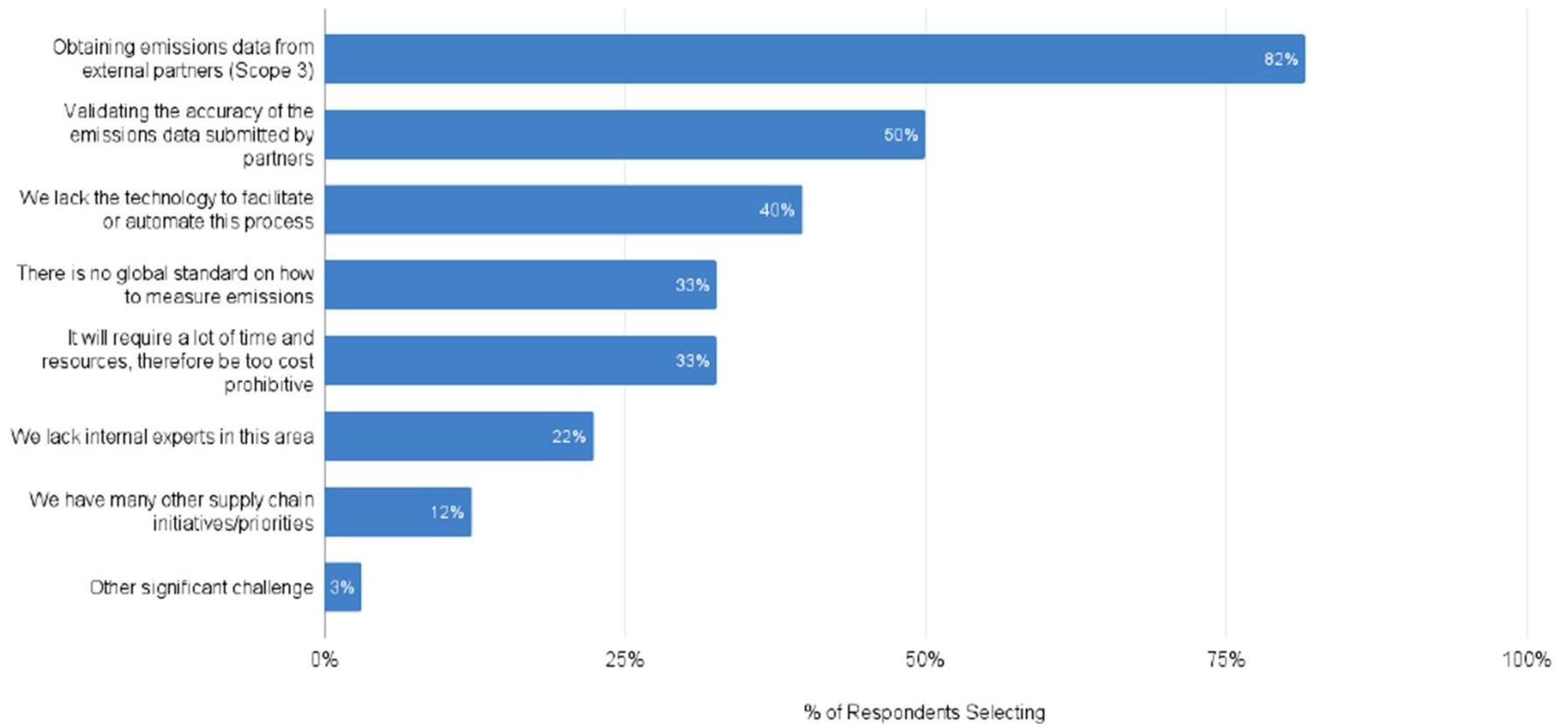
When supplier ESG goals are defined, only 31% of companies require Scope 3 emissions reduction.

Criteria for Supplier Selection



SCOPE 3 TRACKING & REPORTING = EXPENSIVE & DIFFICULT

What will be the main challenges in calculating and reporting the greenhouse-gas emissions of your supply chain? Select 1-3 challenges.

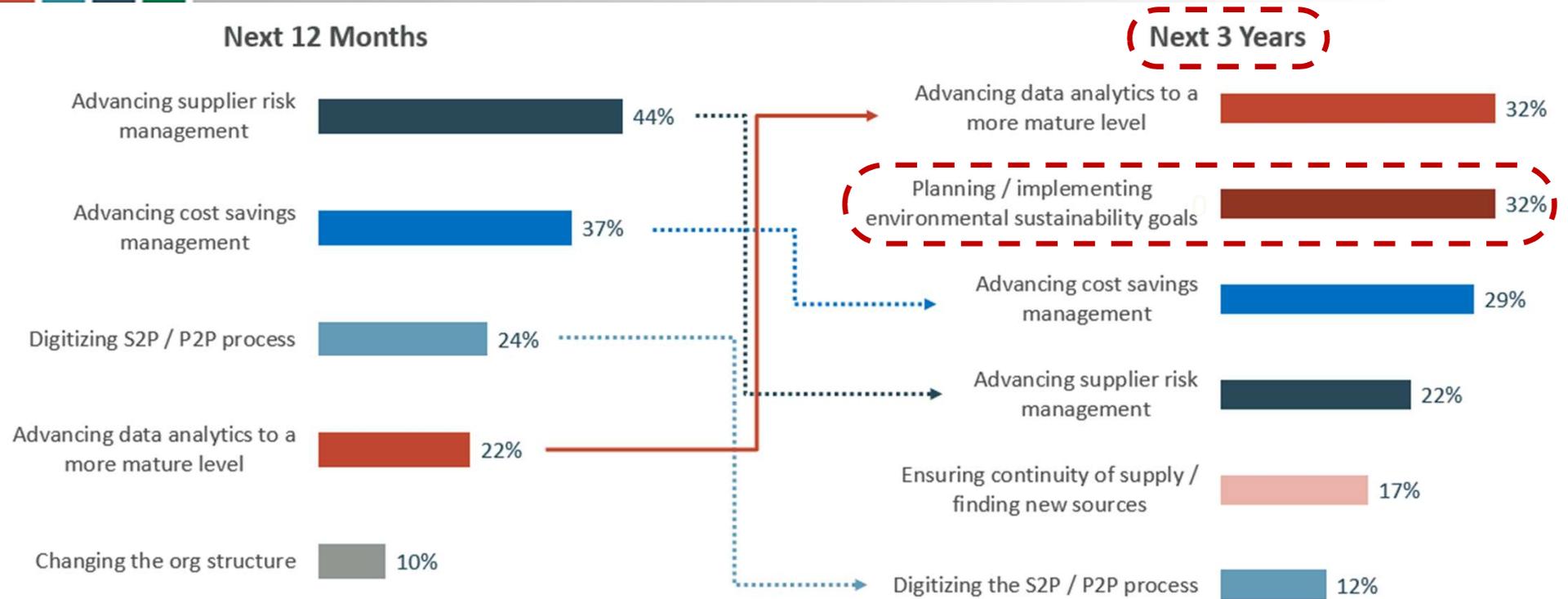


Source: Indago; California Carbon Emissions Mandate
<https://joinindago.com/>

n = 98 for this question

 CAPSRESEARCH

ESG HAS BEEN “KICKED DOWN THE ROAD” THE PAST 2-3 YRS



- Companies tend to focus the most attention on their **top 3-5 strategic priorities**
- The recurring trend has been to push ESG out to future priorities lists
- **The reality: most Supply Chain teams are under relentless pressure for risk reduction and cost reductions - those priorities consume the resources**



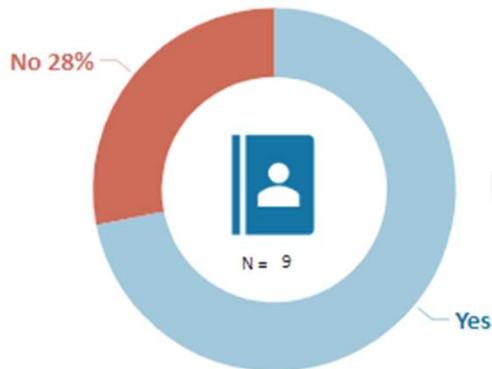
Closing Thoughts

(Your homework when you leave today.)

SET-UP MEETINGS WITH YOUR MOST IMPORTANT SUPPLIERS

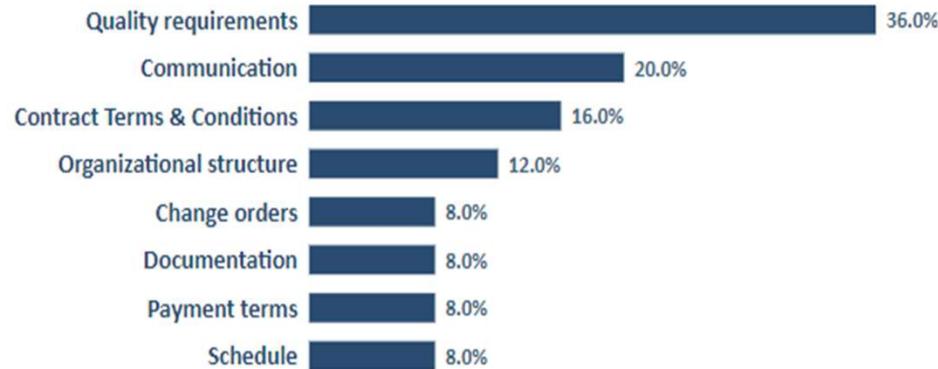
A well-known company making complex hardware and systems for demanding applications asked CAPS Research to survey their top 400 suppliers. These are the results for the “*Strategic & High Risk*” suppliers.

Relationship?



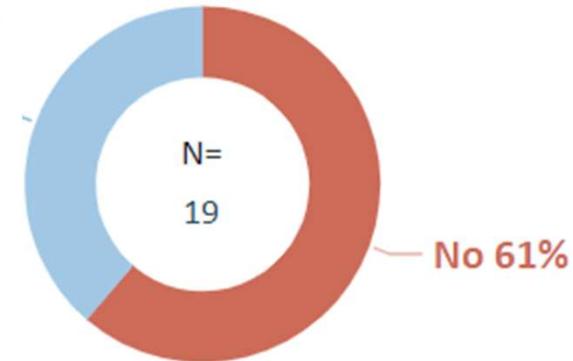
Do you know who manages your contract at your customer's company?

Cost Drivers?



What are the biggest drivers of cost in the relationship with your customer?

Scorecard?



Does your customer provide you with a periodic supplier performance scorecard?

Improved supplier relationships will help to reduce your risks!

GENERATIVE ARTIFICIAL INTELLIGENCE (AI)

Is your company using generative AI to identify opportunities to transform by re-inventing products and processes?

If your answer is “No”, then I’m sorry to hear that.

You are too late, and your competitors are already leaving you behind.

NEW PRODUCT DESIGN USING GENERATIVE AI – PG. 1 OF 3

Prompt: I would like you to first create a product idea description to solve the following problem statement and then generate a photographic quality product design image of the conceptual product in a natural use environment.

Problem statement: Small teams of hikers are trying to traverse small islands in the Indo-Pacific over a 2-week period and need access to clean drinking water while surrounded by oceans and having very few natural sources of water.

AI Response

Product Name: *AquaPioneer Portable De-Salinator*

Features:

1. **Compact Design:** Lightweight and easy to pack, the AquaPioneer fits comfortably into a standard backpack.
2. **Solar-Powered:** Equipped with a foldable solar panel, it harnesses energy from the sun to power the desalination process.
3. **Dual Filtration System:** The device first filters out larger particles from the ocean water using a pre-filter. Then, it employs a reverse osmosis membrane to remove the salt and microscopic contaminants, providing fresh and clean drinking water.
4. **Quick Operation:** The AquaPioneer can produce up to 2 liters of drinking water per hour for a small team of hikers.
5. **Built-in Storage:** It comes with an integrated collapsible water container that can store up to 5 liters of water. The container is detachable.
6. **Durable & Salt-Resistant:** Made with materials resistant to corrosion and salt damage, ensuring longevity with exposure to sea water.

NEW PRODUCT DESIGN USING GENERATIVE AI – PG. 2 OF 3

AI Response



NEW PRODUCT DESIGN USING GENERATIVE AI – PG. 3 OF 3

Refined Prompt: Redesign the AquaPioneer using the first image, and account for greater portability over miles of difficult terrain. The product should be portable by a single hiker. Please regenerate product images.

AI Response

Additional Features:

7. **Integrated Backpack Harness:** The main unit can be carried in a standard backpack with straps
8. **Lightweight Materials:** Carbon fiber and low-density polymers reduce the weight without sacrificing durability.



NEW PRODUCT DESIGN USING GENERATIVE AI – TAKE-AWAYS

The entire series of prompts and AI responses was more extensive than these highlights...

...however the entire sequence of prompts and AI responses (including the photographic images of the product concepts) took less than one hour to generate.

Imagine what your competitors are doing with this technology.

PARTICIPATE IN CAPS RESEARCH BENCHMARK SURVEYS!

Participate in CAPS' benchmarking surveys and unlock key benefits:

- Complete our surveys and **gain access** to a summary report.
- Use CAPS' metrics and best practices to **measure performance**.
- Leverage the insights to **drive positive change** within your own company.

To **opt-in or for more information**, visit our website using the QR code.



Measure up. Move forward.

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- <https://www.capsresearch.org/>
- <https://www.ismworld.org/>

- **Contact Us**

- For additional discussion about the ways CAPS can help your team, please contact:
 - Denis Wolowiecki DWolowiecki@CAPSResearch.org or 602-571-8746 mobile
 - Geoff Zwemke GZwemke@CAPSResearch.org



QUESTIONS?