Supply Chain Essentials:
A Leadership Compass for the Current Times & Beyond

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Minnesota Shopping Center Association

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CARLSON SCHOOL OF MANAGEMENT
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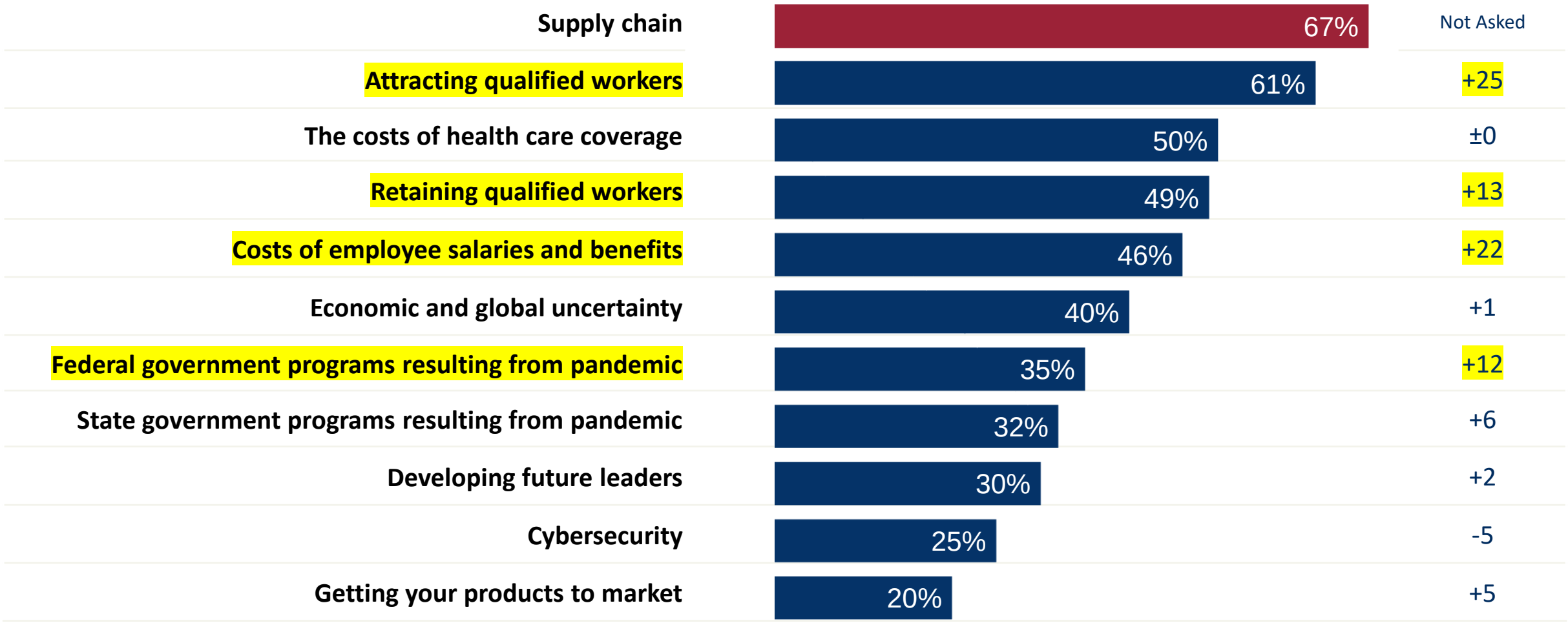
Supply chains are now at the top of manufacturers list of concerns.

Concerns ranked by % concern (8-10) (Highlighted issues have increased 10%+ since 2020)



(Source: Enterprise Minnesota)

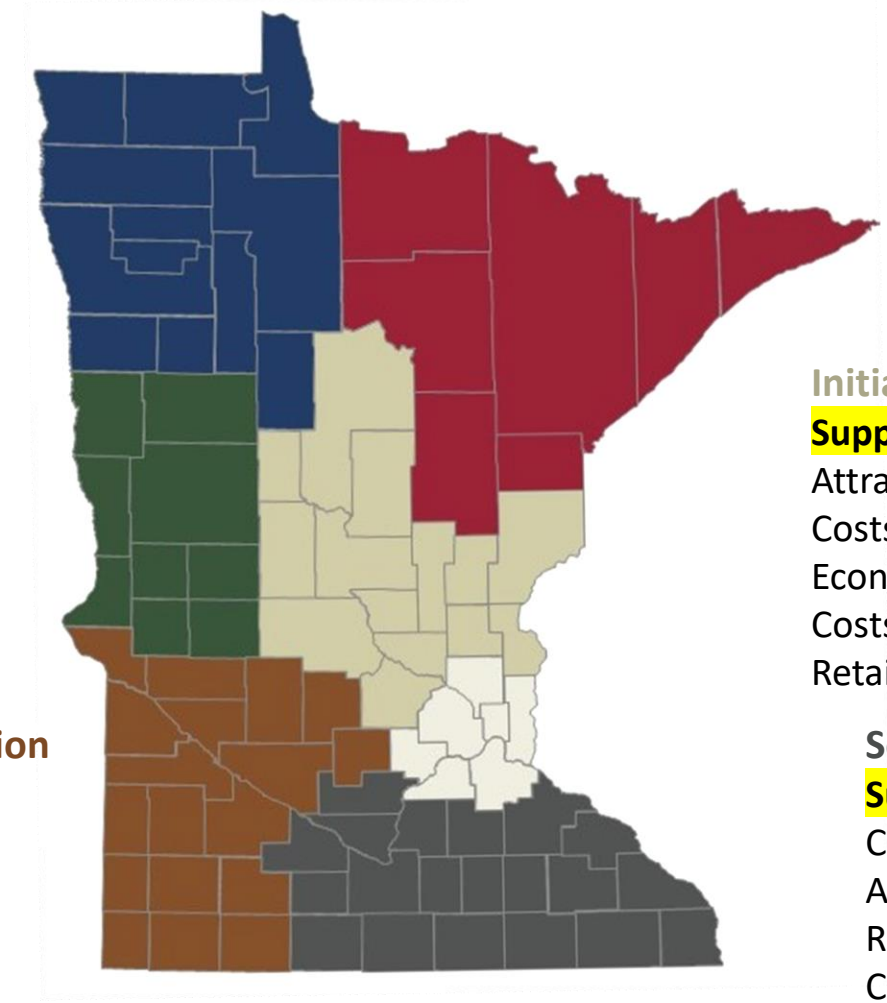
Supply chain concerns run high outside the metro area.

Top Five Concerns by Foundation (% 8-10 Concern)

Northwest Minnesota Foundation
Supply Chain Issues (75%)
Retaining Workers (60%)
Costs of Health Care (60%)
Attracting Workers (55%)
State Government Programs (55%)

West Central Initiative
Attracting Workers (73%)
Supply Chain Issues (69%)
Costs of Health Care (56%)
Retaining Workers (56%)
Costs of Salaries (47%)
Economic Uncertainty (47%)

Southwest Initiative Foundation
Supply Chain Issues (75%)
Attracting Workers (55%)
Retaining Workers (48%)
Costs of Health Care (48%)
Costs of Salaries (45%)



Northland Foundation
Supply Chain Issues (65%)
Attracting Workers (53%)
Costs of Health Care (51%)
Federal Government Programs (49%)
Retaining Workers (47%)

Initiative Foundation
Supply Chain Issues (69%)
Attracting Workers (54%)
Costs of Salaries (52%)
Economic Uncertainty (45%)
Costs of Health Care (44%)
Retaining Workers (44%)

Southern Minnesota Initiative Foundation
Supply Chain Issues (57%)
Costs of Health Care (55%)
Attracting Workers (53%)
Retaining Workers (45%)
Costs of Salaries (45%)

(Source: Enterprise Minnesota)

To lead in the postcrisis tomorrow, put leadership and capabilities in place today

Supply Chain Leadership:
One of the five capabilities that "matter most"

(Source: McKinsey, July 2020)

Why?

- Globalization of supply chains
- Digitalization of supply chains
- Amazon Effect

4Cs ➔ Complexities

- **C**OVID-19
- **C**onflict
- **C**limate change
- **C**yber-attacks

The **Relevance** and the **Need** for supply chains leadership can be inferred from:

THE WHITE HOUSE

BRIEFING ROOM

Executive Order on America's Supply Chains

FEBRUARY 24, 2021 • PRESIDENTIAL ACTIONS

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

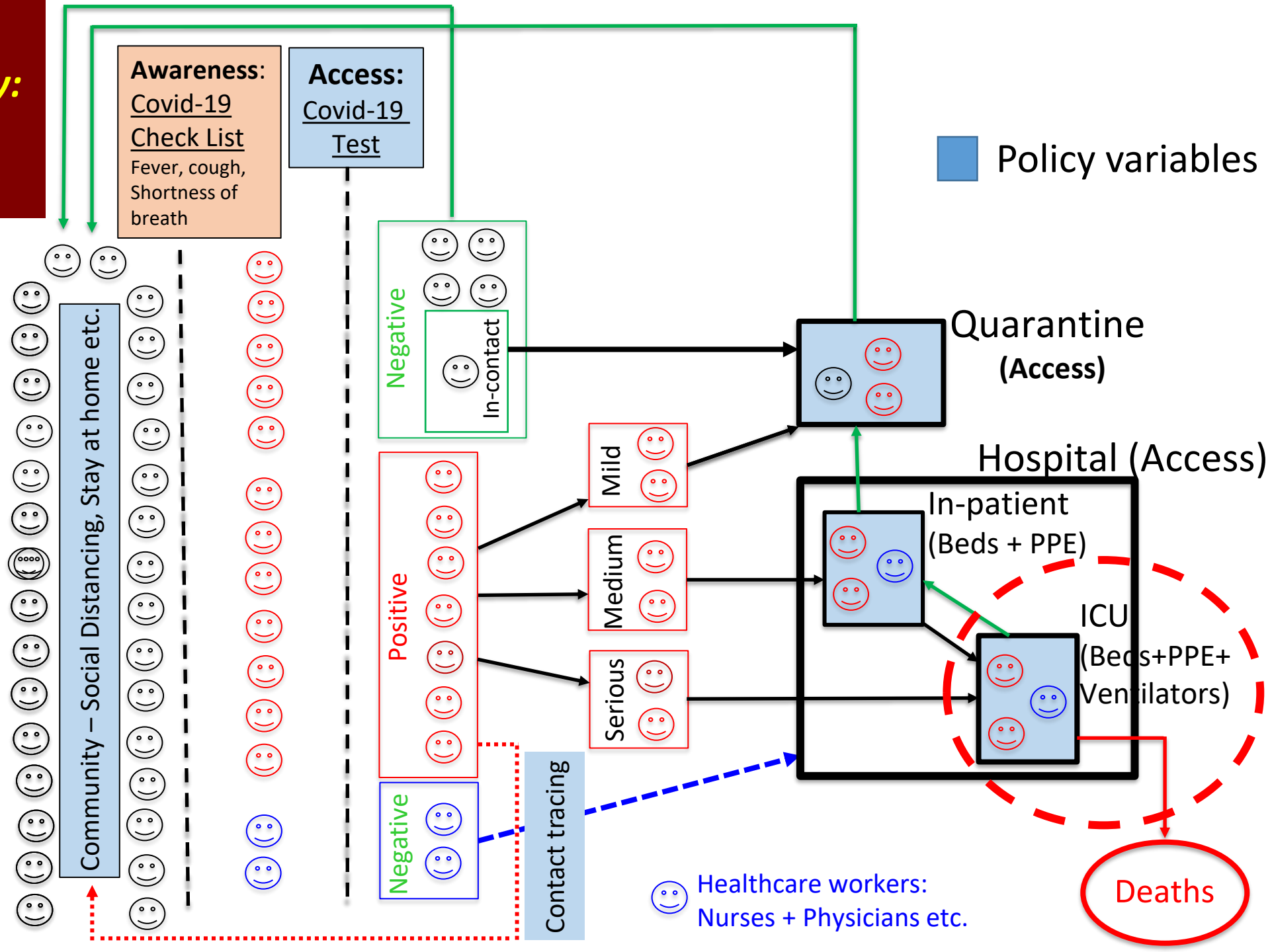
Section 1. Policy. The United States needs resilient, diverse, and secure supply chains to ensure our economic prosperity and national security.

For starters, let's focus on the COVID-19 times.

- It has been
  - A traumatic experience – a crisis
  - A humbling experience
  - A learning experience

"A crisis is too precious to waste" for
supply chain leadership development and demonstration.

Early Days of COVID-19 Care Delivery: A View Through the Supply Chain Lens

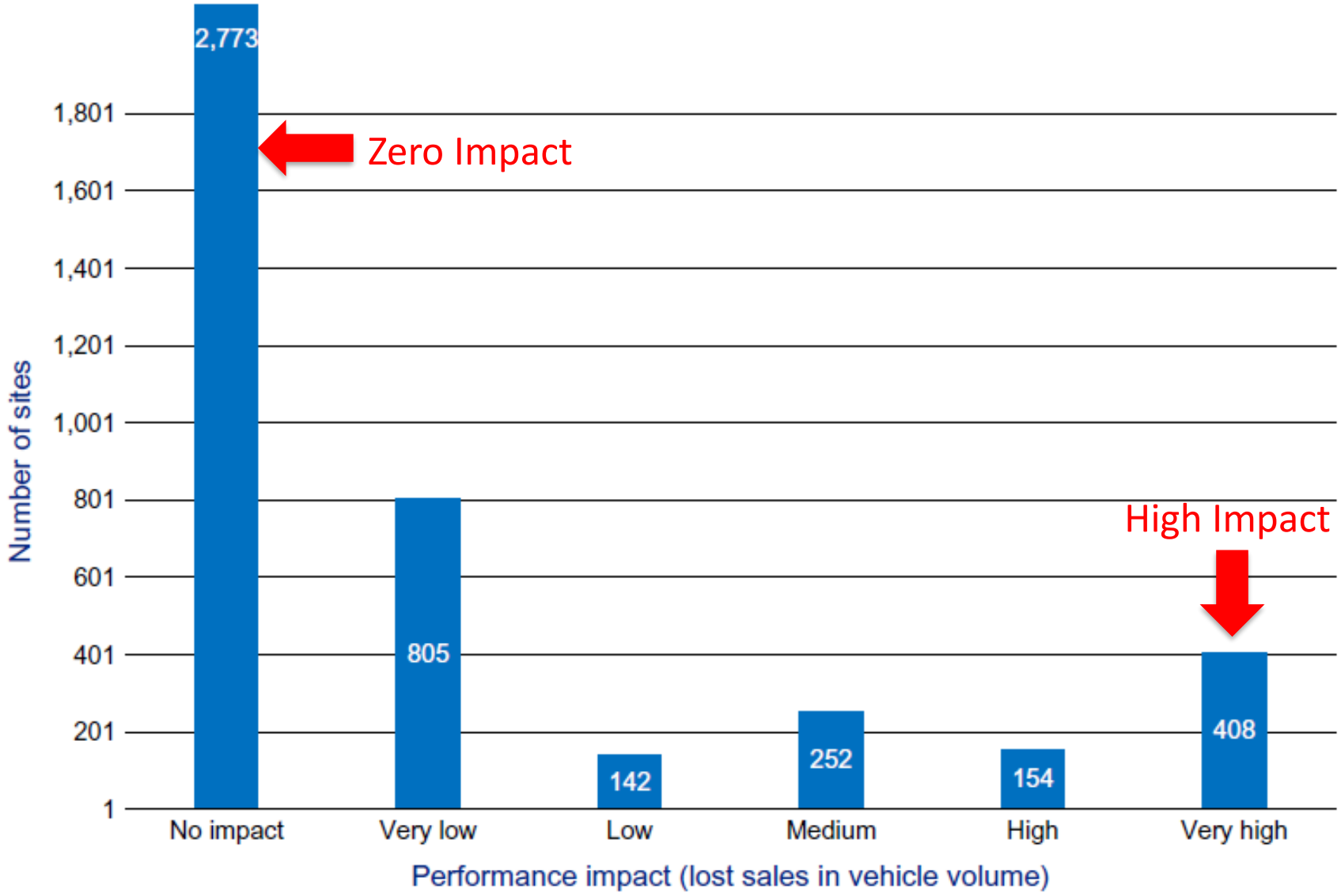


What is the **weakest link** in the COVID-19 care supply chain?

HIDDEN RISKS

A Case Study at Ford Motor Company

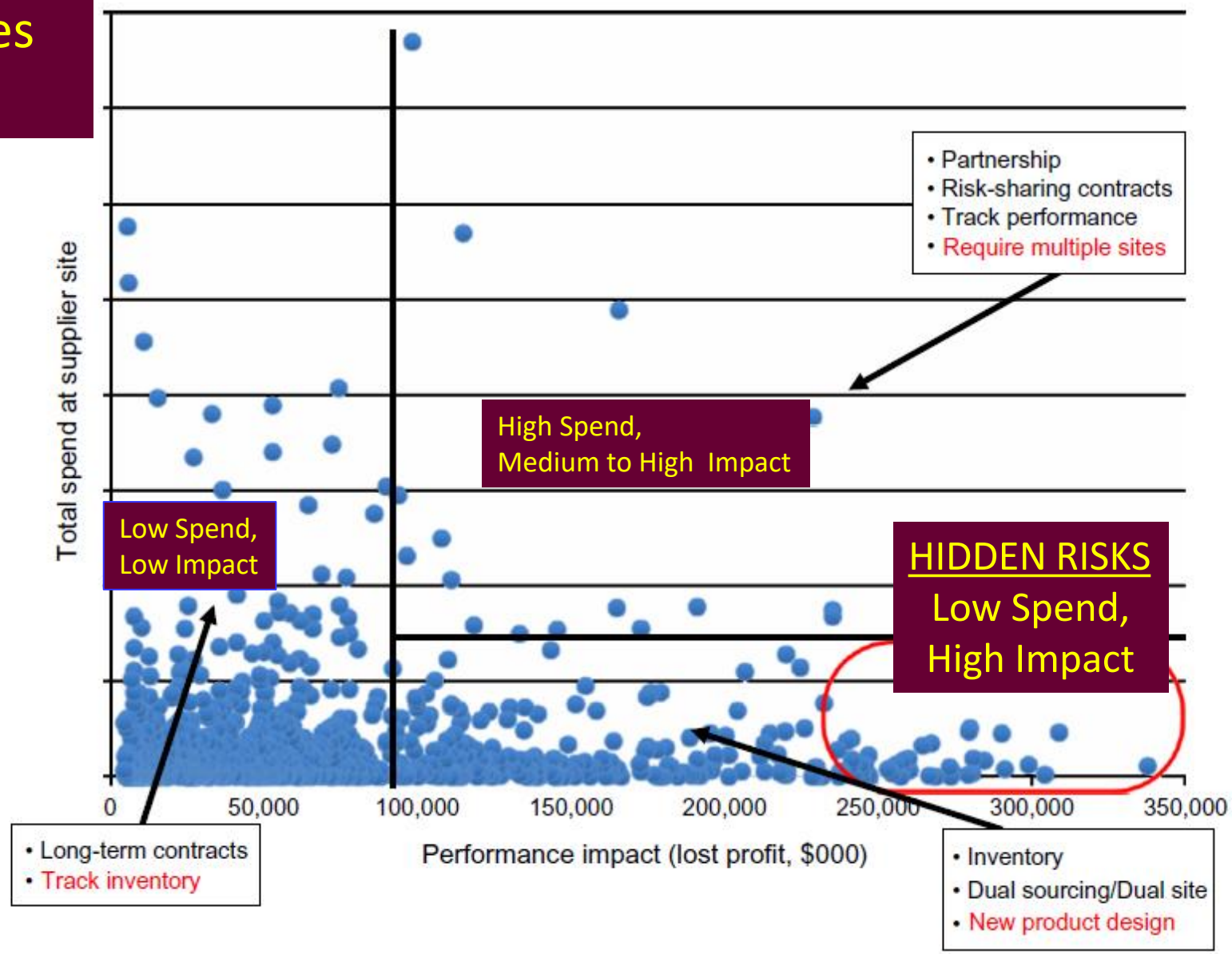
Supplier Segmentation



Among 4,534 sites examined, 2,773 sites have zero impact at the time of analysis and 408 have very high impact.

A Case Study at Ford Motor Company

Supplier segmentation:
Different risk-mitigation strategies for different groups of suppliers.



The **learnings** during the COVID-19 times relate to:

P — Products PPE, test kits, ventilators, and now vaccines
Process of COVID-19 testing and vaccination

I — Inventory of ventilators

C — Capacity of hospitals, intensive care units, mortuaries, funeral homes

W — Workforce for COVID-19 care delivery and essential work

Q — Quality of goods and services for COVID-19 care delivery

PICWQ Decisions: The Building Blocks of Supply Chain Leadership

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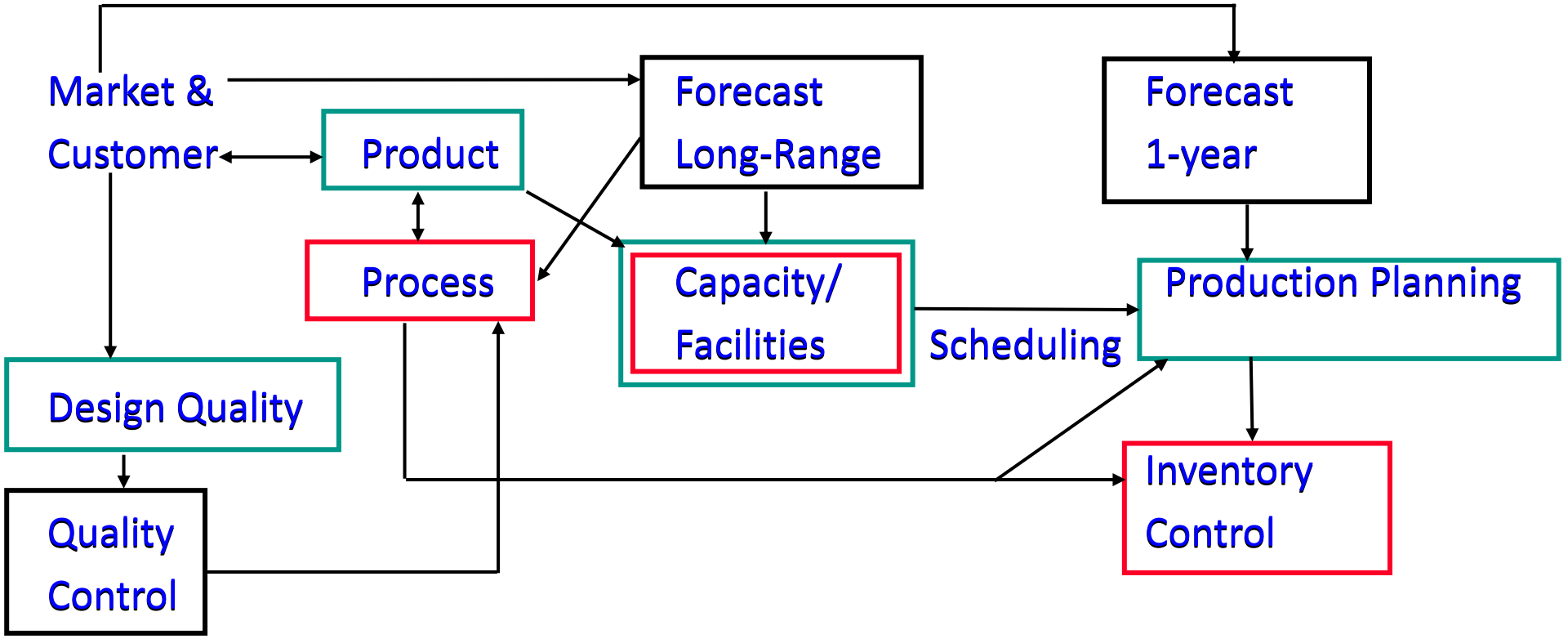
More generally, the key supply chain decision areas are related to:

- Product and Process
  - Product development, process flow, technology (software, hardware and knowledge-ware / intelligence)
- Inventory
  - What, when, and how much to order?
- Capacity
  - Size of facility, subcontracting, staffing levels
- Workforce
  - Recruitment, retention, capability development, nature of work and work design & organizaton
- Quality (along with safety and security)
  - Quality planning, organization control, improvement

PICWQ Decisions: The Building Blocks of Supply Chain Leadership

Decision Interdependencies Across Functions and Trading Partners in a Supply Chain: An Illustration



PICWQ Decisions: The Building Blocks of Supply Chain Leadership

Decision Outcomes: Dimensions of Performance

Cost

Quality
- Design (performance)
- Conformance

Flexibility
- Volume
- Mix
- Customization
- New product

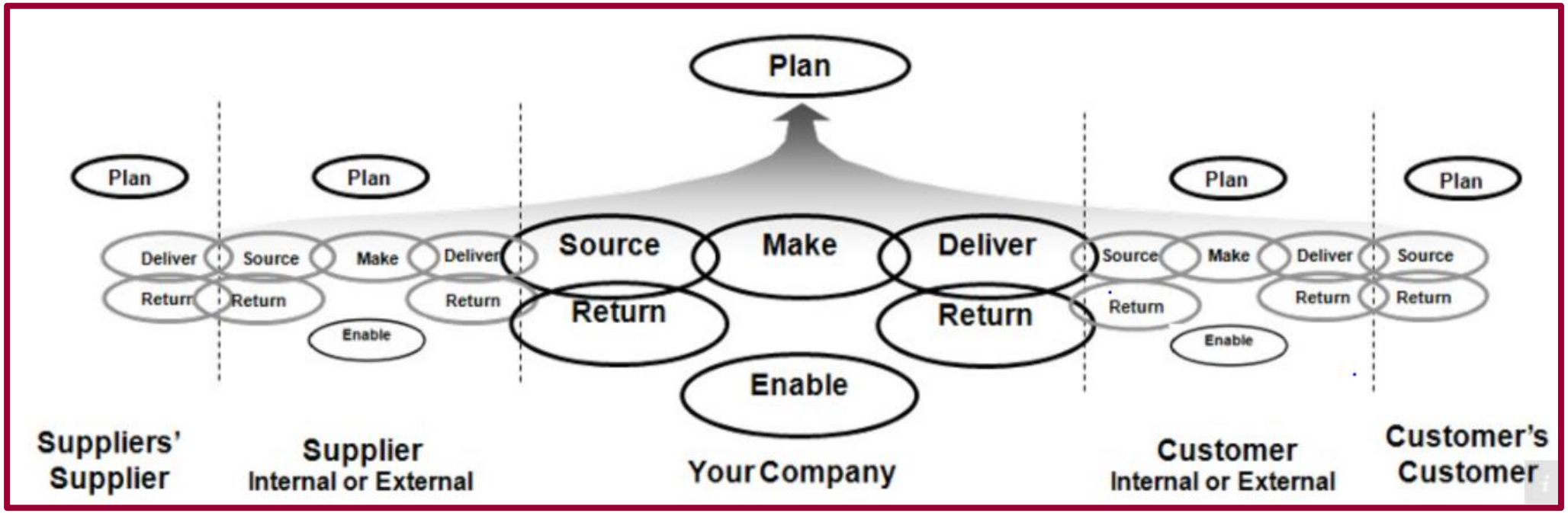
Delivery
- Fill rates (MTS)
- Delivery time & reliability (MTO)
- Soft measures

Trade-offs

MTS: Make-to-stock
MTO: Make-to-order

PICWQ Decisions: The Building Blocks of Supply Chain Leadership

Conceptualizing and Operationalizing Supply Chains from End-to-End



Supply Chain Operations Reference (SCOR) Model

PICWQ Decisions: The Building Blocks of Supply Chain Leadership

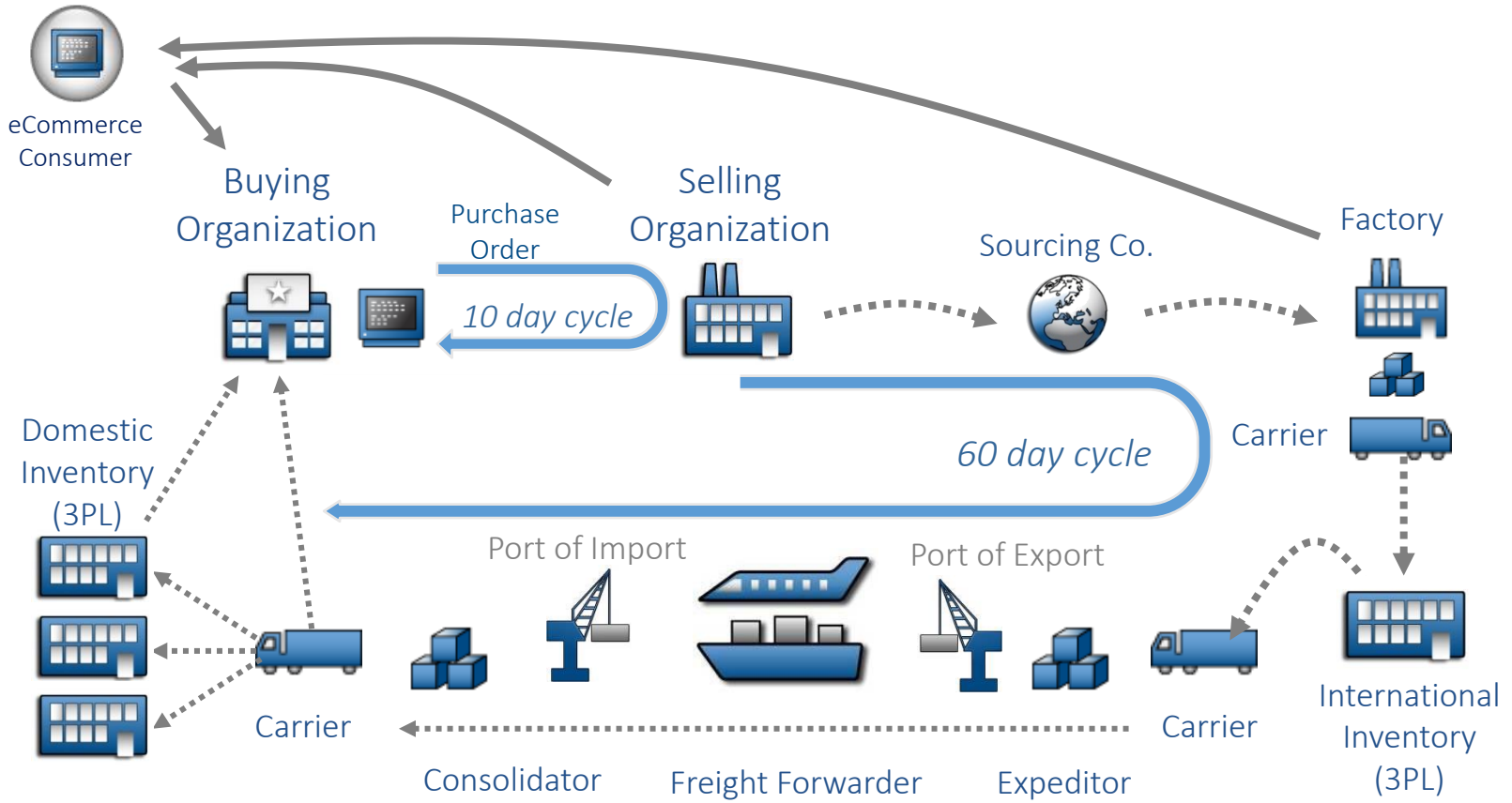
Conceptualizing and Operationalizing Supply Chains from End-to-End: An Illustrative Example of a Candy Bar Supply Chain

1. Cocoa – West Africa, Central and South America, and parts of Asia
2. Nuts – Worldwide *(depends upon type of nut)*
3. Sugar – Brazil *(primarily), India, and China*
4. Paper *(for wrapper) – North America*
5. Raisins – California, Turkey, Chile
6. Aluminum Foil *(for wrapper) – West Indies, North America, and Australia*
7. Milk – United States
8. Corn Syrup – United States, Europe, Brazil, and Mexico
9. Vanilla – Madagascar, Indonesia, China, and Mexico

Source: National Geographic – Illicit, the Dark Trade

PICWQ Decisions: The Building Blocks of Supply Chain Leadership

Conceptualizing and Operationalizing Supply Chains from End-to-End: An Illustrative Example of a Candy Bar Supply Chain



Who receives the order?	Who labels the shipment?	Who does the import paperwork?
Who picks/packs the order?	Who chooses the carrier?	Who ships the order?
Who updates the consumer?	Who builds the container?	Who sends/receives invoices?

PICWQ Decisions: The Building Blocks of Supply Chain Leadership

Conceptualizing and Operationalizing Supply Chains from End-to-End:
Takeaway – A Supply Chain is …

A GLOBAL NETWORK OF RETAILERS, DISTRIBUTORS, WAREHOUSES, TRANSPORTERS, VENDORS, MANUFACTURERS, AND FACTORIES THAT COOPERATE IN THE SALE AND ULTIMATE FULFILLMENT OF PRODUCTS.

Supply Chain Leadership Entails:

- Conceptualizing and operationalizing supply chains from **end-to-end**
  - i.e., connecting the sources of demand with the sources of demand, cutting across boundaries of firms and/or countries

- Designing and executing **win-win- …… -win** propositions
  - i.e., sharing the risks and sharing the rewards; sharing information; garnering trust.

- Straddling between the “forest and trees”
  - i.e., strategizing and executing; walking the talk in the short term, medium term and long term

A Supply Chain Leader's "NORTH STAR"

Designing and Sustaining Supply Chains that are:

Reliable

Producing and delivering high quality product safely

Responsive

Delivering right product at the right place at the right time, and responding quickly to unexpected events

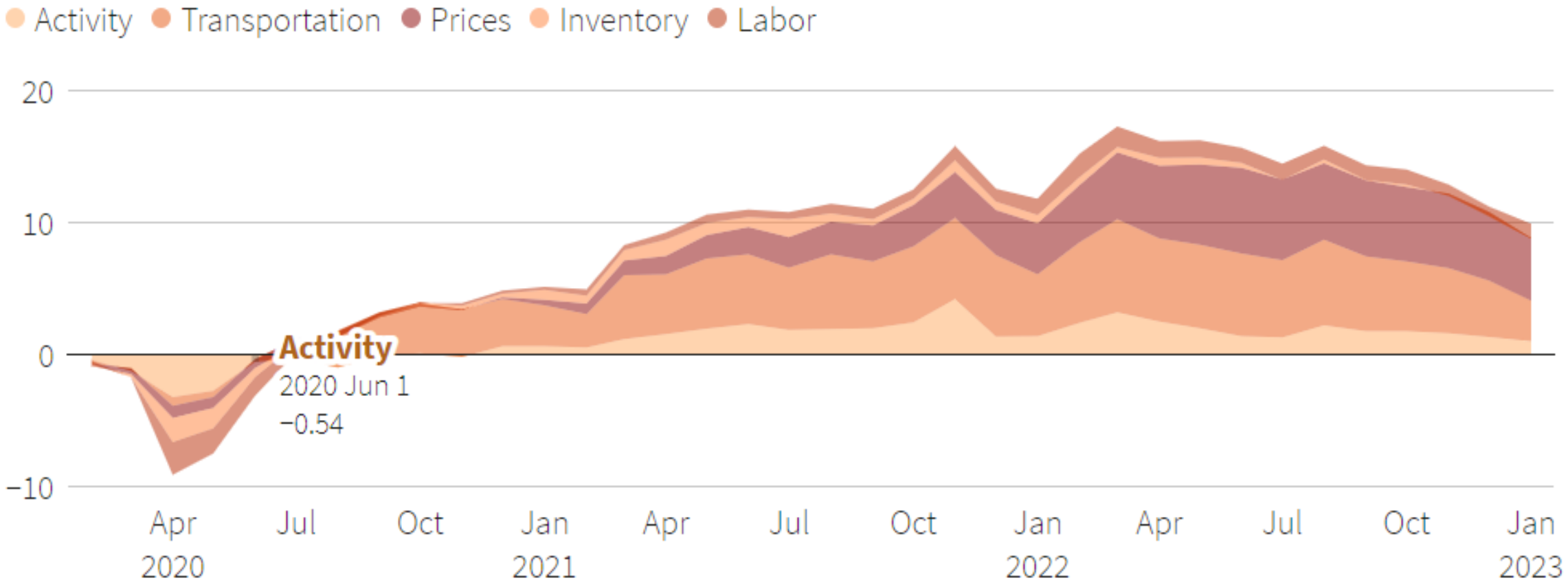
Responsible

Being socially and environmentally responsible

Resilient

Being robust to unforeseen risks and disruptions, including man-made and natural disasters

U.S. Supply Chain “Stress” Tracker



Note: Values above zero indicate "heightened stress."
Source: Oxford Economics

Supply chain pressure remains high but has been easing (in turn, explaining the steady slowing in goods inflation).

(Source: Oxford Economics, February 10, 2023

U.S. Supply Chain “Stress” Tracker – Key Insights

- Supply chain stress fell at the beginning of the year and further easing is likely due to weaker domestic and global demand.
- The US economy is entering a mild recession.
- Softening consumer demand and cooling business activity will continue to unwind supply chain strains.

(Source: Oxford Economics, February 10, 2023

U.S. Supply Chain "Stress" Tracker – Specific Insights

- The supply chain stress indicator fell to its lowest level in nearly two years and is 16% below the January 2022 level.
- Easing in transportation was the main impetus for the improvement, with a pullback in consumer demand opening capacity in ocean and air freight routes.
- The (business) activity component recorded a more modest decline.
- The labor component registered a modest increase in pressures in January, confirming that the market remains exceptionally tight. Fed policy tightening as the central bank works to cool the labor market.
- Inflation pressures eased and inventory growth weakened as businesses became more wary of holding stockpiles amid recession worries.

(Source: Oxford Economics, February 10, 2023

"Six New Imperatives for Real Estate Players"

"If you build it, they will come."

Conventional wisdom for decades: As true for well-located office, retail, and residential real estate as for the baseball field in *Field of Dreams*.

"Today, if you build it—or buy it—in the usual way, they might not come"

Reasons: Higher inflation, higher interest rates, and climate change

The new mindset:

"If you operate brilliantly and please tenants, they will stay."

(Source: McKinsey, March 2023)

“Six New Imperatives for Real Estate Players”

1. Create solutions for clients, not just physical spaces.
2. Use developments to generate momentum, not merely to capture momentum.
3. Find value creation opportunities throughout a project’s life cycle, not just at the end points.
4. Embrace sustainability as an opportunity, not a compliance process.
5. Embed digital solutions and advanced analytics in everything, not just by sporadically adopting individual solutions.
6. Focus on operating efficiency, not just on income.

(Source: McKinsey, March 2023)

Thank You!

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“Six New Imperatives for Real Estate Players”

1. Create solutions for clients, not just physical spaces.

- The new mandate means partnering with employers to understand how they want their employees to use spaces.
- In retail, there’s an opportunity to offer omnichannel delivery solutions, requiring real estate players to view their roles not just as space providers but as lead generators. Solutions include:
  - Offering new store formats,
  - Same-day delivery and fulfillment systems,
  - Industrial locations adjacent to stores, and
  - Mobile-shopping experiences that can compete with the best aspects of e-commerce.

“Six New Imperatives for Real Estate Players”

2. Use developments to generate momentum, not merely to capture momentum.

- Top-performing developers can intentionally create tenant ecosystems that go beyond landing an anchor tenant.
  - Well-designed clusters have the potential to attract anchors and fast followers that benefit from being near one another.
  - Some developments known as magnets for top-tier tech companies, for example, have also proved appealing to residential tenants and buyers—who may work for or with some of the on-site firms. They also attract retailers eager to serve tenants, workers, and visitors.
  - There are rewards for players who successfully curate ecosystems based on how people will want to use spaces in five years: Innovation hubs enjoy a 10 to 12 percent average premium in commercial rents over nearby central business districts.

“Six New Imperatives for Real Estate Players”

3. Find value creation opportunities throughout a project’s life cycle, not just at the end points.

- Buying right remains critical, but today’s environment emphasizes operations—an area that has grown more competitive.
  - Becoming an operating-platform owner is one critical way in which larger players are taking advantage of their scale and boosting returns.
  - Platforms give tenants a consistent experience and enable leveraged investments in technology as well as efficient procurement and finance.