



State of Supply Chain Resilience –

Ensuring Supply Continuity in a Brittle, Anxious, Non-Linear, and Incomprehensible World

Whitepaper by The Procurement Initiative

In association with



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INTRODUCTION



The world has somewhat adapted to managing disruptions. But will this heavy drain on resources of all kinds be sustainable? Obviously not. Now is the time to get down to the foundation of supply chains, rethink their design, and create a network that is robust, recoverable, and adaptive.

Background:

Managing global supply chains has always been a major undertaking. Through COVID-19 the magnifying glass has certainly been put on and exacerbated the situation. And just as companies began recovering, the world once again held its breath when Russia declared war on Ukraine. In today's increasingly complex and globally interconnected world, adding more short-term/sighted actions to feverishly bring in parts and secure quarterly results is no sustainable answer.

Interestingly, it has always been the expectation (rightfully so) of Procurement to fix any type of issue in the supply chain. And as long as Procurement and Supply Chain professionals fixed the issue, no one ever asked for the actual root cause of a supply problem. Let's face it: any supply chain is not a random set up of suppliers and production locations but is created by daily decision-taking and behaviors of loads of different (pseudo) stakeholders in the companies at any given time. Consequently, those decisions must be more orchestrated and coordinated to avoid unnecessary complexity and waste. The rethinking goes back to taking balanced decisions when creating and changing the spider web.

Managing disruptions is clearly not enough. Resilience – the capability to withstand, adapt, and recover from external turbulence – must be actively cultivated and becomes crucial to operate smoothly in an uncertain future.

Research approach:

To improve our understanding of the current state of supply chain resilience, we surveyed 100 Procurement professionals across various industries in Germany, Austria, and Switzerland to capture their viewpoints regarding their company specific capabilities and vulnerabilities. We specifically studied how current crises affect a shift in companies' strategic priorities.





Outcome:

The figures – that confirm our pre-defined hypotheses – paint an evocative portrait of a Procurement function in a stranglehold between short-term (e.g. building inventory to ensure supply continuity) and long-term perspectives (e.g. nearshoring to boost sustainability). This is happening although legislation (e.g. the German Supply Chain Act) mandates a long-term perspective (e.g. alignment with the 1.5 C target). In this field of tension between necessary short-term and long-term perspectives, Procurement has the opportunity to take responsibility and navigate the strategic course.

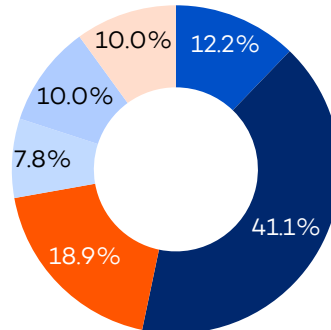
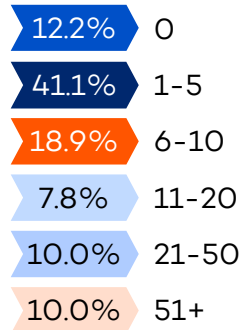
ENSURING SUPPLY CONTINUITY IN A BRITTLE, ANXIOUS, NON-LINEAR, AND INCOMPREHENSIBLE WORLD

Chaos shapes the Procurement agenda

In today's increasingly complex and globally interconnected world, crises and disruptions heavily impact supply chains depending on their probability and severity. However, today's market shocks are no longer merely characterized by difficult predictability but have at times become completely incomprehensible.¹ Therefore, organizations are urged to rethink their strategies in a BANI world:²

-  **Brittle:** Overemphasis on efficiency and financial targets
-  **Anxious:** Fear of change and emphasis on reactive strategies
-  **Non-linear:** Lack of adaptability in complex supply networks
-  **Incomprehensible:** Insufficient transparency in supply networks

How many supply chain incidents would you estimate your organization experienced in the past 12 months that caused a significant disruption (please include COVID-19 in your count)?³



 **88%**

Of companies report at least one significant supply chain disruption³

Exhibit 1
Number of supply chain disruptions in 2020³

Resilience emerges from a "perfect storm"

- In a BANI world, cost leadership still plays the highest role
- Is it a joint focus on taking out cost/waste or unilateral demands?
- Significant decline in the sustainability ambition level post-covid
- Businesses shifted their sustainability level and focus merely on staying compliant with legislation

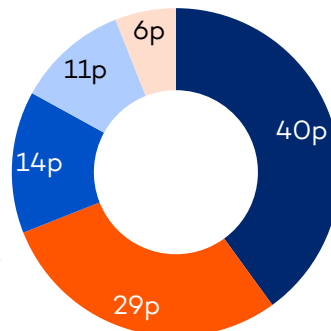


Exhibit 2
Business strategy priorities⁴

 **29p**

Average points (out of 100) respondents allocate to resilience in the business strategy⁴

Supply continuity – the linchpin in the value creation puzzle

Fame and blame at the same time: Procurement is known for turning critical situations around and securing materials. But Procurement /suppliers are blamed for issues built into the product or process by others along the way. Other company functions also need to take responsibility for their actions and prevent constant task-force mode. The puzzle is complete when value can be generated beyond price and savings negotiations, when sustainability is embedded, and when there are cross-functional goals for a resilient supply chain.

 **85%**

of companies indicate resilience led to a de-prioritization of other value drivers⁴



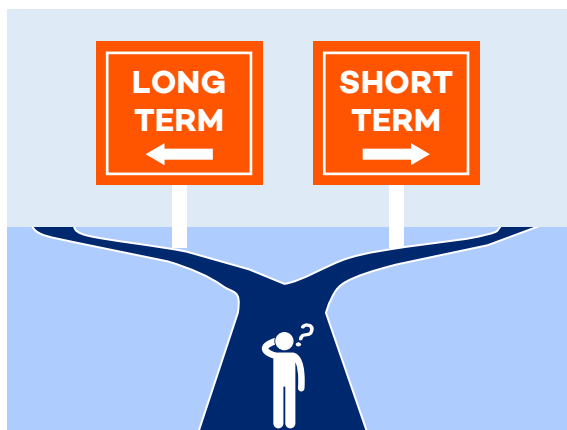
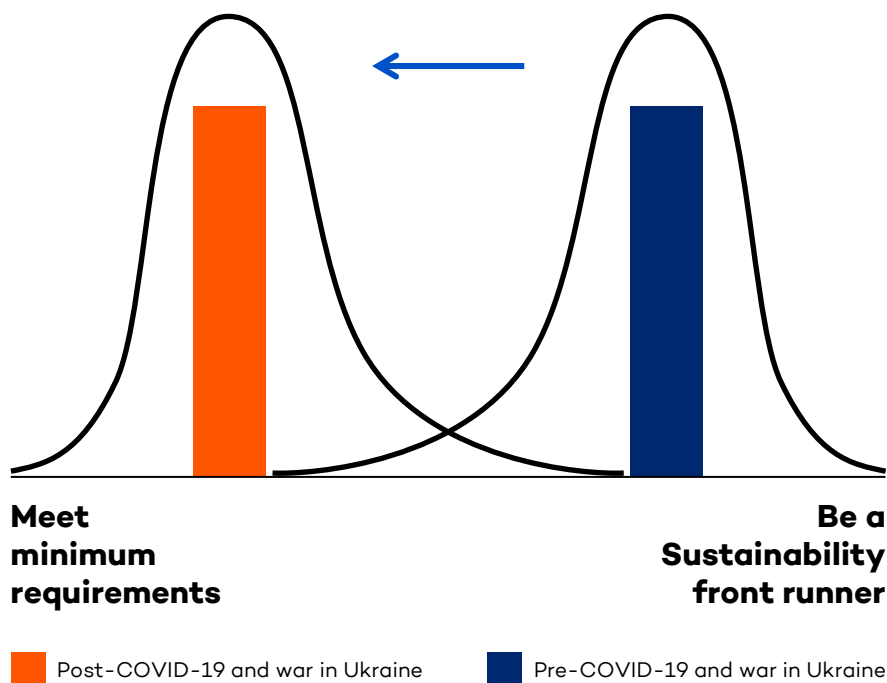
THERE IS NO SHORTCUT TO SUSTAINABILITY AS COMPANIES HAVE TO WALK THE TALK



Assessing the status quo

- Trapped in a short-term survival mode, companies focus all their energy on securing the supply of raw materials and components to generate revenue, revealing the proper hierarchy of business goals
- As such, resilience is not perceived as the ability to sustain (=sustainability) in the long term
- Rather, companies focus on short-term crisis management and the development of recovery plans instead of long-term resilience

Exhibit 3: Sustainability ambition level



Procurement in a chokehold

This is happening although legislation (e.g. the EU Directive 2022/0051) mandates a long-term perspective (e.g. alignment with the 1.5 C target).⁵

As such, the Procurement function suffocates a chokehold between securing supply and operating sustainably.

In this field of tension between necessary short-term and long-term perspectives, Procurement has the opportunity to take responsibility and navigate the strategic course.

What to do?

Based on our survey with Procurement professionals, we analyzed supply chain resilience vulnerabilities and capabilities among different industries (see Appendix).^{6,7} While each company is different, a handful of patterns emerged among top performers. As part of our survey, we identified 11 companies that perform close to an optimal state of supply chain resilience (i.e. capabilities match vulnerabilities). Taking these lessons on board can help companies close the “short-term – long-term” dilemma and move the needle from reactive to proactive strategies.

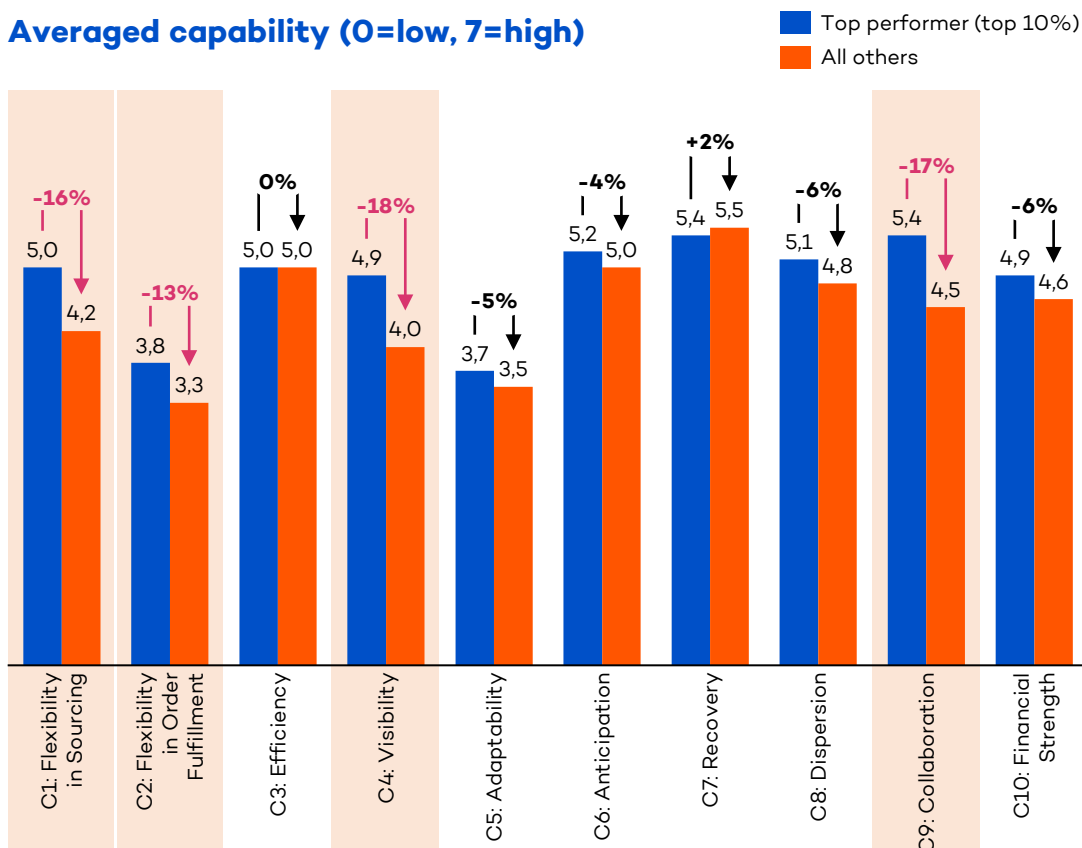
DETERMINING THE CURRENT STATE OF SUPPLY CHAIN RESILIENCE

Capability patterns of top performers

Exhibit 4 indicates a wide gap in terms of capabilities between top performers and the laggards. Counterintuitively, top performers are not necessarily “better” among each capability. To understand their success, we need to consider four patterns:

- 1 Flexibility in Sourcing:** Top performers generally have a diversified supply network and redundancies in place. Sourcing one commodity from multiple countries helps them to mitigate the effects of instantaneous and isolated disruptions (e.g., natural disasters).
- 2 Flexibility in Order Fulfillment:** Top performers also build up safety stock of critical products for a breather but differentiate themselves from others by operating alternative distribution channels that allow for product delivery in the event of a logistics disruption.
- 3 Visibility:** Top performers demonstrate a better understanding of their deep-tier supply chain, helping them to spot emerging risks. Along with supply chain transparency, they excel at having real-time data on the location and status of supplies.
- 4 Collaboration:** Top performers work effectively with partners by sharing demand forecasts transparently and by cultivating shared values towards risk mitigation and problem-solving.

Averaged capability (0=low, 7=high)



Note:

The ranking of respondents is based on a resilience score R, ranging from 0% to 100%. R is based on a firm’s average vulnerability score V, and the average capability score C. Computation of $R = (C - V + 6) / 12$, using a 7-point-Likert scale for C_i and V_j . Top performers represent the top percentile of respondents in our survey.

32%

of total spend averaged across all companies remains on critical tier-1 suppliers⁴

33%

of companies lack flexibility in sourcing (e.g., dual sources)⁴

68%

of companies report resource limits due to limited supplier capacity and scarce raw materials as a top vulnerability⁴

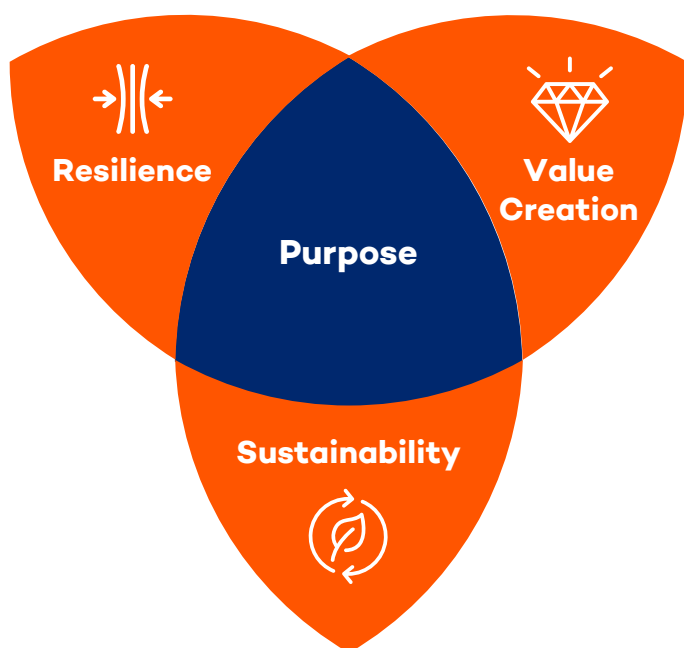
Exhibit 4
Averaged adjusted resilience capabilities among respondents⁴

RECOVERY ON THE HORIZON? POTENTIAL WAYS FORWARD



A fault confessed is half redressed

Our research indicates that most companies face significant supply-side challenges putting the Procurement function in a constant firefighting mode to ensure supply continuity. However, by embarking on the four key capability patterns from top performers within our survey, rays of hope emerge. Understanding the current state of resilience and having a concrete action plan in place is a solid first step. To get to the next level we need to rethink the current way of organizing supply chains. Fostering more sustainable thinking along the line of economic, ecologic, and social factors becomes invaluable. This, in turn, drives long-term resilience and robustness of supply chain networks.



- 1 Learning from top performers** to close existing resilience gaps and move from reactive to proactive resilience capabilities
- 2 Thinking holistically** becomes key as resilience, sustainability, and value creation are closely interconnected and must be balanced
- 3 Re-defining resilience** as the ability to sustain will lead to a change in perspective regarding short-term and long-term strategies

Outlook: Calling into question what is “Normal”

Contrary to the headlines, companies and policymakers must avoid being overly driven by a perceived urgency to fix the status quo. Close collaboration within the private and the public sector is all the more important at a time in which we are already experiencing the ramifications of, for example, climate change.



Private sector

First, companies need to find a way out of the "cost, cost, cost" maze as it prevents x-raying the supply chain in the long term (e.g. map supply chain).

Second, companies need to change their behavioral patterns from pleasing the shareholder and passing the buck to Procurement to treating the underlying conditions by removing complexity from the supply chain. This requires a dedicated, intra-organizational examination of where product complexity stems from and whether it really delivers customer value (e.g. simplify product design).



Policy-maker

Third, politics need to provide clear, concrete, pragmatic, and internationally (at least EU-wide) agreed-on policy frameworks to push and support the private sector. Creating a standardized and legally binding measurement system for Scope 3 emissions is the first step to facilitating the inclusion of CO2e prices in sourcing and reconfiguring supply chains in a BANI world.

ABOUT THE PROCUREMENT INITIATIVE



The Procurement Initiative is a modern think tank and a platform for people who want to shape the future of Procurement. We live in a world where uncertainty and crises are the new normal. And that is exactly why we believe in a new purpose of Procurement: to take full responsibility for creating and orchestrating global supply chains that positively impact the needs for viable and sustainable businesses, a prosperous society, and a healthy planet alike.



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APPENDIX



A1: Vulnerabilities^{6,7}

We used 6 constructs and related subfactors to measure vulnerabilities. Survey responses were designed in ordinal form using the 7-point Likert scale strongly disagree/ strongly agree.

Factor	Vulnerability	Definition	Subfactors
V1	Turbulence	Environment characterized by frequent changes in external factors beyond your control	Natural disasters, Geopolitical disruptions, Unpredictability of demand, Fluctuations in currencies and prices, Technology failures, Pandemic
V2	External Pressures	Influences, not specifically targeting the firm, that create business constraints or barriers	Competitive innovation, Social/Cultural change, Political/Regulatory change, Price pressures, Corporate responsibility, Environmental change
V3	Resource limits	Constraints on output based on availability of the factors of production	Supplier, Production and Distribution capacity, Raw material and Utilities availability, Human resources
V4	Sensitivity	Importance of carefully controlled conditions for product and process integrity	Complexity, Product purity, Restricted materials, Fragility, Reliability of equipment, Safety hazards, Visibility to stakeholders, Symbolic profile of brand, Concentration of capacity
V5	Connectivity	Degree of interdependence and reliance on outside entities	Scale of network, Reliance upon information, Degree of outsourcing, Import and Export channels, Reliance upon specialty sources
V6	Supplier / Customer Disruptions	Susceptibility of suppliers and customers to external forces or disruptions	Supplier reliability, Customer disruptions

APPENDIX



A2: Capabilities^{6,7}

We used 10 constructs and related subfactors to investigate capabilities. Survey responses were designed in ordinal form using the 7-point Likert scale strongly disagree/ strongly agree.

Factor	Capability	Definition	Subfactors
C1	Flexibility in Sourcing	Ability to quickly change inputs or the mode of receiving inputs	Part commonality, Modular product design, Multiple uses, Supplier contract flexibility, Multiple sources
C2	Flexibility in Order Fulfillment	Ability to quickly change outputs or the mode of delivering outputs	Alternate distribution channels, Risk pooling/sharing, Multisourcing, Delayed commitment/Production postponement, Inventory management, Rerouting of requirements
C3	Efficiency	Capability to produce outputs with minimum resource requirements	Waste elimination, Labor productivity, Asset utilization, Product variability reduction, Failure prevention
C4	Visibility	Knowledge of the status of operating assets and the environment	Business intelligence gathering, Information technology, Product, equipment and people visibility, Information exchange
C5	Adaptability	Ability to modify operations in response to challenges or opportunities	Fast rerouting of requirements, Lead time reduction, Strategic gaming and simulation, Seizing advantage from disruptions, Alternative technology development, Learning from experience
C6	Anticipation	Ability to discern potential future events or situations	Monitoring early warning signals, Forecasting, Deviation and near-miss analysis, Risk management, Business continuity/preparedness planning, Recognition of opportunities
C7	Recovery	Ability to return to normal operational state rapidly	Crisis management, Resource mobilization, Communications strategy, Consequence mitigation
C8	Dispersion	Broad distribution or decentralization of assets	Distributed decision making, Distributed capacity and assets, Decentralization of key resources, Location-specific empowerment, Dispersion of markets
C9	Collaboration	Ability to work effectively with other entities for mutual benefit	Collaborative forecasting, Customer management, Communications, Postponement of orders, Product life cycle management, Risk sharing with partners
C10	Financial Strength	Capacity to absorb fluctuations in cash flow	Insurance, Portfolio diversification, Financial reserves and liquidity, Price margin

LITERATURE

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