

From reactive to resilient

The supply chain scenario planning playbook





Introduction

No supply chain operates in a predictable environment anymore. Demand shifts unexpectedly. Suppliers miss commitments. Capacity constraints emerge. Transportation costs fluctuate. Geopolitical events disrupt carefully built plans overnight. The challenge is not predicting every disruption. The challenge is being prepared for multiple possible outcomes before they occur.

This is where Scenario Planning becomes one of the most valuable capabilities in modern supply chain management. The best organisations no longer build a single plan and hope it succeeds. Instead, they build confidence by testing alternative futures, evaluating trade-offs and understanding the potential impact of decisions before they are made.

This playbook provides a practical framework for implementing effective supply chain scenario planning and creating a more resilient planning organisation.

Chapter 1: What is scenario planning?

Scenario Planning is the process of evaluating potential future events and understanding how those events could impact supply chain performance. Rather than asking: *"What will happen?"* Scenario Planning asks: *"What could happen, and how would we respond?"*

This shift fundamentally changes how organisations manage uncertainty. Traditional planning focuses on creating a single forecast and a single operational plan. Scenario Planning creates multiple versions of the future, allowing leaders to evaluate risks, opportunities and response strategies before disruptions occur.

Common scenario examples

Demand surge

What happens if demand increases by 20%? Questions to consider:

Can production keep up?

Is sufficient inventory available?

Are suppliers able to support growth?

What impact would this have on service levels?

Demand decline

What happens if demand falls unexpectedly? Questions to consider:

Which inventories become excess stock?

How much cash becomes trapped?

Which production plans need adjustment?

Supplier failure

What happens if a critical supplier stops delivering? Questions to consider:

Which customers are affected?

What alternative supply options exist?

How long can operations continue?

Capacity constraints

What happens if manufacturing capacity is reduced? Questions to consider:

Which products should be prioritised?

What margin impact could occur?

How should customer commitments be managed?

Logistics disruption

What happens if transportation lead times double? Questions to consider:

Which locations are most vulnerable?

How much safety stock is required?

What service risks exist?

Chapter 2: Why traditional planning falls short

Most organisations still rely on planning processes built around assumptions of stability.

Typical challenges include:

Spreadsheet-driven analysis

Delayed information

Functional silos

Manual reporting

Limited visibility

As a result, organisations often discover problems only after they have already impacted customers, inventory or profitability. Symptoms include:

Constant expediting

Emergency rescheduling

Excess inventory

Service failures

Slow executive decision-making

Scenario Planning helps organisations move from reacting to problems to anticipating them.

Chapter 3: The business case for scenario planning

Leading organisations use Scenario Planning to improve performance across four critical areas.

Improved resilience

Scenario Planning helps teams prepare for disruption before it occurs. Instead of creating plans during a crisis, response options have already been evaluated and agreed.

Faster decision-making

When a disruption occurs, decision-makers already understand likely impacts and available responses. This significantly reduces response times.

Better financial outcomes

Scenario modelling helps organisations understand the impact of decisions on:

Revenue

Cost

Inventory

Service levels

Working capital

This allows smarter trade-off decisions.

Greater organisational alignment

Sales, operations, finance and supply chain teams can evaluate scenarios together and align around a common response strategy. This creates stronger cross-functional decision-making.

Chapter 4: The five scenarios every organisation should model

Regardless of industry, every organisation should regularly test these core scenarios.

Scenario 1: Demand shock

Questions:

What happens if demand increases by 10%, 20% or 30%?

Which products become constrained?

Which customers are impacted?

Expected Outputs:

Revenue impact

Service impact

Inventory impact

Capacity impact

Scenario 2: Supply network failure

Questions:

What happens if a key supplier becomes unavailable?

Which materials present the greatest risk?

What alternatives exist?

Expected outputs:

Risk exposure analysis

Alternative sourcing options

Revenue protection strategy

Scenario 3: Working capital reduction

Questions:

What inventory could be safely reduced?

Which policies create unnecessary stock?

What cash could be released?

Expected outputs:

Inventory reduction opportunities

Working capital release estimates

Service impact assessment

Scenario 4: Capacity constraints

Questions:

What happens if manufacturing capacity falls by 15%?

How should production be prioritised?

Expected outputs:

Production priorities
Customer impact analysis
Financial trade-off assessment

Scenario 5: service-level optimisation

Questions:

Can service levels improve without increasing inventory?
Which products deserve differentiated service strategies?

Expected outputs:

Service-level recommendations
Inventory investment requirements
Customer impact analysis

Chapter 5: Building a supply chain digital twin

The most advanced organisations are moving towards supply chain digital twins. A digital twin creates a virtual representation of the supply chain, allowing organisations to simulate changes before implementing them.

A digital twin may include:

Demand signals
Inventory policies
Manufacturing capacity
Supplier constraints
Distribution networks
Service requirements

This enables planning teams to evaluate future scenarios safely and rapidly. Rather than debating assumptions, decisions can be tested using realistic simulations.

Chapter 6: Using SAP IBP for scenario planning

Modern planning platforms make Scenario Planning significantly easier than traditional spreadsheet approaches. SAP IBP supports scenario-based planning through capabilities including:

What-if simulations

Compare multiple planning outcomes before making decisions.

Demand scenarios

Evaluate the impact of changing demand assumptions.

Supply and capacity analysis

Understand bottlenecks before they impact customers.

Inventory optimization

Assess trade-offs between service and working capital.

Executive decision support

Provide stakeholders with a common planning environment and shared data.

Chapter 7: A practical scenario planning framework

TCT recommends a five-step approach.

Step 1: Identify critical risks

Examples:

Demand variability

Supplier dependency

Capacity limitations

Logistics disruption

Prioritise based on impact and likelihood.

Step 2: Define planning assumptions

Document:

Demand assumptions

Service targets

Inventory policies

Lead times

Financial objectives

Clear assumptions improve decision quality.

Step 3: Create alternative scenarios

Develop realistic:

Best-case scenarios

Expected scenarios

Worst-case scenarios

Avoid creating only catastrophic scenarios. Focus on those most likely to affect performance.

Step 4: Evaluate trade-offs

Assess impacts on:

Revenue

Profitability

Inventory

Service

Customer experience

Step 5: Agree response plans

Document:

Ownership

Decision triggers

Escalation pathways

Contingency actions

Preparation is where resilience is created.

Chapter 8: Common mistakes to avoid



By Chris Curtis,
Supply Chain Planning Lead at TCT

Mistake 1: Building too many scenarios

Focus on the few scenarios that matter most.

Mistake 2: Ignoring financial impact

Every scenario should be linked to financial outcomes.

Mistake 3: Running scenarios once per year

Scenario Planning should become an ongoing capability.

Mistake 4: Excluding finance

Integrated decisions require financial alignment.

Mistake 5: Treating technology as the solution

Technology enables Scenario Planning. Process, governance and decision-making create value.

Scenario Planning Readiness Assessment

Rate your organisation from 1-5.

Capability	Score
Forecast visibility	
Supply visibility	
Inventory insight	
Executive alignment	
Data quality	
Planning technology	
Scenario modelling capability	
Risk management process	
Results	

8–16: Reactive planning

Significant opportunity to improve resilience.

17–24: Developing planning capability

Foundations are emerging but gaps remain.

25–32: Advanced planning organisation

Scenario Planning is supporting business performance.

33–40: Leading practice

Scenario Planning is a strategic capability and competitive advantage.

Conclusion

Disruption is no longer an exception. It is a permanent feature of modern supply chains. The organisations that outperform their competitors are not necessarily those that predict the future most accurately. They are the organisations that prepare for it most effectively.

Scenario Planning provides the visibility, agility and confidence needed to make better decisions under uncertainty. When supported by strong processes, trusted data and technologies such as SAP IBP, Scenario Planning becomes more than a risk-management exercise. It becomes a strategic advantage.

About TCT

TCT helps organisations improve planning performance through connected processes, systems, people and data.

Our expertise includes:

SAP IBP Implementation & Transformation

Demand Planning

Inventory Optimisation

Supply & Capacity Planning

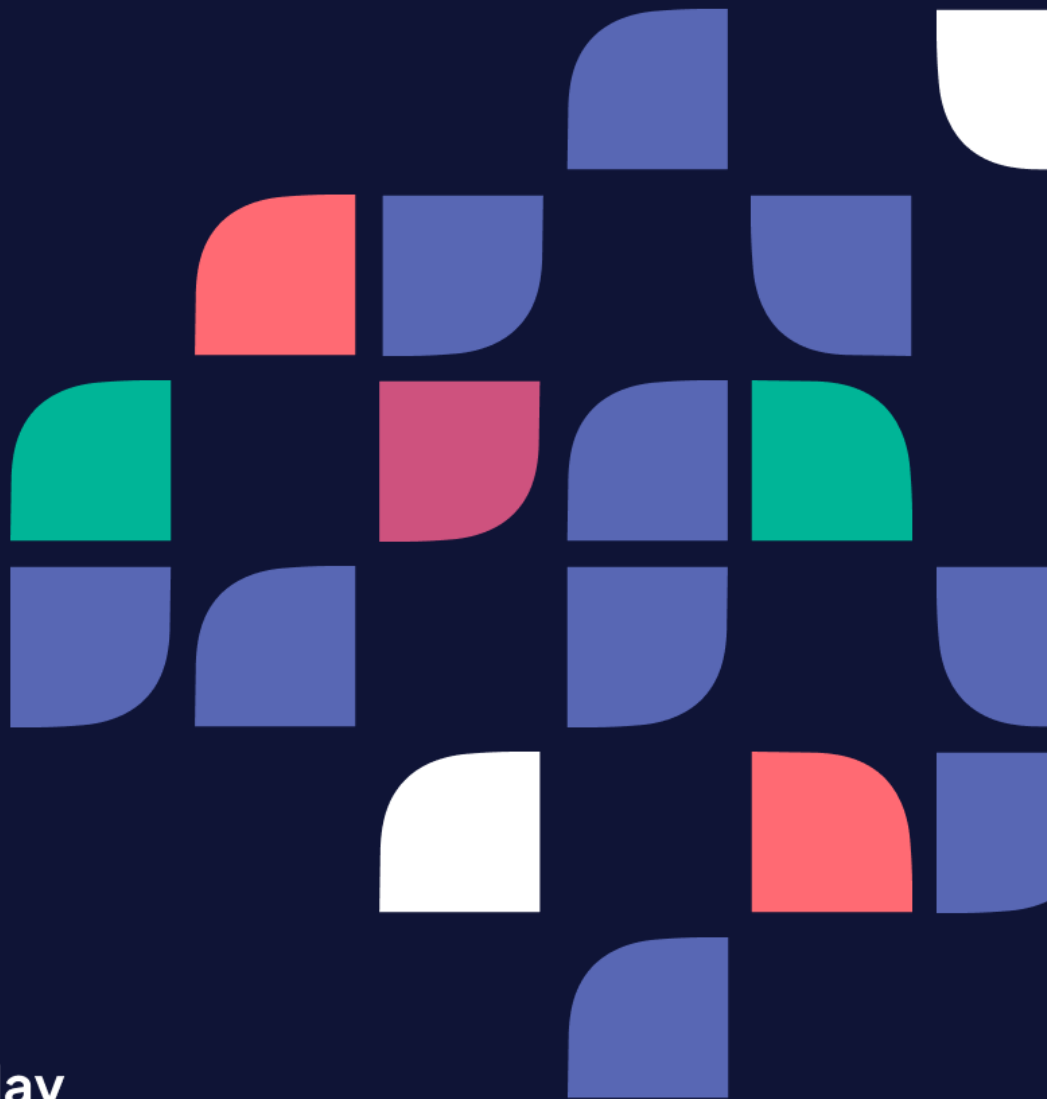
S&OP & Integrated Business Planning

Scenario Planning & Risk Management

Intelligent Supply Chain Planning

Complimentary scenario planning workshop

Discover how prepared your organisation is for future disruption. **Book a free 90-minute Scenario Planning Discovery Workshop with a TCT expert and receive a tailored resilience roadmap.**



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