CTSC CERTIFIED IN TRANSFORMATION FOR SUPPLY CHAIN

MODULE 2: PREPARING FOR SUPPLY CHAIN TRANSFORMATION

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Module 2 Overview

Preparing for Supply Chain Transformation

- **Section A:** Select Supply Chain Transformation Drivers
- **Section B:** Assess Supply Chain Current State
- **Section C:** Conceptualize the Future-State Supply Chain Operating Model
- **Section D:** Identify Initiatives to Address Gaps
- **Section E**: Initiate Transformation Work Streams and Projects
- **Section F:** Develop and Iterate Preliminary Transformation Business Cases
- **Section G:** Perform Post-Approval Tasks

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CTSC CERTIFIED IN TRANSFORMATION FOR SUPPLY CHAIN

SECTION A: SELECT SUPPLY CHAIN TRANSFORMATION DRIVERS

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Section A Learning Objectives

- Create a portfolio or program charter to authorize and guide the transformation.
- Use tools such as STEEPLE or PESTLE to assess external transformation drivers.
- Assess current and needed technology.
- Conduct supply chain maturity assessments.
- Assess readiness for transformation.

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Create Portfolio Charter for Design Team and Core Steering Team

Charter content details:

- Scope and objectives
- Background and business need
- Aligned assumptions and expectations
- Formal contract of personnel involvement
- Selected metrics, schedule, deliverables, etc.

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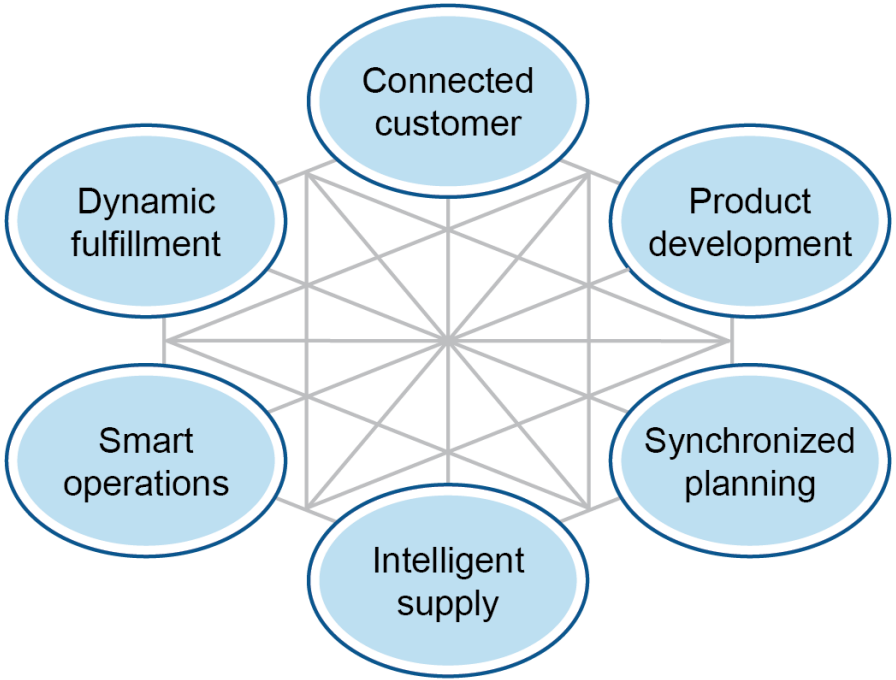
SCOR DS and DCM for Supply Networks



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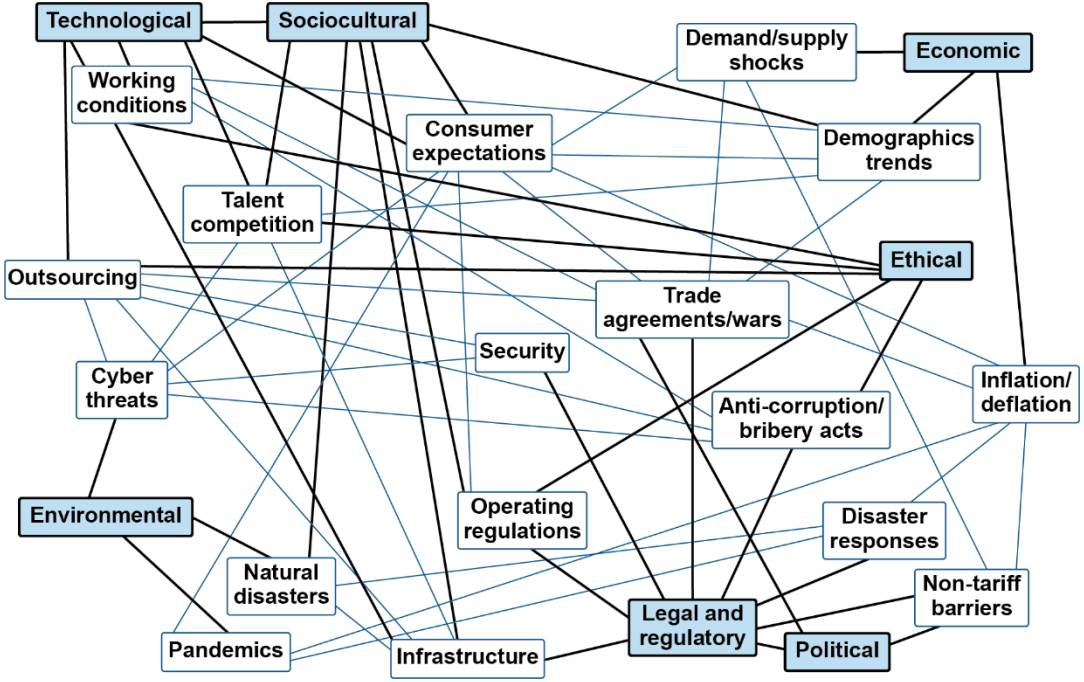
Supply Chain Transformation Drivers

Environmental Scanning



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Supply Chain Transformation Drivers

Macroeconomics and the Macro Environment

Traditional macroeconomic drivers include currency fluctuations and supply and/or demand shocks.

Currency fluctuations may occur as inflation or deflation or through changes in currency exchange rates.

Demand and supply shocks may be driven by multiple reasons.

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Supply Chain Transformation Drivers

Industry Characteristics

- Product characteristics
- Manufacturing and production processes
- Lean versus resilient supply chains
- Customer bases

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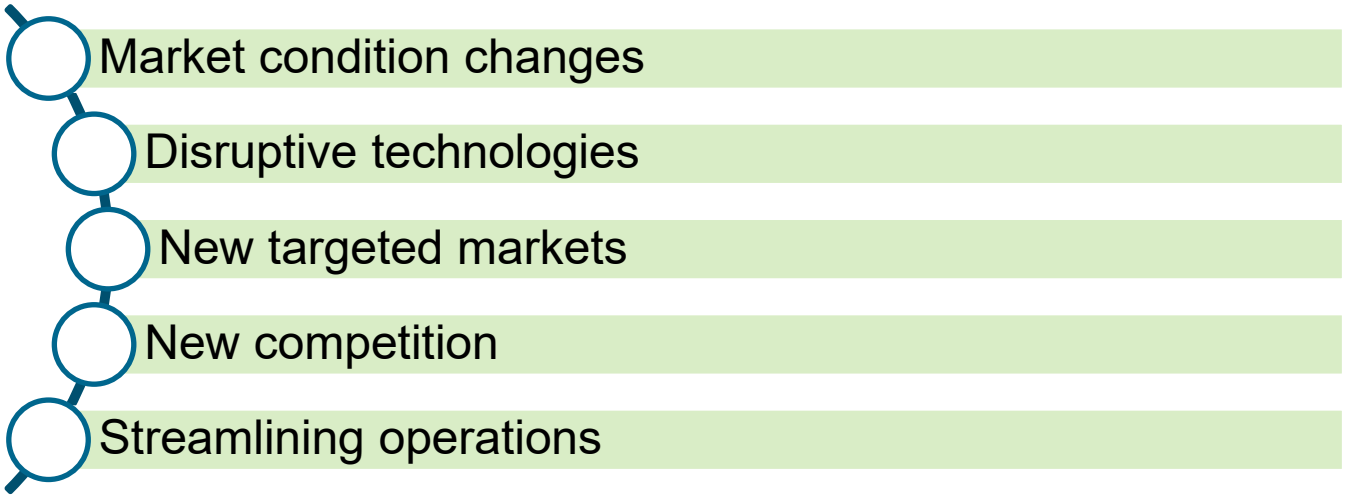
Supply Chain Transformation Drivers

Market Characteristics

- Supply chains must be set up and run to support the organization's strategy.
- Market characteristics may change due to many reasons:



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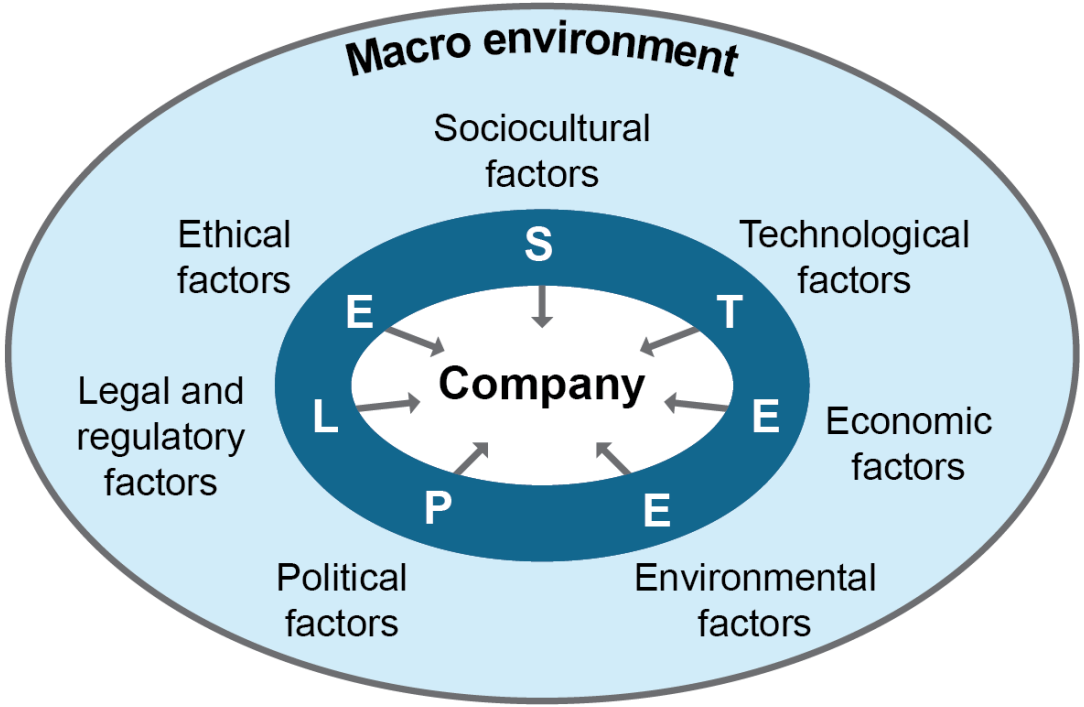
Supply Chain Transformation Drivers

STEEPLE and PESTLE/PESTEL



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Supply Chain Transformation Drivers

STEEPLE and PESTLE/PESTEL, continued

Factor	Details and Examples
Sociocultural	• Changing population demographics • Economic inequality • Consumer sustainability activism • Pandemics
Technological	• Emerging and speculative technology • Labor availability (remote work) • Cyber threats
Economic	• Macroeconomic conditions • Consumer confidence
Environmental	• Growing consumer interest in sustainable practices • Natural events and trends along with reactions to those events and trends • Environmental disasters

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Supply Chain Transformation Drivers

STEEPLE and PESTLE/PESTEL, continued

Factor	Details and Examples
Political	• Economy's political, governmental, or institutional environment • Public policies • Risk of sudden change (elections, civil unrest)
Legal/ regulatory	• Enacted laws and regulations • International drivers • National laws and regulations
Ethical	• Business ethics • Good governance • Social responsibility • Moral standards • Ethical sourcing • Accountability and sustainability

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Industry 4.0 and Supply Chain Transformation

Industry 4.0

- A concept of organizational and technological changes along with value chain integrations and new business models development that are driven by customer needs and mass customization requirements and enabled by innovation technologies, connectivity, and information technology integration. (*Dictionary*)

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Strategic Imperatives

Supply Chain Transformation Technology Selection/ Utilization Process

Example Process Steps

- Define vision and goals.
- Evaluate current abilities.
- Select a host platform.
- Develop automated planning processes.
- Select data capture/analysis processes.
- Train employees.

Inherent Challenges

- High investment requirements
- Under-equipped workforce
- Over-focus on processes and solutions
- Failure to use real-time data
- Poor system integration

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Sustainability and Social Responsibility Imperative

- Supply chain produces majority of pollution and greenhouse gas emissions.
- Climate change:
  - Particular concern for the growth and production of food
  - Results in supply chain disruptions around the world
  - Important to balance efforts with cost efficiency

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Voice of the Customer Insights

Novel product uses	Quality needs and expectations	Interest in new products and services
New business models	Speed, dependability, and cost objectives	Customer satisfaction
Branding improvements	Customer loyalty issues	Competitor product information

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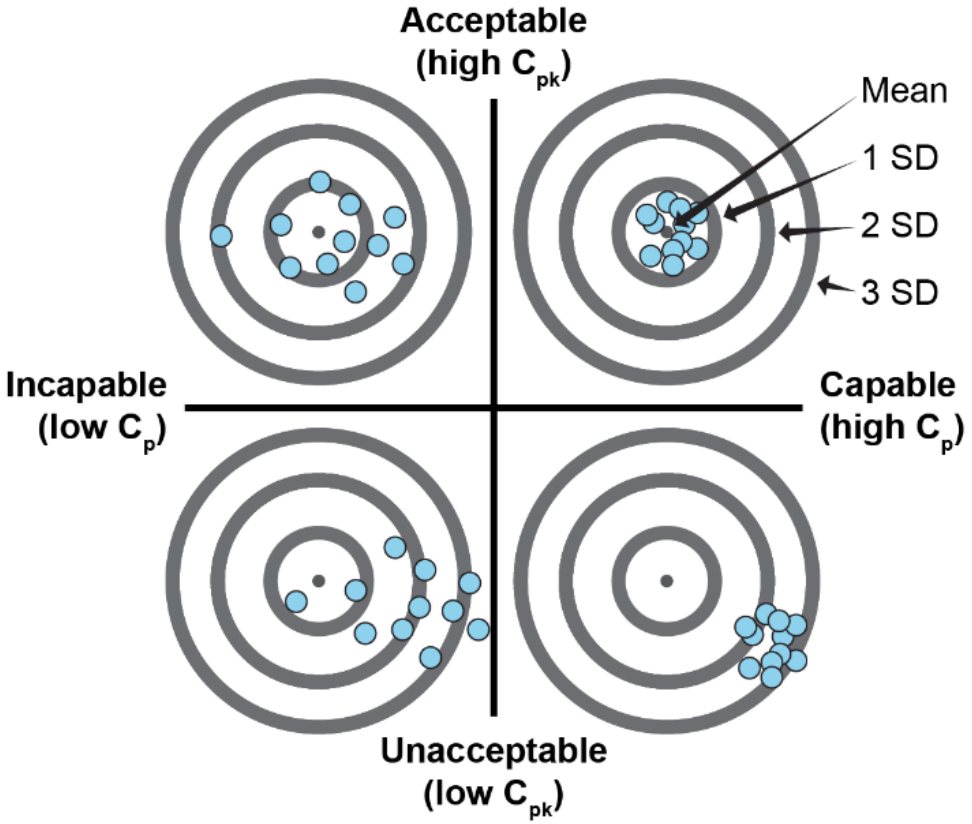
Voice of the Process

- Processes both capable and acceptable (stable).
- Closely related to process capability is process acceptability.



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Measuring Process Capability and Acceptability

$$C_p = \frac{USL - LSL}{6 \times SD}$$

$$C_{pk} = \text{Lesser of } \frac{(USL - Mean)}{3 \times SD} \text{ or } \frac{(Mean - LSL)}{3 \times SD}$$

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Voice of the Business and Voice of the Employee

Voice of the Business

- Captures stakeholder needs and requirements
- May include
  - Shareholders/owners
  - Leadership
  - Boards of directors

Voice of the Employee

- Captures requirements of individual employees
- May include opinions on
  - Culture
  - Policies
  - Systems
  - Infrastructure
  - Working conditions
  - Transformation strategy

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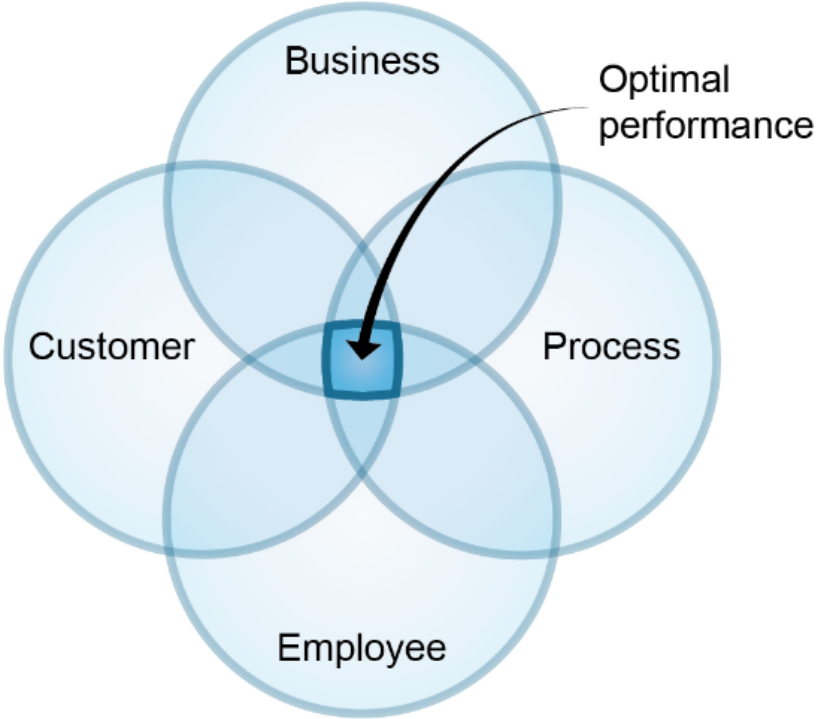
Balancing Preferences from the Voices



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Requirements for Success in Digital Transformation

- Defined vision
- Clear goals
- Defined success metrics (should include both traditionally important metrics and metrics dealing with supply chain complexity)

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Data Management and Data Analytics Technologies

- As digitalization of the supply chain is implemented, massive amounts of data will be generated.
- Gaps between current and desired technology capabilities may be related to multiple dimensions.

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Data Technology

Big Data	IOT	SCADA	Sensors and Telematics
▪ Volume ▪ Variety ▪ Velocity ▪ Value ▪ Veracity	▪ Manufacturing processes ▪ Goods/materials movement ▪ Environmental conditions ▪ Equipment status ▪ Unexpected deviations ▪ Product utilization	▪ Monitoring and control focus ▪ Legacy SCADA systems are increasingly able to integrate with other systems.	▪ Provide process visibility and automation ▪ Include photosensors, RFID, lasers, lidar

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Data Technology, continued

DSS

- Assists in selecting and evaluating courses of action
- Draws from other systems (ERP, APS, etc.)

AI

Useful areas:

- Forecasting and sourcing improvement
- Operations optimization
- Automation
- Decision support
- Targeted marketing/pricing

Cloud Computing

- Data storage accessible over internet
- Benefits include increased collaboration, hardware costs shifted, scalable, flexible

Blockchain

- Reliable, secure method of tracking goods movements
- Benefits include reliable evidence, automated capture and distribution of data, preventing counterfeits

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Product and Service Technologies

Smart Operations

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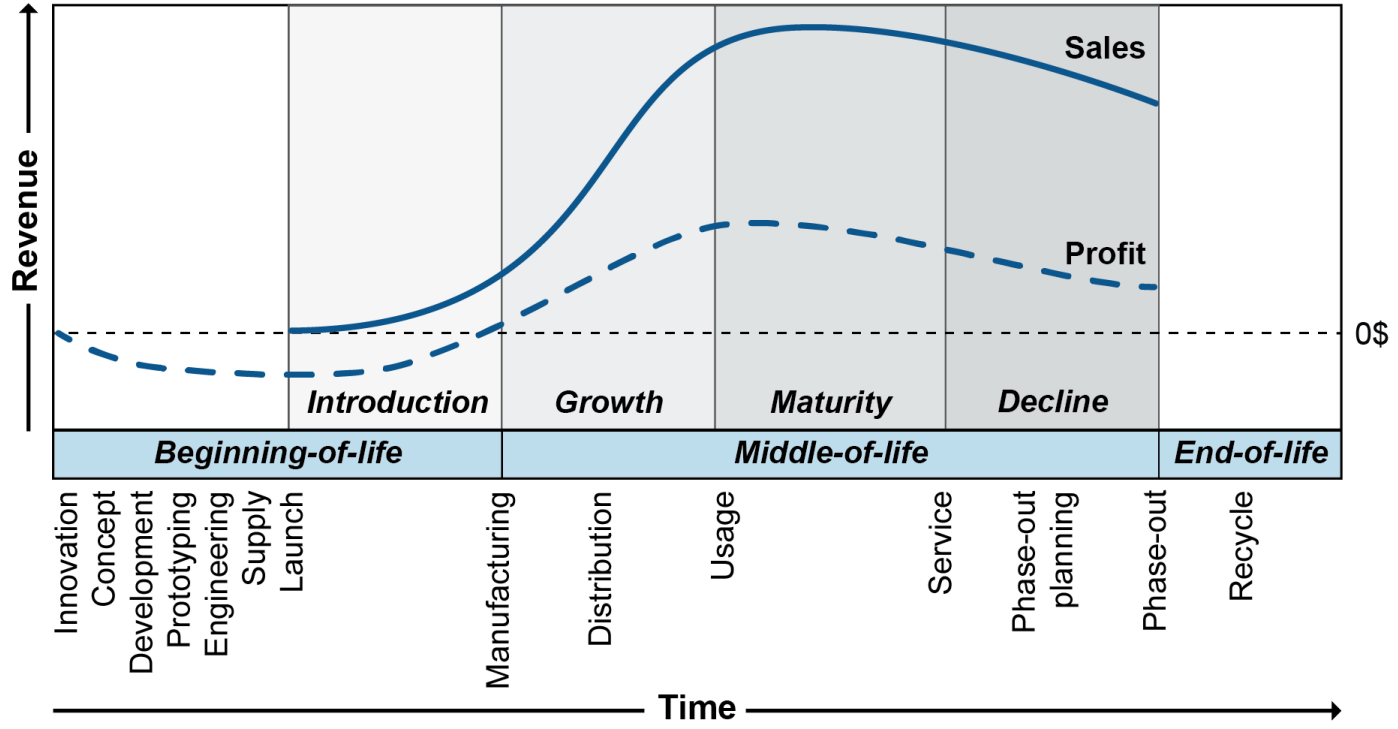
Product Life Cycle Management



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Enterprise Resource Planning

- Transactionally focused
- Modular options
- Central database for master data
- Designed for interoperability with other systems

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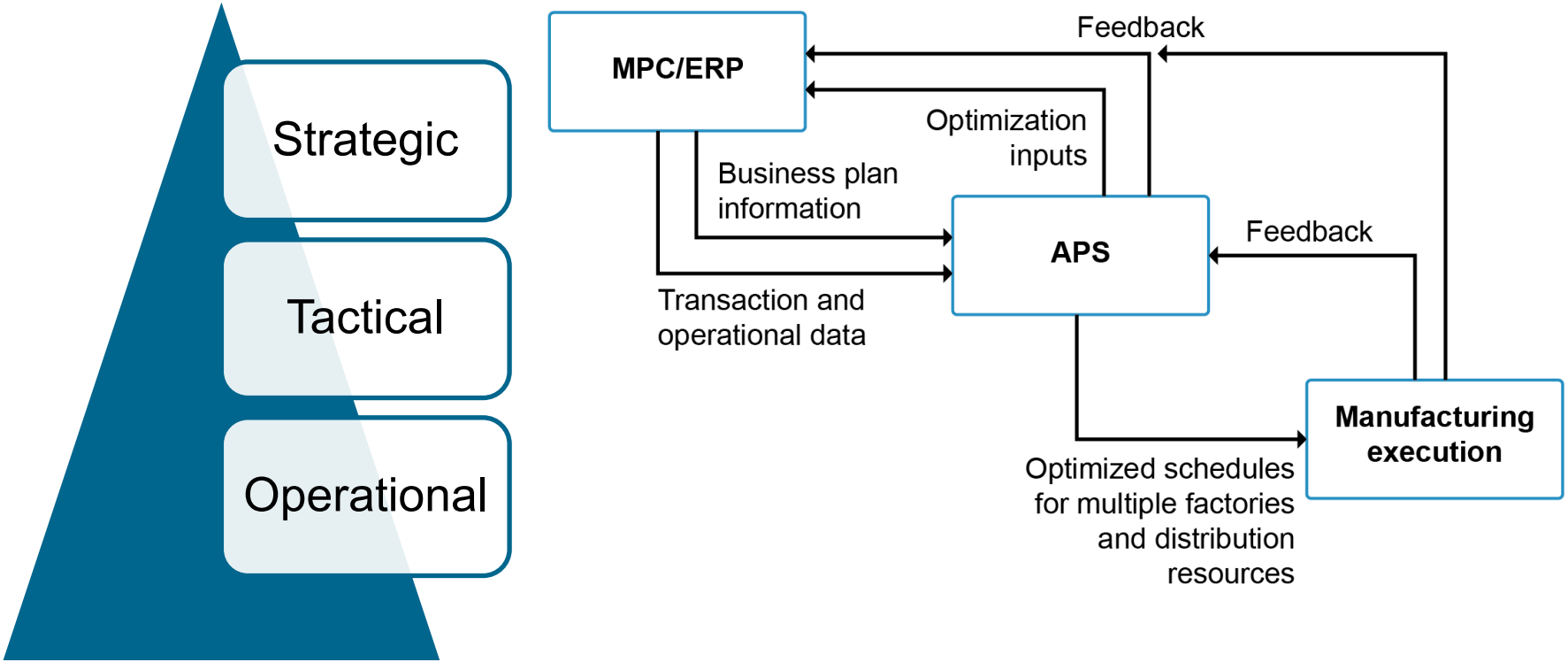
Advanced Planning and Scheduling



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Warehouse Management Systems

Database Inclusions

- Product profiles
- Slot locations
- Labor standards for planning
- Shipper information
- Customer information

WMS Functions

- Manage orders and inventory.
- Organize warehouse work.
- Monitor and analyze performance.

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CMMS and RDSM

CMMS

- Software programs that monitor assets
- Can reduce unexpected breakdowns
- Can optimize life span of equipment

RDSM

Provides

- Plant-level coordination at supply network level
- Real-time visibility into supply disruptions and unmet demand

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Digital Supply Chain Control Towers

- Allow customers to act on the information they provide
- Dependent on
  - IOT
  - RFID
  - Sensors
  - Telematics
  - ERP
  - Warehouse management
  - Transportation management

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Supply Chain Event Management

- Simulates, controls, and responds to unplanned events and exceptions to planned events
- Reduces or eliminates customer service errors
- Active visibility, enabling the following activities for events
  - Monitoring
  - Measurement
  - Notification
  - Simulation
  - Control

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Maturity Assessment Tools

- Identify multiple levels or categories of organizational performance
- Multiple models:
  - PwC model accompanying SCORmark
  - Deloitte-TM Forum model
  - Area-specific models (GHSC, Demand-Driven Institute's Adaptive Enterprise Model Development Path)
  - Gartner model

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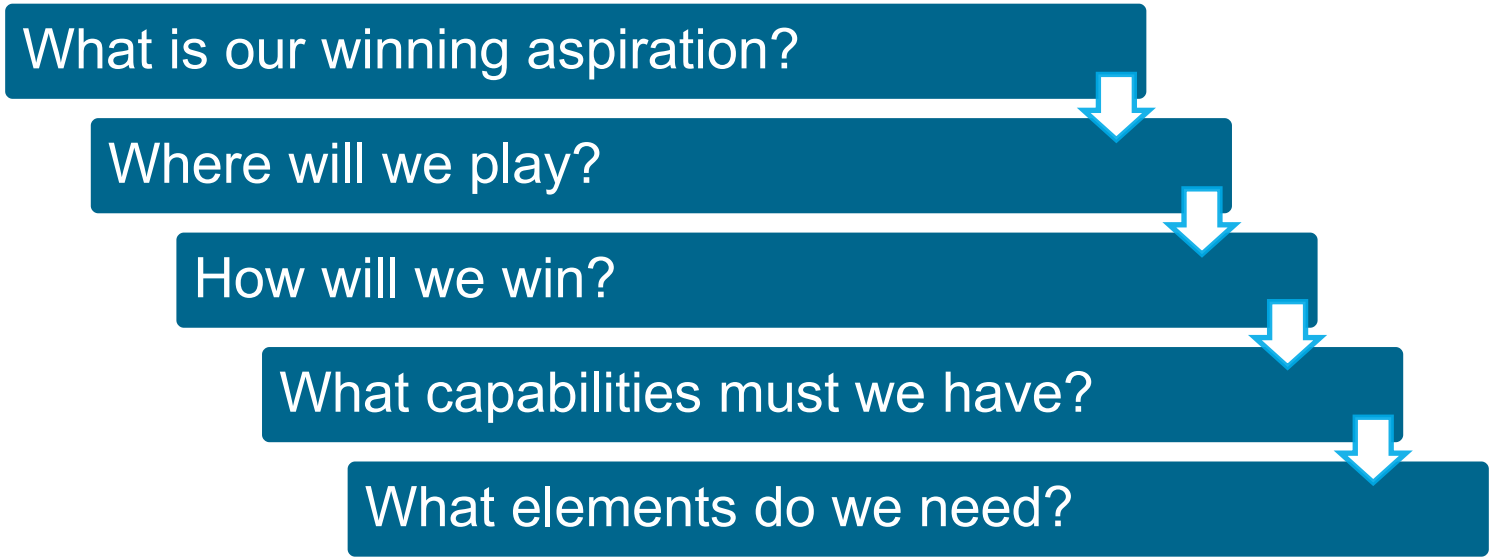
Maturity Assessments

Digital Capabilities Model (DCM) for Supply Networks



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Capability Maturity Model Integration

Capabilities	Maturity Levels
▪ Capability Level 0: Incomplete ▪ Capability Level 1: Performed ▪ Capability Level 2: Managed ▪ Capability Level 3: Defined	▪ Maturity Level 1: Initial ▪ Maturity Level 2: Managed ▪ Maturity Level 3: Defined ▪ Maturity Level 4: Quantitatively managed ▪ Maturity Level 5: Optimizing

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Identify Common Misalignments

Common Misalignment Causes

- Unspoken disagreement
- Vague goals
- Failure to achieve ROI
- Lack of organizational support
- Fragmented strategies
- Poorly executed S&OP
- Lack of plan for technology investment
- Mismatched structure/culture and ERP
- Ineffective organizational structure
- Poor interoperability
- M&A side effects
- Poor processes
- Improper supply chain scope change
- Poor plan for scalability
- Failure to identify improvement areas
- Change management failure

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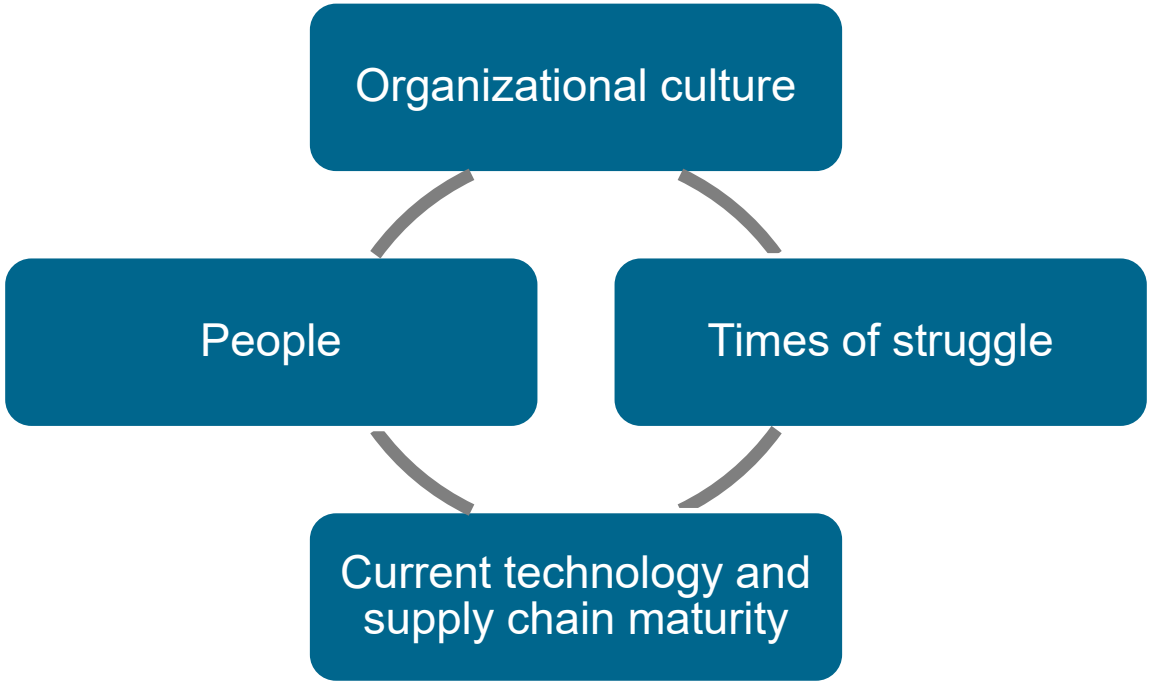
Identify Common Misalignments

Assess Readiness for Transformation



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Identify Common Misalignments

Common Forms of Bias

Anchoring	Availability	Confirmation	Framing
Groupthink	Overconfidence	Selective perception	Sunk cost

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FOR SUPPLY CHAIN

SECTION B: ASSESS SUPPLY CHAIN CURRENT STATE

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Section B Learning Objectives

- Define a balanced set of integrated metrics.
- Convert generic metrics to organization-specific versions.
- Plan and conduct data gathering.
- Prioritize supply chain design through segmentation.
- Perform geographic and process mapping.
- Benchmark process and performance metrics.
- Create detailed as-is maps, models, and diagrams.
- Understand how to use the staple-yourself-to-an-order walkthrough/interview process.
- Analyze defects and identify performance gaps.

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Define a Balanced Set of Integrated Metrics

Several methods can be used to select a balanced set of integrated metrics:

- Use metrics from established framework, like SCOR DS.
- Fill out benchmarking survey, e.g., SCORmark, and select from results.
- Use set of metrics from internal or consulting source.
- Supplement one of these sources with custom metrics.

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Convert Generic Metrics to Organization-Specific Versions

Examine/Discuss	Define	Organize
• Metric's standard definition • Calculation • Data collection process	• Exact point at which each process or calculation starts • Exact point at which each process or calculation ends	• All metrics descriptions should be recorded in one file. • Data collected and calculated should also be gathered in one location.

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Prioritize Supply Chain Design Using Supply Chain Segmentation

Supply Chain Segmentation		Customers							
		West Coast				East Coast			
Products		S-Mart	Auto Bros	Costking	Carfix	Vehlicle Proof	Night Drive	The Mall	Automotive Ecommerce
Automotive Oil	Private	X	X	X					X
	Branded	X		X	X	X	X	X	X
Cleaning Products	Private	X	X	X					X
	Branded	X			X		X		
Lubricants	Private		X	X		X		X	
	Branded	X		X	X			X	X

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Prioritize Supply Chain Design Using Supply Chain Segmentation, continued

Supply Chain Segmentation		Customers							
		West Coast				East Coast			
Products		S-Mart	Auto Bros	Costking	Carfix	Vehlicle Proof	Night Drive	The Mall	Automative Ecommerce
Automotive Oil	Private	4,535,345	5,676,576	12,313,543	-	-	-	-	64,758
	Branded	543,545	-	65,464	2,345,765	464,767	876,868	4,564	343,454
Cleaning Products	Private	43,543	675,757	3,424,234	-	-	-	-	544,657
	Branded	86,787	-	-	3,454,354	-	543,534	-	-
Lubricants	Private	-	9,756,345	67,657	-	56,455	-	34,344	-
	Branded	1,325,568	-	8,678,557	12,347	-	-	34,456	45,356
Total		6,534,788	16,108,678	24,549,455	5,812,466	521,222	1,420,402	73,364	998,225
Annual Revenue					**53,005,387**				**3,013,213**

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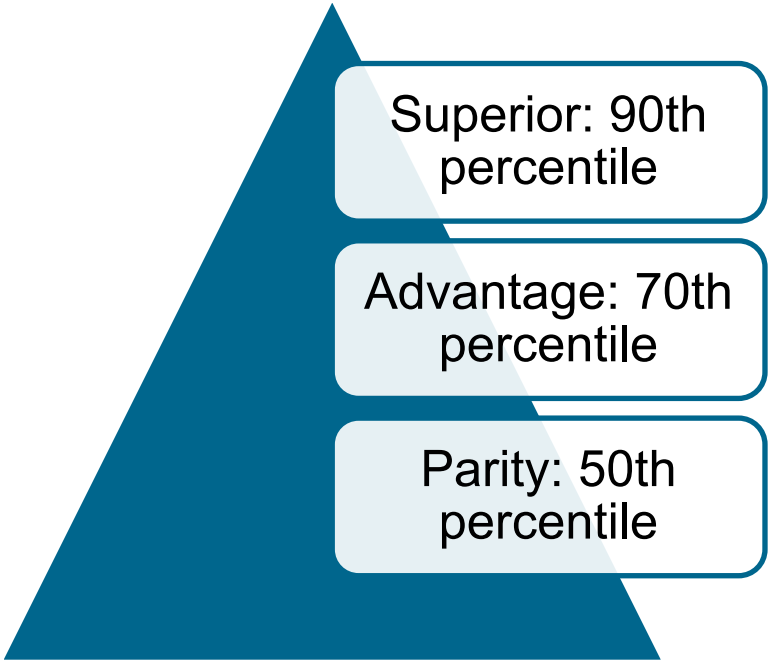
Set Superior, Advantage, or Parity Targets for Major Attributes



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Building a Competitive Strategy Matrix for Multiple Channels and Markets

Attribute	West Coast Distributor	East Coast Distributor	West Coast Bulk Chemicals	West Coast Bulk Oils/Lubricants
Reliability	Advantage	Parity	Advantage	Advantage
Responsiveness	Parity	Advantage	Parity	Parity
Agility	Parity	Parity	Parity	Parity
Cost	Advantage	Advantage	**Superior**	**Superior**
Profit	Parity	Parity	Parity	Parity
Assets	**Superior**	**Superior**	Advantage	Advantage
Environmental	Parity	Parity	Advantage	Advantage
Social	Advantage	Advantage	Parity	Parity

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Perform Geographic and Process Mapping of Selected Chain

Issues that may be identified

- Too many nodes or too few
- Nodes not in optimal location
- Too many or too few processes
- Incorrect processes or incorrect process placement
- Too many or too few links or suboptimal links

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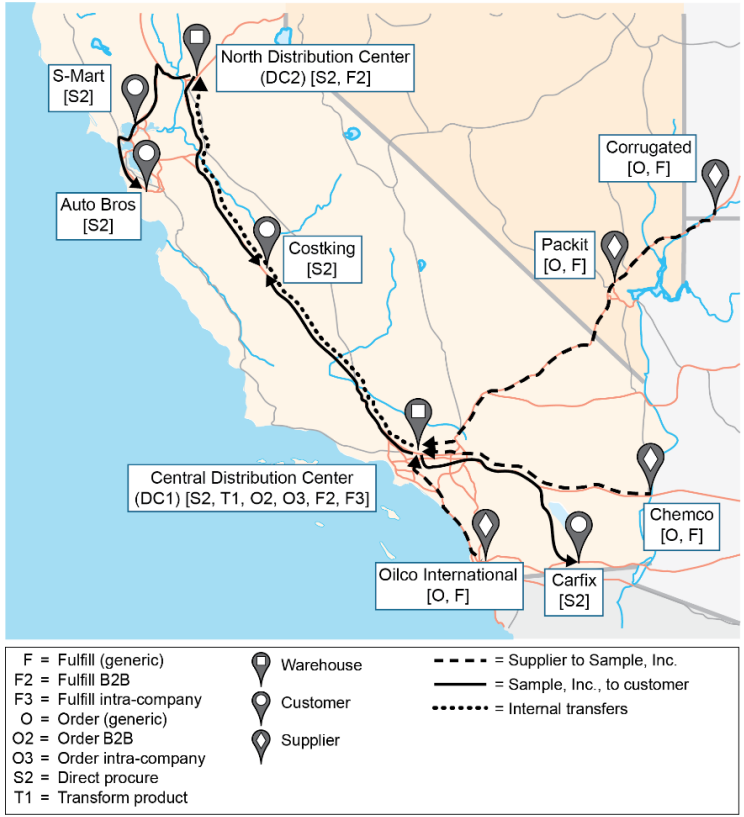
As-Is Geographic Mapping



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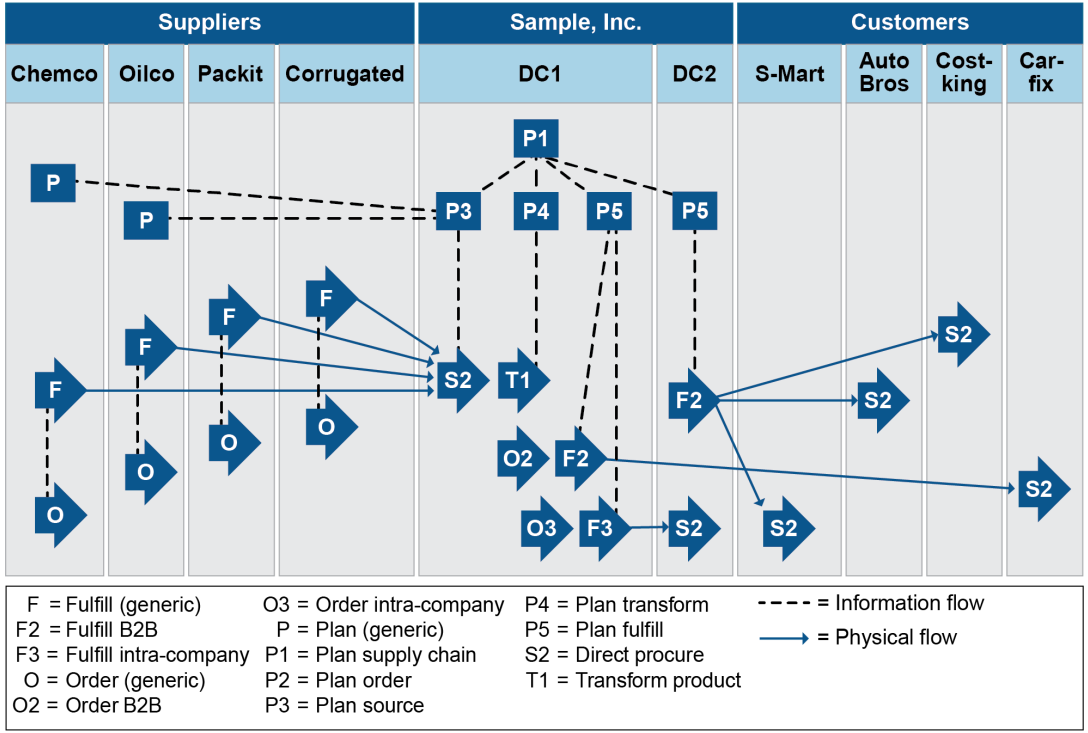
As-Is Process Mapping (Thread Diagram)



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Benchmarking Principles

General Principles

- Benchmarking relies on use of standardized metrics.
- Can be linked to clear lines of responsibility.
- Avoids overly subjective metrics.

Industry Comparison Benchmarking

- Industry comparison benchmarking can be done without submitting any data to a third party.
- Organizations can get access to industry comparison benchmarking data from many sources.

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Third-Party Scorecard Survey Benchmarking (e.g., SCORmark)

Attribute	Metrics	Target Performance	Your Organization	Parity (50%)	Advantage (70%)	Superior (90%)	Gap to Target
Reliability	Perfect customer order fulfillment	Advantage	70%	X 77%	85%	93%	-15%
Responsiveness	Customer order fulfillment cycle time	Parity	6	9.1	7 X	4	3.1
Agility	Supply chain agility, strategic (days)	Parity	35	X 30	25	20	-5
Cost	Total supply chain management cost (% of revenue)	Advantage	8%	8.70% X	5%	2.40%	-3%
Profitability	EBIT (as a % of revenue)	Parity	16%	14%	X 17%	20%	2%
Assets	Cash-to-cash cycle time (days)	Superior	52	55.4 X	30.5	0	-52
Environmental	Waste generated (metric tons)	Parity	14.3	X 13.4	11.2	9.2	-0.9
Social	Training (hours per year)	Advantage	80	X 82.1	91.5	100.1	-11.5

X Your organization

Source: Adapted from SCOR-Professional Training. Used with permission. Values are for example only.

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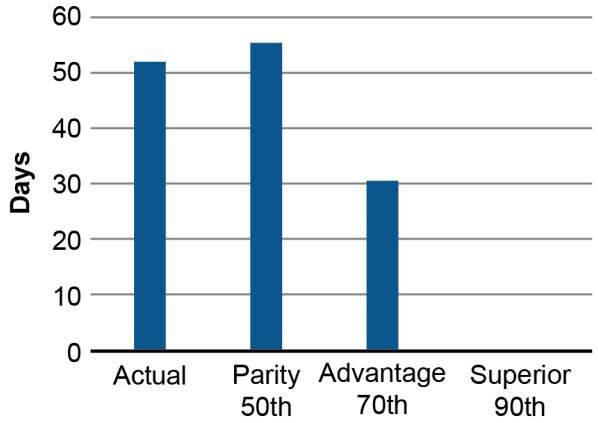
Third-Party Scorecard Survey Benchmarking (e.g., SCORmark), continued

Cash-to-Cash Cycle Time
Your Score: 52 days
You chose the superior target for this metric. While you have scored above parity by -3.4 days, your target gap is -52 days.



Metric	Actual	Parity 50th	Advantage 70th	Superior 90th	Gap
Cash-to-Cash Cycle Time (Days)	52	55.4	30.5	**0**	-52
Days Payables Outstanding	55	66	60	**54**	-1
Days Sales Outstanding	27	**30**	33	39	3
Inventory Days of Supply	80	90	60	**15**	-65
• Finished Goods	67	50	30	**10**	-57
• Work In Process	1	**1**	0.5	0	0
• Raw Material	12	20	15	**5**	-7

= Targeted competitive level

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Create Detailed As-Is Maps, Models, and Diagrams

Refining As-Is Geographic and Process Maps to Better Study Gaps

- Benchmarking results will reveal areas that require collection of additional as-is information.
- Refinements may include
  - Geographic and process maps
  - Detailed process models
  - RACI diagrams.

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Gather Data Using Interviews to Make Detailed Process Models

Cover cross-section of organization.

Include supply chain partners.

Be both horizontal and vertical.

Avoid questionnaires.

Encourage open, honest discussion.

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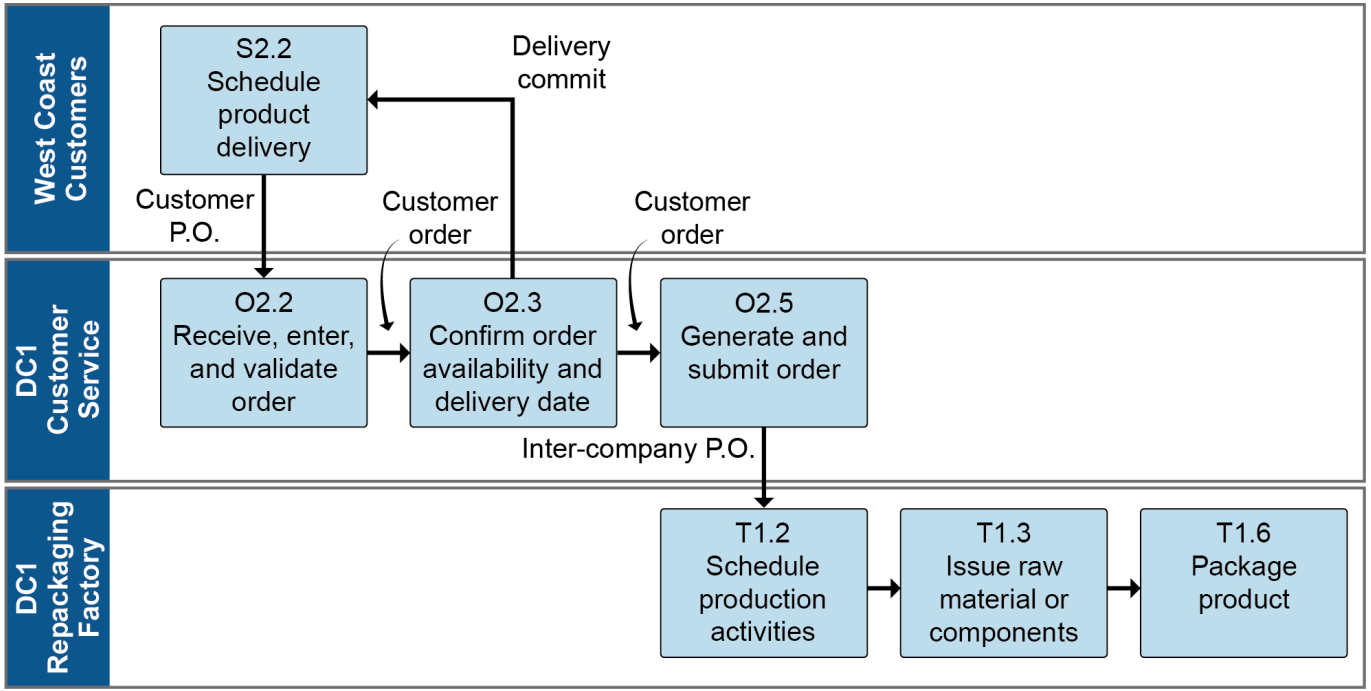
Create Detailed As-Is Maps, Models, and Diagrams

Detailed As-Is Process Models (Workflow Diagrams)



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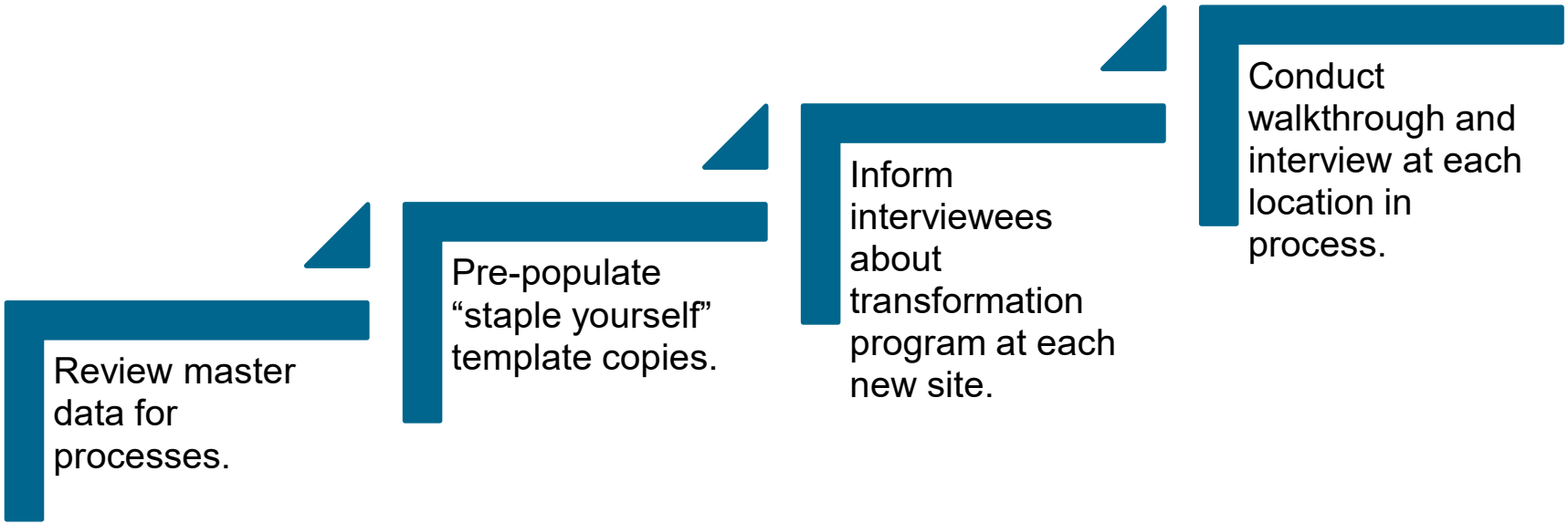
Create Detailed As-Is Maps, Models, and Diagrams

Create Detailed As-Is Process Models and RACI Diagrams (i.e., SCOR DS Level 4)



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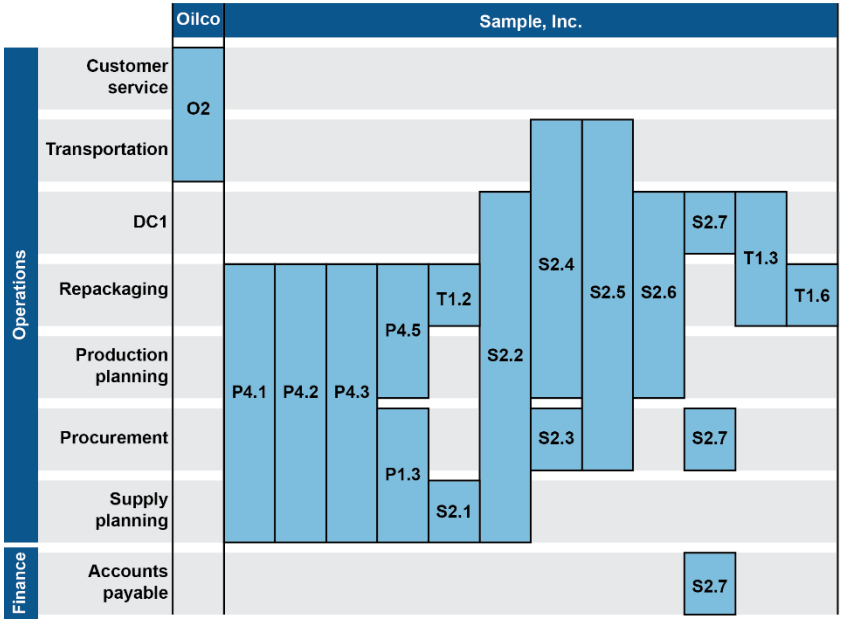
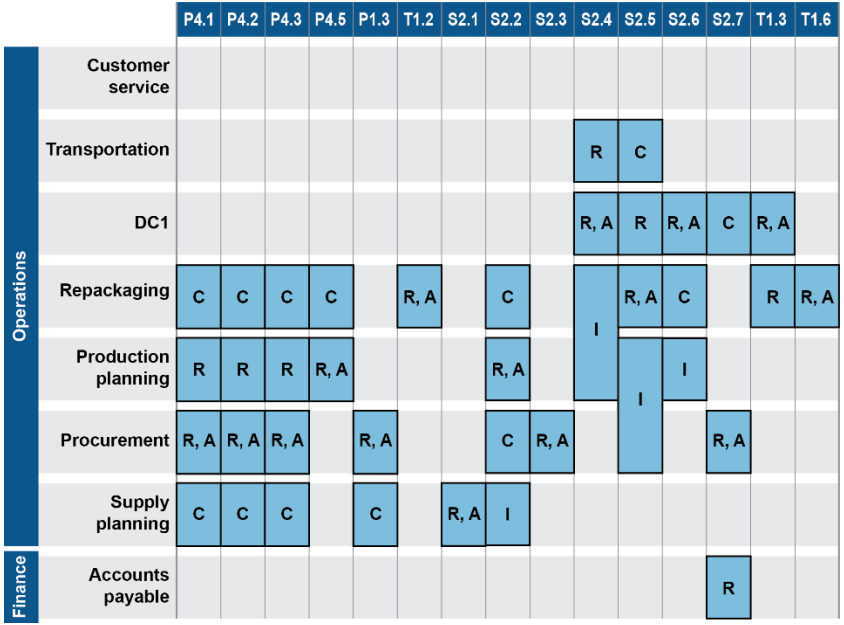
Create Detailed As-Is Maps, Models, and Diagrams

RACI Diagrams for Process Flows





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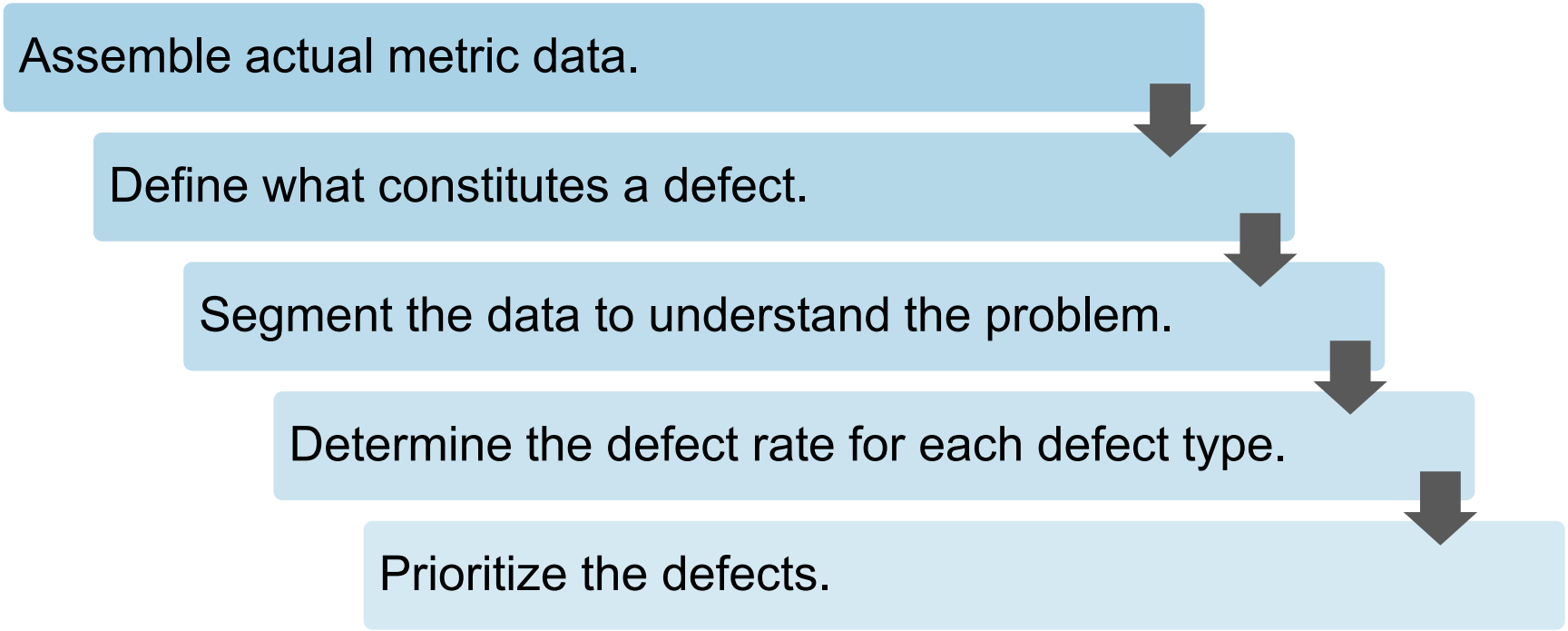
Perform Gap Assessments

Gap Assessments, Defects, Supply Chain Standards/ Frameworks: Metric Defect Analysis Steps



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Perform Gap Assessments

Analysis for Attribute Areas

Reliability	Responsiveness	Agility	Cost
Profit	Assets	Environmental	Social

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Analysis for Perfect Customer Order Fulfillment

30.0%	20.0%	3.0%	3.0%	4.0%
Perfect Customer Order Fulfillment (RL.1.1) Failure Rate	**Incomplete Shipments Rate (RL.2.1)**	**Missed Original Customer Commit Date Rate (RL.2.2)**	**Documentation Error Rate (RL.2.3)**	**Condition Error Rate (RL.2.4)**
Wrong quantity assembled and shipped	0.25%			
Insufficient ordering due to actual demand > forecast	15.0%			
Late raw material pickup	0.25%			
Products mislabeled	0.25%			0.5%

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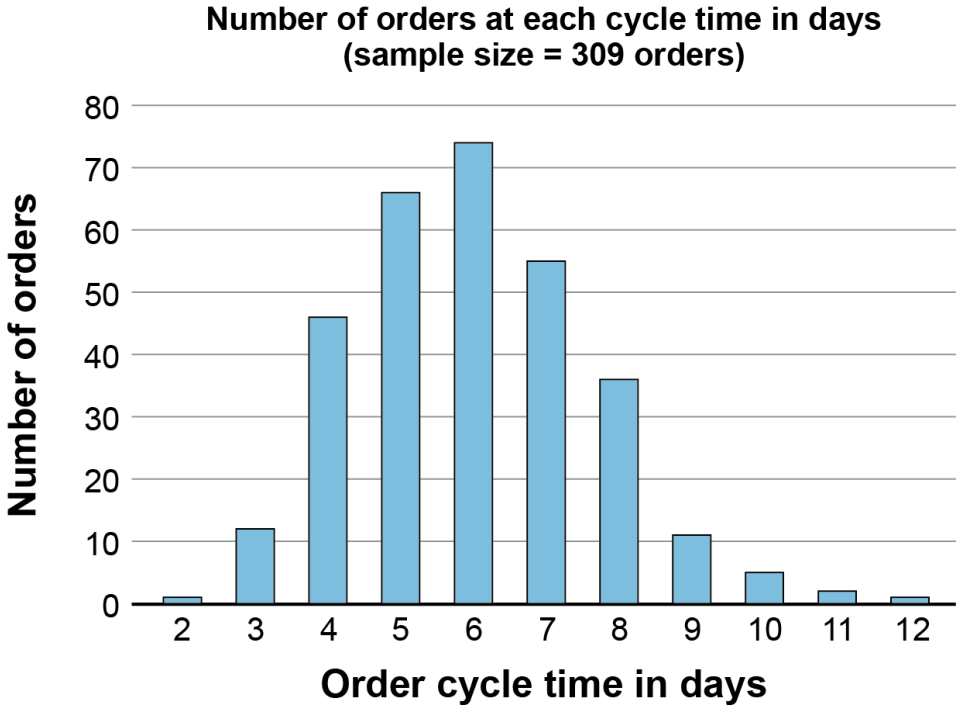
Analysis for Customer Order Fulfillment Cycle Time



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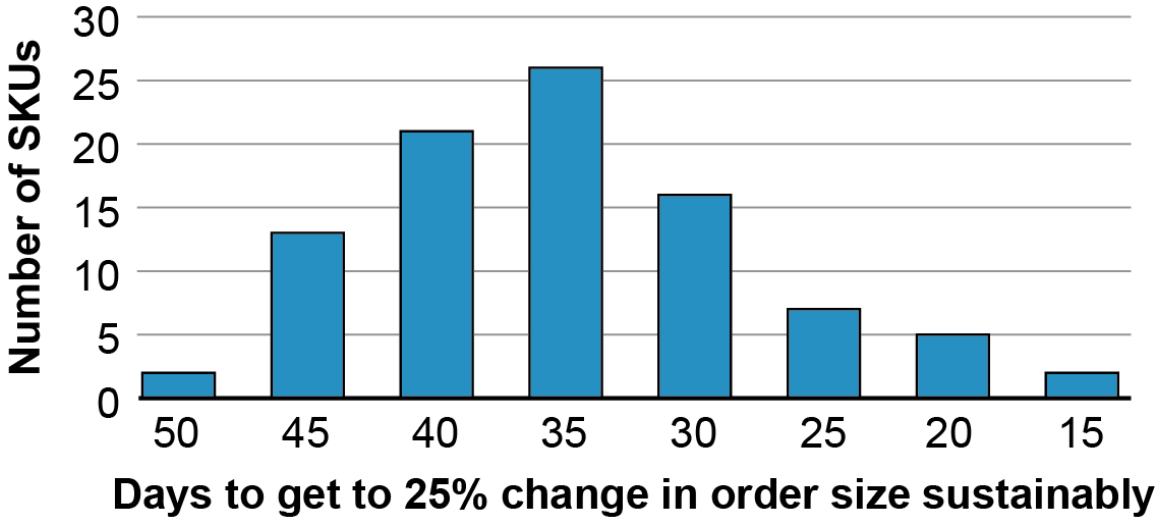
Analysis for Supply Chain Agility

Supply chain agility can be measured in SCOR DS as a strategic or an operational metric.



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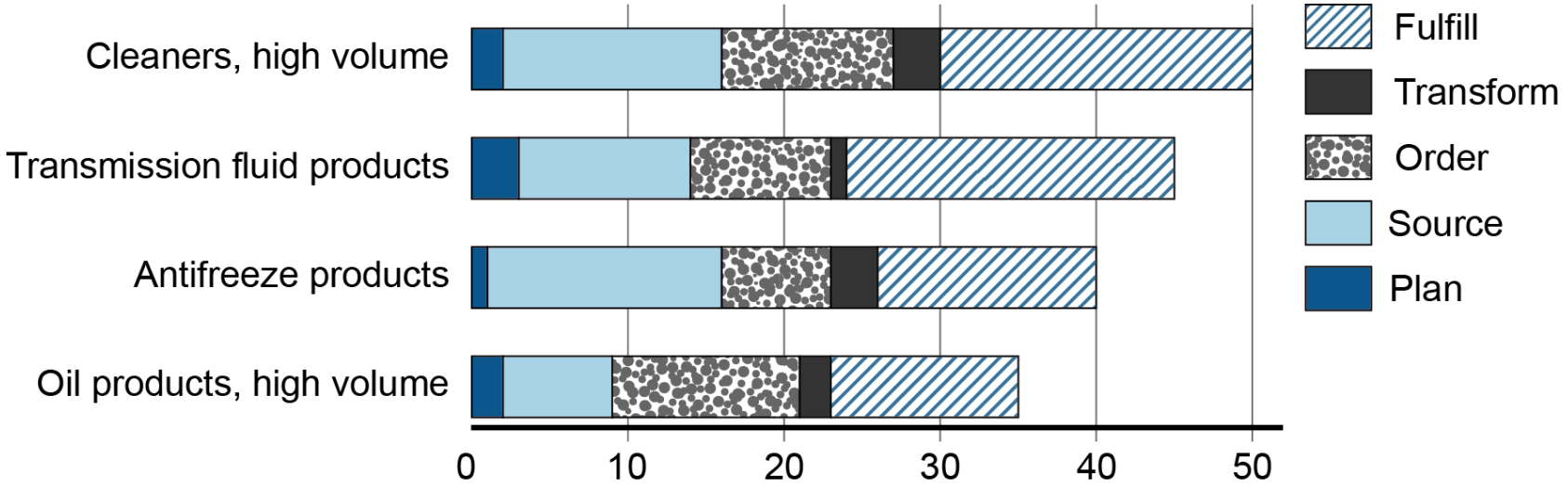
Analysis for Supply Chain Agility, continued

Each failure can then be given additional scrutiny.



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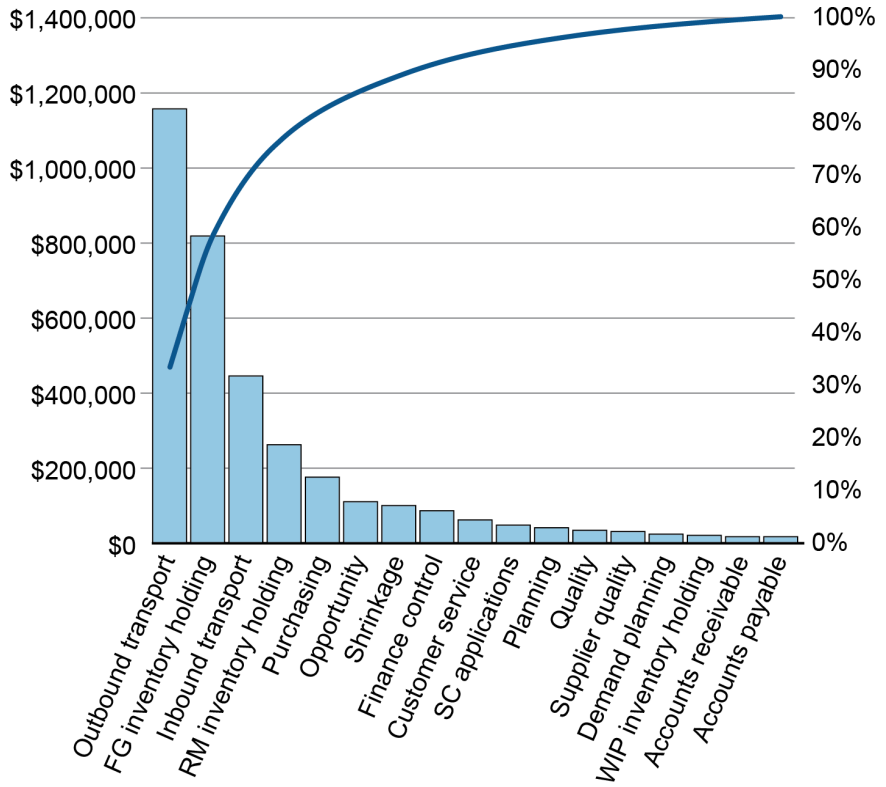
Perform Gap Assessments

Analysis for Total Supply Chain Management Cost

Create a Pareto chart to

- Analyze total supply chain management cost
- Rank all costs from highest to lowest.



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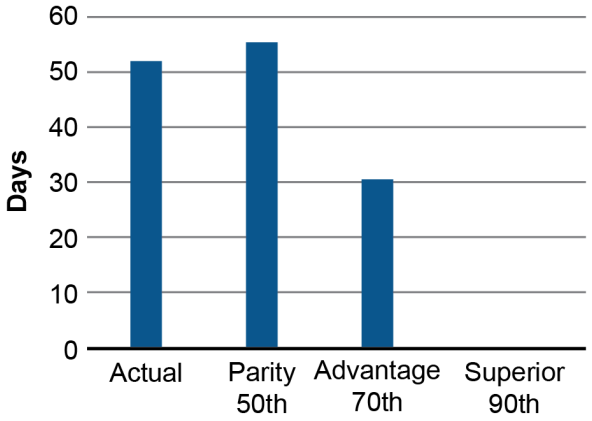
Analysis for Cash-to-Cash Cycle Time

Cash-to-Cash Cycle Time = Inventory Days of Supply + Days Sales Outstanding – Days Payables Outstanding

Cash-to-Cash Cycle Time
Your Score: 52 days
You chose the superior target for this metric. While you have scored above parity by -3.4 days, your target gap is -52 days.



Metric	Actual	Parity 50th	Advantage 70th	Superior 90th	Gap
Cash-to-Cash Cycle Time (Days)	52	55.4	30.5	**0**	-52
Days Payables Outstanding	55	66	60	**54**	-1
Days Sales Outstanding	27	**30**	33	39	3
Inventory Days of Supply	80	90	60	**15**	-65
• Finished Goods	67	50	30	**10**	-57
• Work In Process	1	**1**	0.5	0	0
• Raw Material	12	20	15	**5**	-7

= Targeted competitive level

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SECTION C: CONCEPTUALIZE THE FUTURE-STATE SUPPLY CHAIN OPERATING MODEL

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Section C Learning Objectives

- Prioritize defects by defect rate and problem weight.
- Convert approved scenarios into projects or work streams.
- Conduct an alternatives analysis.
- Develop supply chain models and simulations.
- Define and test to-be documentation and to-be geographic and process maps.
- Create a supply chain capability model.

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Prioritize Defects by Defect Rate and Problem Weight

Final two steps of metric defect analysis:

- Prioritizing defects
- Estimating amount of work to get to root cause

Requires understanding consequence of problem

- Defect rate × problem weight = problem impact

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Assemble Documentation on Defect Rates and Disconnects or Blockers (Abridged)

ID	SCOR DS Level 2 and Level 3 Defects	Defect Rate
1.0.0	***Perfect customer order fulfillment failure rate (RL.1.1)***	***30.0%***
1.1.0	**Incomplete shipments rate (RL.2.1)**	**15.0%**
1.1.1	No available-to-promise (ATP) inventory at ordering	5.0%
1.1.2	Inventory reallocated to priority customer	5.0%
1.1.3	Late raw material pickup	2.5%
1.1.4	Insufficient ordering due to actual demand > forecast	1.0%
1.1.5	Wrong products picked and shipped	0.5%
1.1.6	Wrong quantity picked and shipped	0.5%

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Plan for a Brainstorming Session to Define Problems and Problem Impact

- Determine the right persons to participate.
- Invite participants early.
- Provide participants with an overview.
- Select an appropriate venue.
- Select a leader.

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Conduct a Brainstorming Event to Define Problems and Problem Impact

Brainstorming Types

- Individual (homework)
- Group (event)

Brainstorming Event Activities

- Initial full-group brainstorming session (e.g., 1 hour)
- Small teams make specific area affinity diagrams (2 hours)
- Small teams define problem per affinity group (2 hours)
- Final full-group meeting to discuss results (1 hour)

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Convert Approved Scenarios into Projects or Work Streams

- Results of data collection, benchmarking, and brainstorming should be collected in project portfolio planning spreadsheet.
  - Sort and filter spreadsheet to group similar concepts
- Another brainstorming session can identify potential projects or work streams by grouping scenarios.

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Determine Analysis Criteria and Process

- Analysis criteria: how organization defines a winning alternative
  - Feasibility, budget, or strategic alignment checks
- Multiple tools can be used to develop alternatives.
  - Project alternatives generation brainstorming event
  - Further investigate problems (fifth why)
  - External consultants
  - Supply chain literature
  - Alternatives risk assessment
  - Modeling or simulation

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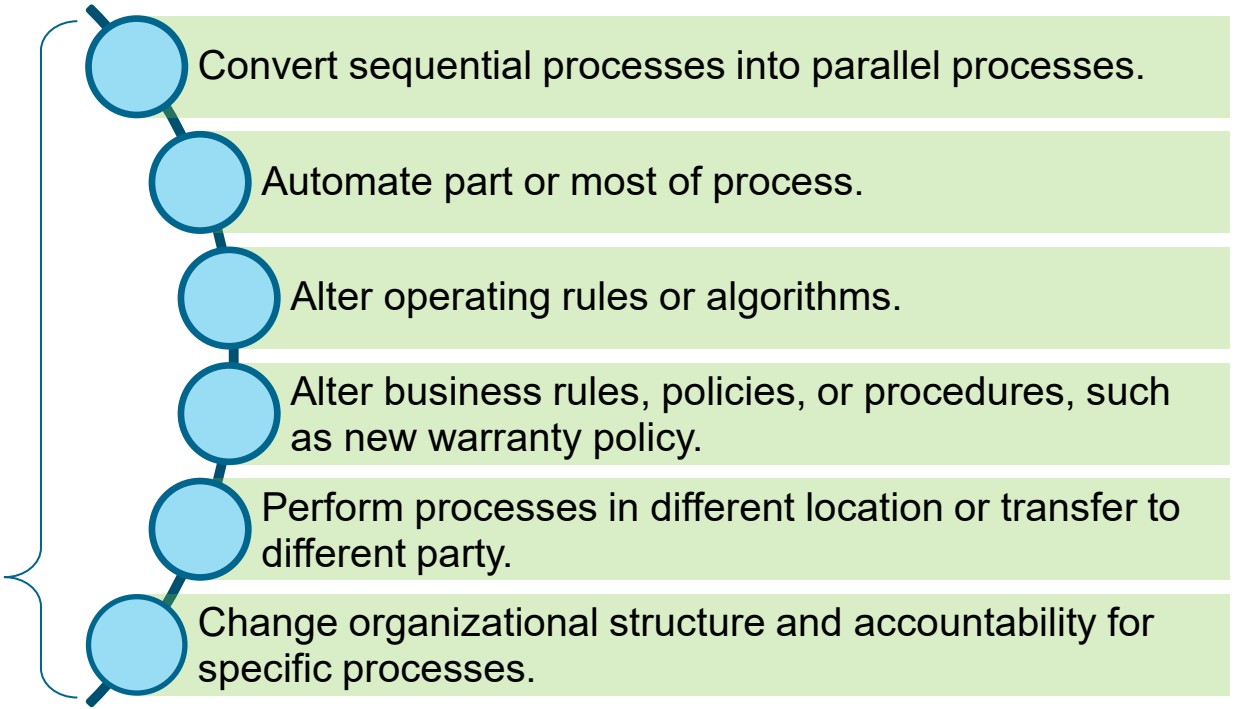
Types of Alternatives

Design team develops set of alternative ways to solve organization's problem statements.

- Standardize
- Improve
- Add/eliminate
- Change a process
- Renegotiate



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Sample, Inc., Alternatives List

- Sample, Inc., design team's analysis:
  - A push supply chain driven by forecasting
  - Actual demand not shared
  - Historical supplier issues resulted in inventory buffers on consignment
- SCOR DS has standardized codes for practices (BP).
  - E.g., BP.156 Collaborative Planning, Forecasting, and Replenishment (CPFR)

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Create To-Be Models, Simulations, and Capability Sets

Simulate/Model Supply Chain Value in Its To-Be State

- Prior to settling on a particular solution:
  - Test and validate potential projects for financial value, strategic fit, feasibility, and potential for gap reduction.
  - Develop a set of test scenarios.
  - Validate test scenarios based on analysis criteria.
- Scenarios that fail may be included on a wish list.

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Perform Scenario Testing

Practice	Test(s) Conducted	Result	Rationale
BP.021 Sales and Operations Planning (S&OP)	High-level walkthrough of the scenario led by a team member with S&OP expertise	Fail	Add to wish list. We have few product families and products and low mix/volume variance, so S&OP would have limited ROI. S&OP is internally focused, but current inventory issues are related to customer forecasts and consignment stocks.
BP.034 Extend Inventory Planning Using Collaboration	High-level walkthrough of the scenario led by a team member with S&OP expertise	Fail	Add to wish list. This extends S&OP to customers and would address inventory but requires S&OP maturity.
BP.156 Collaborative Planning, Forecasting, and Replenishment	Walkthrough of scenario led by a consultant	Pass	CPFR addresses delayed or missing promotion and demand change data and plan buy-in.

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Create To-Be Models, Simulations, and Capability Sets

Define and Test To-Be Documentation

Metric	Actual	Mandate	Change	To-Be Goal
Cash-to-cash cycle time	**52 days**	**0 days**	**–53 days**	**–1 day**
Days sales outstanding	27 days		0 days	27 days
Days payables outstanding	55 days		0 days	55 days
Inventory days of supply	80 days		–53 days	27 days
• Days, RM	*12 days*		*–7 days*	*5 days*
• Days, WIP	*1 day*		*0 days*	*1 day*
• Days, FG	*67 days*		*–50 + 4 = –46 days*	*21 days*

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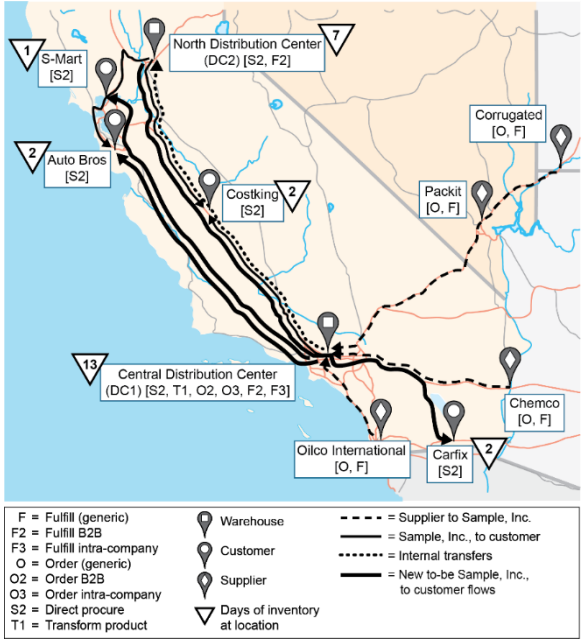
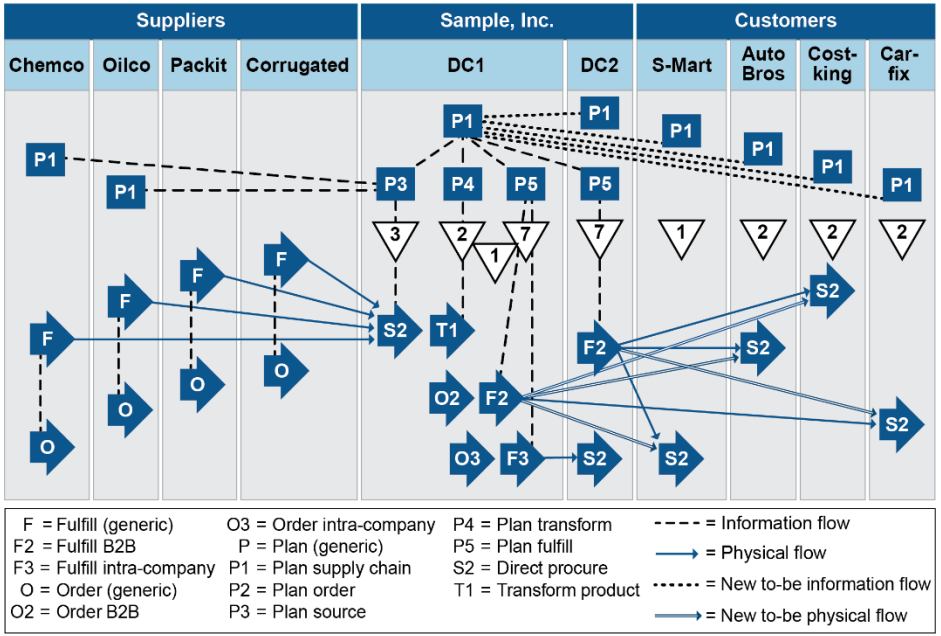
Create To-Be Models, Simulations, and Capability Sets

Create To-Be Geographic Maps, Process Maps, and RACI Diagrams





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Create a Supply Chain Capability Model

- Clearly align capabilities with organizational and supply chain strategy and ensure feasibility (check maturity).
- **People** skills (HS) from SCOR DS
  - E.g., HS.0032 Customer or Supplier Communication
- ASCM's Digital Capabilities Model (DCM) for Supply Networks, e.g.,
  - Demand Planning and Management (subset of Connected Customer)
  - Supplier Collaboration (subset of Intelligent Supply)

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SECTION D: IDENTIFY INITIATIVES TO ADDRESS GAPS

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Section D Learning Objectives

- Develop a portfolio strategy and an initial portfolio of transformation initiatives.
- Use strategic assessment to determine scope, impact, and effort of initiatives.
- Use a process to sequence and prioritize initiatives.
- Categorize projects in a prioritization matrix.

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Collect and Validate Data

Potential Sources	Validation Checks
▪ Channel partner strategies, control towers, analytics ▪ Internal customer data ▪ Supplier contracts and SLAs ▪ Inventory data ▪ Transportation tracking data ▪ Social media analytics, weather data, etc.	▪ Valid sample sizes at necessary level of precision and confidence ▪ Standardized master data ▪ Outliers: valid or invalid ▪ Missing data ▪ Duplicate data merged ▪ Up-to-date data ▪ Clear ownership of each data type

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Identify and Scope Transformation Initiatives

Strategic Assessment

- Do the supply chain priorities align with business unit or organizational strategy? Do they align with the operationalized customer segments identified?
- Does the to-be process architecture address the end-to-end scope of this supply chain segment?
- Will processes be integrated, documented, and supported by valid and timely data? Will they be adaptable to new organizational learning or strategy shifts?

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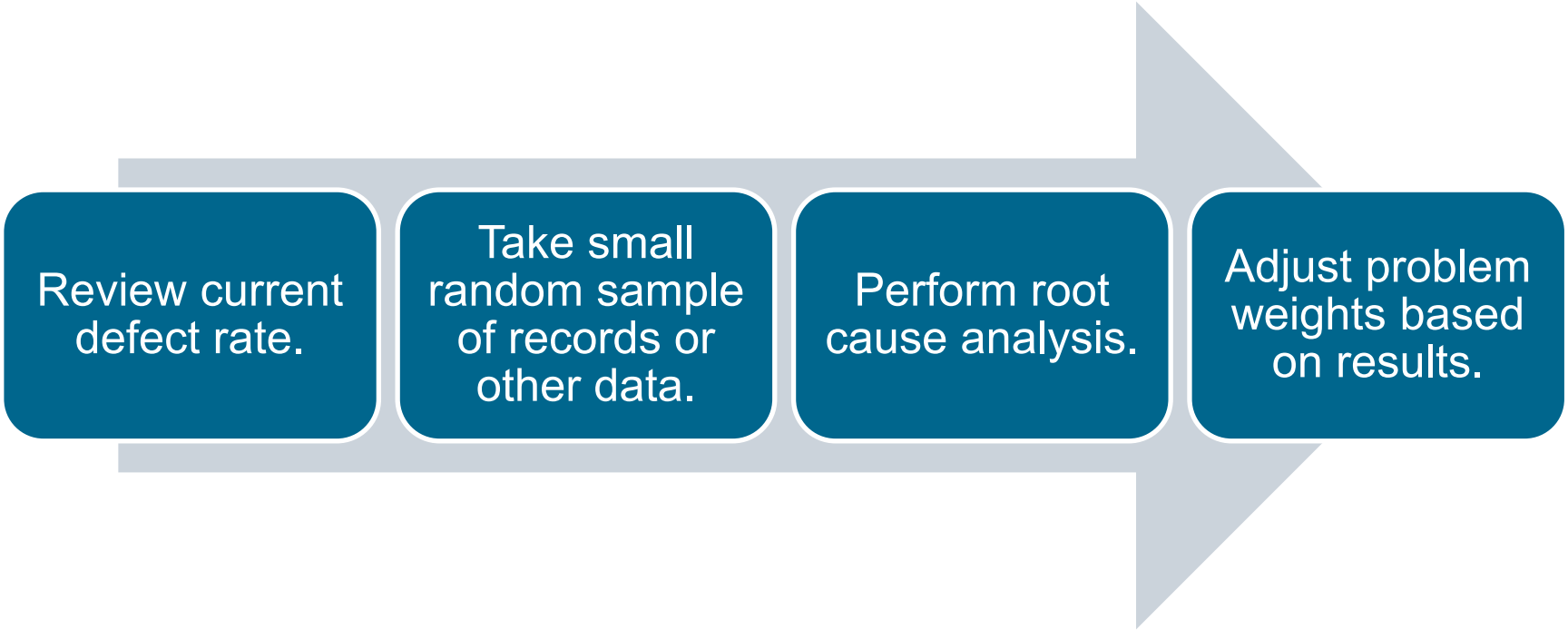
Identify and Scope Transformation Initiatives

Validate Problem Weights and Produce First Draft of Portfolio



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Turning Problems into Opportunities

- Defect identification and discussion can be contentious.
- Estimate actual profit potential for each proposed project.
  - Benefits and known tradeoffs
- Costs may also require estimation.
  - Seek actual data for estimates to use as a proxy.
- Be sure to document all assumptions that are made.

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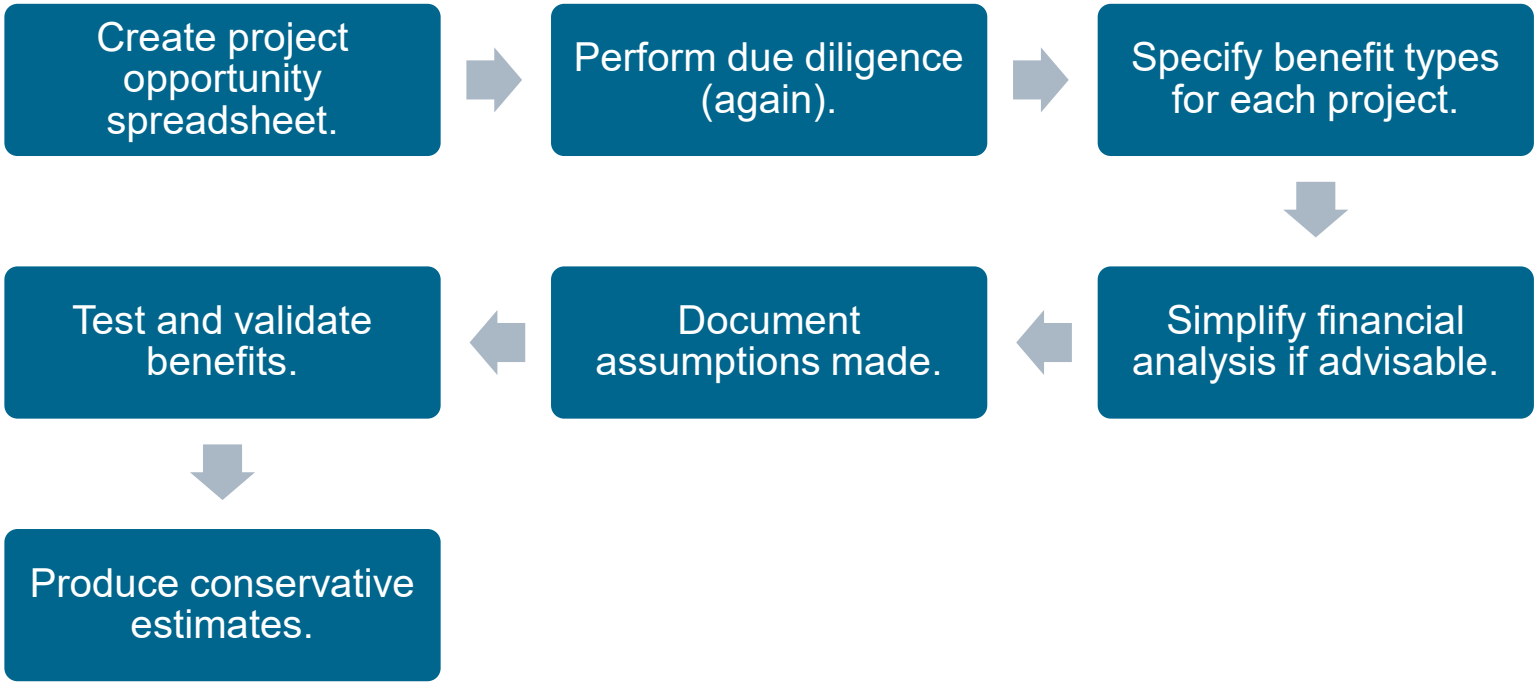
Identify and Scope Transformation Initiatives

Refine Quantitative/Qualitative Success Targets and Benefits Per Project



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Steering Team Review and Go/No-Go Phase Gate

- Evangelist and selected design team members present project portfolio to steering team and executive sponsor.
- Working with external parties on a transformation:
  - Have clear and consistent messaging among all points of contact with these parties.
  - Agree on goals internally before presenting externally.
  - Reflect final decisions in internal team goals.

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Apply Project Sequencing

Mandatory dependencies

- Inherent in nature of activities or regulatory or contractual requirement

Discretionary dependencies

- Based on best practices
- Increases risk to ignore

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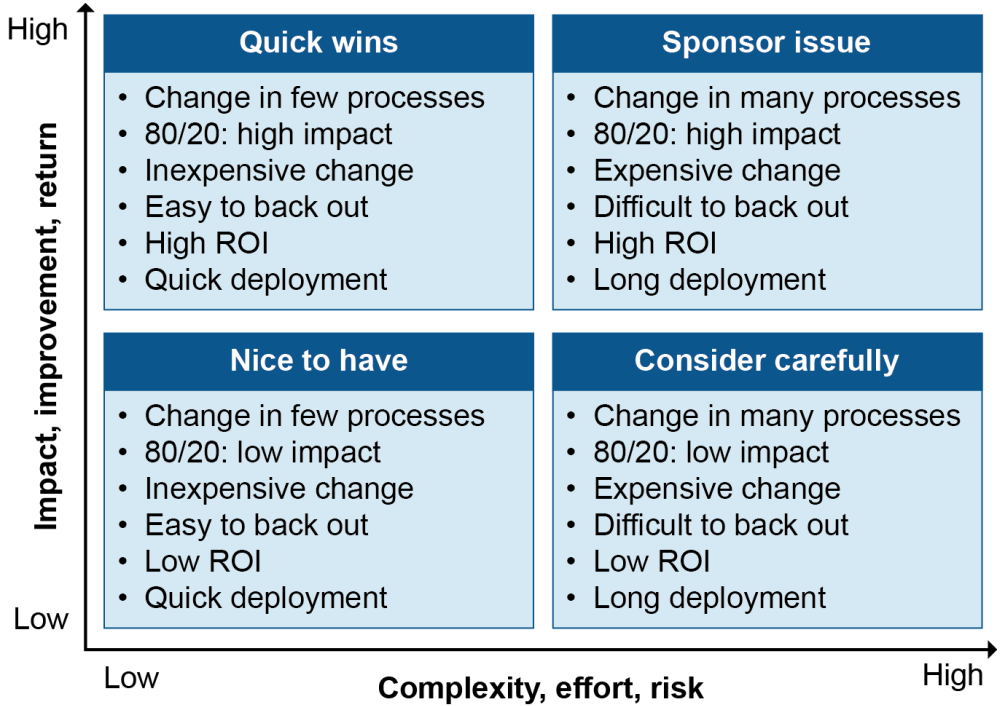
Sequence and Prioritize Initiatives

Plan Quick Wins, Tactical Initiatives, and Strategic Initiatives



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Apply Additional Priority Criteria

		Weight	Score (–3 to 3 for all but aversion factors; there use –3 to 0)	Total
Internal benefits	Revenue growth	10%	2	0.20
	Cost avoidance	10%	2	0.20
	Cost reduction	5%	1	0.05
	Cash-to-cash cycle time improvement	20%	3	0.60
Customer benefits	Reliability	10%	2	0.20
	Responsiveness	5%	0	0.00
	Agility	10%	1	0.10

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Build Alliances and Trust

- Building alliances and trust with influential stakeholders and decision makers is vital.
  - A waste if decision makers do not act on the information
  - Strategy for marketing the benefits to stakeholders
  - Incorporate feedback
  - Incremental project benefits (well timed quick wins)
- For strategic initiatives that increase headcount or capital investment, consider offering up cuts elsewhere.

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SECTION E: INITIATE TRANSFORMATION WORK STREAMS AND PROJECTS

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Section E Learning Objectives

- Create project charter.
- Lead program kickoff meeting.
- Create resource management plan.
- Negotiate for necessary resources.
- Implement stakeholder management plan, communication management plan, and change management plan.

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Collect Business Requirements: Align with Needs

- Corporate mission, vision, strategy, and goals
- Customer preferences
- Requirements from external partners
- Employee preferences
- Regulatory requirements
- Sustainability

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Project Schedule and Milestones

Project Schedule Development

- Starts with the project or portfolio scope and work breakdown structure
- Identifies major milestones
- Requires more than one pass

Non-Milestone Activities

- Regular meetings
- Working sessions
- Planned project alignment evaluations
- Planned communication
- Outreach efforts to stakeholders
- Other tasks (risk evaluation/ mitigation)
- Schedule management plan

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Project Charter Elements

Purpose	Objectives	Business requirements	Assumptions and constraints
Project scope	Risk register	Milestones schedule	Budget
Stakeholder summary	Approval summary	Project manager	Project sponsors

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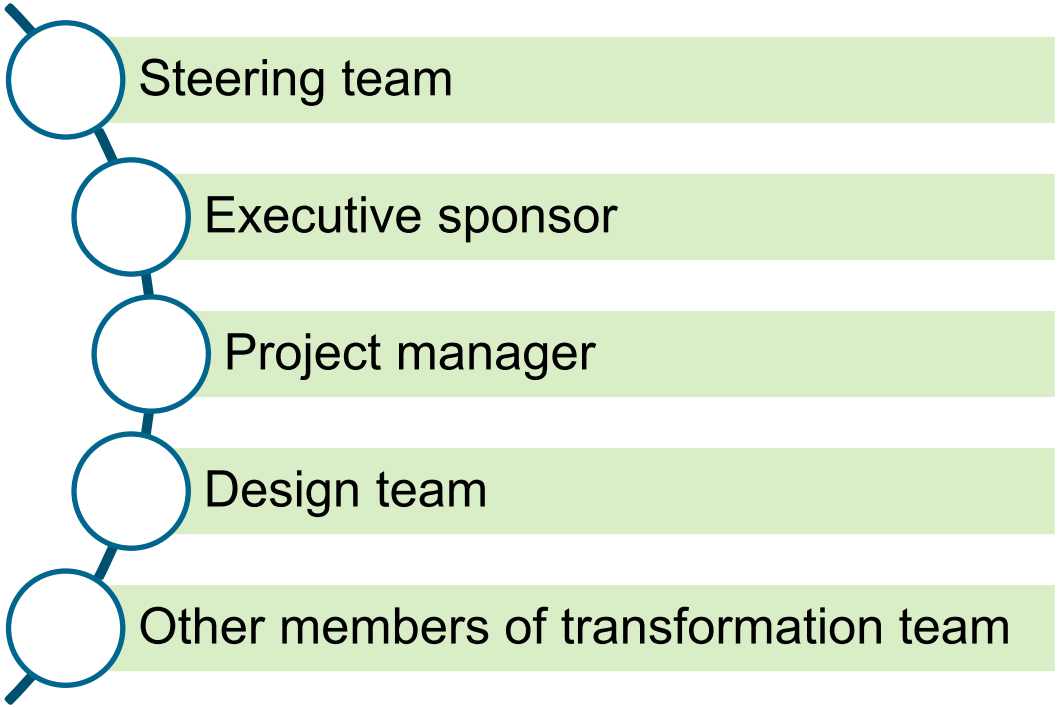
Hold a Transformation Program Kickoff

- A kickoff meeting must take place.
- Include all the major participants involved in the project.



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Resource Management Plan Components

Higher level: Overall plan	Lower level: Major component plans
• Increased uncertainty • Balance needs of program • Capacity constraints depending on progress • Interdependencies	• Decreased uncertainty • Consider only requests from component itself

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Negotiate for Desired Resources

- Once the resource plan has been created, the identified resources must be acquired.
  - Resources from many organizational areas
    - Ensure fit and check for problematic employees being assigned
  - Contracting with external contractors
- For material resources
  - Getting the best deals and conserving financial resources may help provide later flexibility

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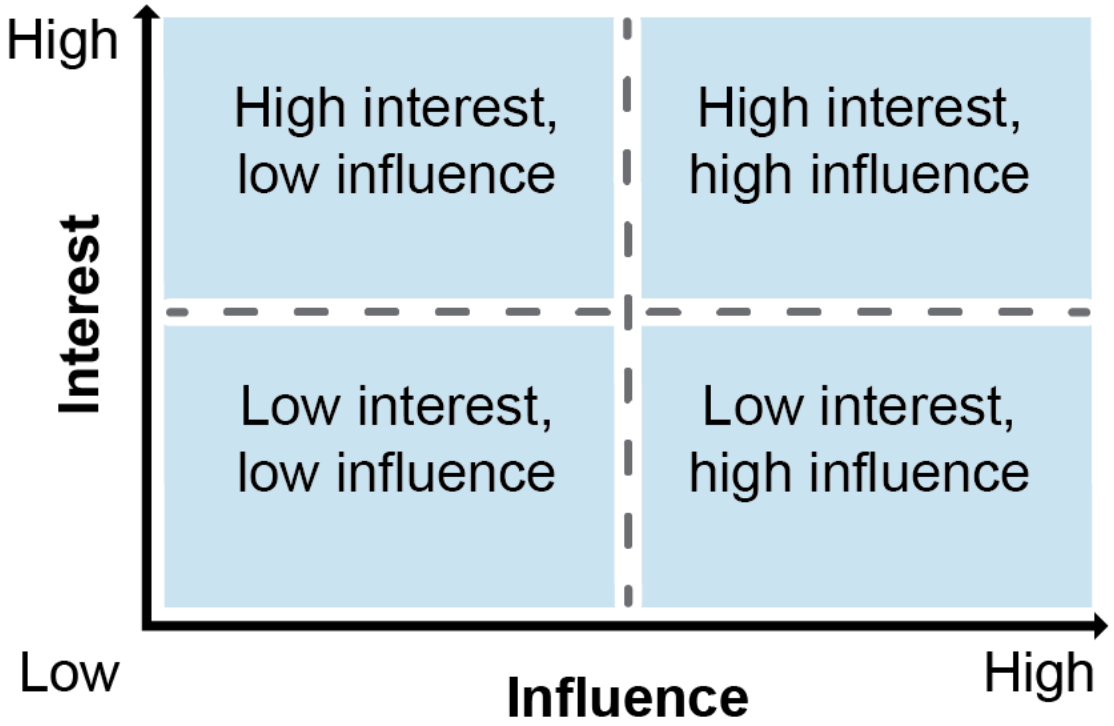
Mapping Stakeholders and Their Needs



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Managing Relationships

- Team-building exercises
- Mutual goal setting
- Ongoing involvement of leadership and management
- Communicating through opposition
- One-on-one or small group meetings to work through opposition

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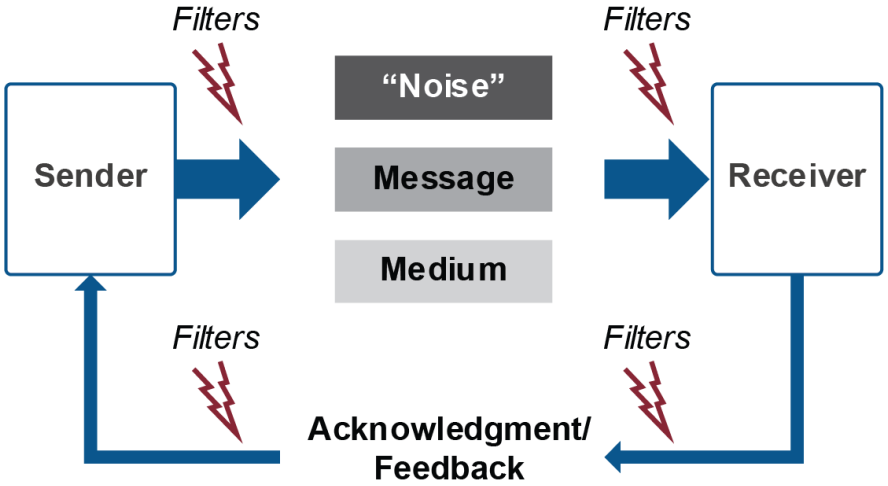
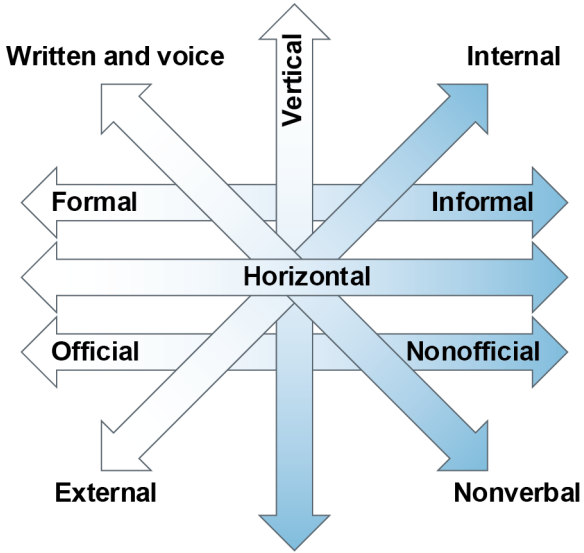
Communication Process and Dimensions

Basic Communication Process



Communication Dimensions



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Communication Plans

- Account for outgoing and incoming communication
- Tailored to needs
- Specified media and protocols
- Responsible individuals and roles

Document: Communications Management Approach **Author:** Project Manager
Project: Project 1, CPFR, West Coast Pilot, Phase 1—Costking Customer

1. Introduction:

The CPFR project is a collaboration between Sample, Inc., and its key West Coast customers, so it requires strong external communications. Costking is the collaboration customer for phase 1 of the pilot.

2. Communication Procedure:

- The project manager is responsible for all internal communications with the project team and will report weekly to the steering committee's project subcommittee using a summary report.
- The director of sales is responsible for all formal external communications but may delegate technical communications to relevant SME team members.

3. Tools and Techniques:

- The project manager will use the project portal for all internal communications and project documents.
- The director of sales will use site visits, virtual meetings, and a newsletter to communicate with participating customers.

4. Records:

The following reports will be issued for internal communications: summary report, milestone report, project results report, issue report, lessons learned report, change management report, newsletter (electronic).

5. Timing of Communication Activities:

The project manager will meet with the project subcommittee on a biweekly basis and have a formal presentation for go/no-go at each milestone.

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Data Visibility and Transparency of Project Outcomes

Different stakeholders will require different information at different cadences and for different purposes.

Broad data visibility is inappropriate.

It is important to be consistent and intentional with communications.

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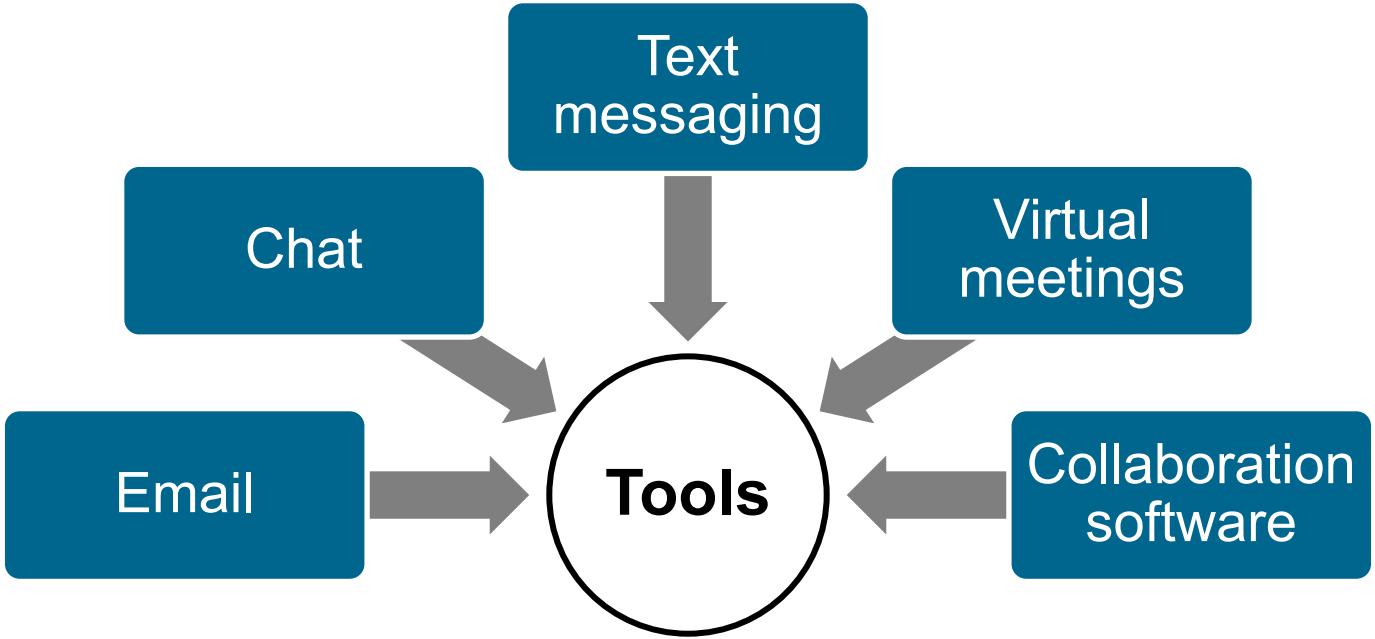
Building Communication Channels



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Document Change Management Plan(s)

Assess Change Management Requirements

First-order change

- Change to process or procedures
- Adjustment to systems
- Reversable
- Nontransformable

Second-order change

- Change in strategic direction
- Requires individuals to learn new skills
- Irreversible
- Transformable

Third-order change

- Change in values, culture, founding principles
- Very difficult; individuals may leave
- Iterative
- Irreversible
- Transformational

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Gaining Buy-In: Key Causes of Resistance

Political barriers

Impermeable functional barriers

Flawed communication process

No plan to sustain strategy

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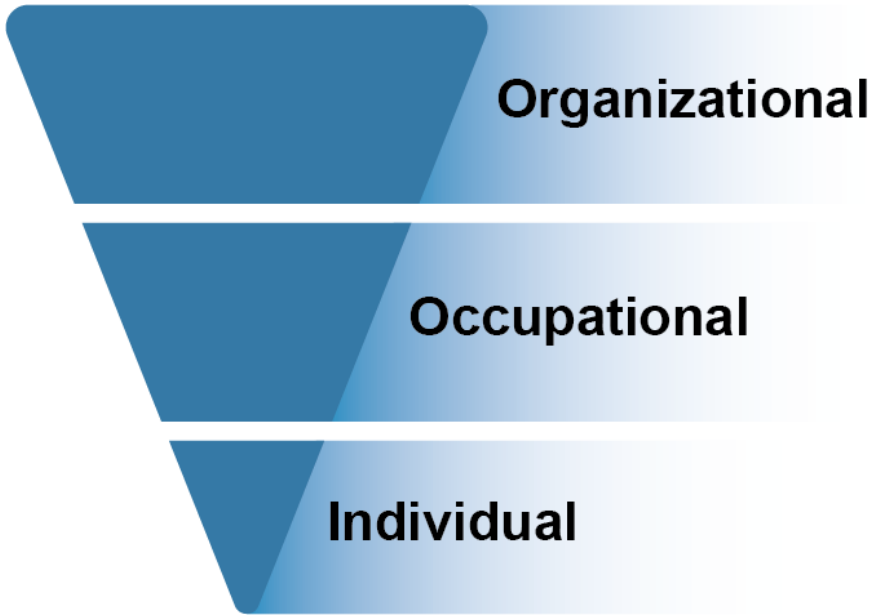
Document Change Management Plan(s)

Design Training

- Most effective to train when systems and processes go live.
- Training needs assessment
  - Performance requirements
  - Associated knowledge, skills, and abilities



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SECTION F: DEVELOP AND ITERATE PRELIMINARY TRANSFORMATION BUSINESS CASES

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Section F Learning Objectives

- Identify targeted value drivers.
- Quantify anticipated value of improvements.
- Calculate ROI.
- Determine necessary resources.
- Identify KPIs.
- Create business case messaging.
- Present business case to leadership.

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Use a Business Case Development Process

Benefits	Questions to Answer
▪ Foster strategic thinking. ▪ Improve decision-making efficiency and quality. ▪ Enable comparison of alternatives. ▪ Establish criteria.	▪ Is the project achieving the anticipated benefits? ▪ Are the assumptions observed to be accurate in reality? ▪ Is the business case justification still valid?

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Set Targeted Value Drivers

- Business case: opportunity to create quantifiable benefits for an organization such as new revenue or cost or lead time reduction
- Benefits may be realized at different points of a project.
- Consider qualitative benefits:

Creating more flexible systems to adapt to future conditions

Increasing visibility and understanding among supply chain partners

Improving working conditions (and thus morale) of employees

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Quantify Financial Value of Supply Chain Improvements

Economic Levers and Measures

Major Economic Levers	Important Measures
▪ Revenue ▪ Costs ▪ Net fixed assets (fixed capital) ▪ Working capital ▪ Capital expenditure (capex)	▪ Net working capital ▪ Current ratio ▪ Time value of money ▪ Discounted cash flow ▪ Break-even point ▪ Contribution margin

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Quantify Financial Value of Supply Chain Improvements

Related Analyses

Cost-Volume-Profit Analysis

- "Study of how profits change with various levels of output and selling price" (*Dictionary*)

Break-Even Analysis

- "Study of the number of units or amount of time required to recoup an investment" (*Dictionary*)

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Estimate ROI

ROI is calculated using the following formula:

$$\text{Return on Investment} = \frac{\text{Gain from Investment} - \text{Cost of Investment}}{\text{Cost of Investment}}$$

Residual income is calculated in the following manner.

Residual Income =
Operating Income – (Minimum Required Rate of Return x Operating Assets)

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Estimate ROI, continued

- Payback period is “the period of time required for the stream of cash flows resulting from a project to equal the project’s initial investment.” (*Dictionary*)
- Payback period:

$$\text{Payback Period} = \frac{\text{Cost of Investment}}{\text{Annual Cash Savings}}$$

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Determining Necessary Resources

Focus Areas

- Current/core supply chain functions
- New strategies
- Entirely new functions or operations

Funding Models

- Self-funding
- Funding from outside the managing unit
- External funding and management
- Collaborative funding

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Determine Resources Needed and Estimate Cost and Schedule

Tools

Analysis of alternatives

- Cost, inputs, outputs, time frame
- E.g., make, rent, or buy

Bottom-up estimating

- Individual estimates rolled up

Software tools

- Project management software

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Determine How Project Spend Will Be Managed

The financial management plan records the following information:

- Schedules and milestones
- Initial budget
- Reporting mechanisms
- Financial metrics used to monitor program
- Associated operational and infrastructure costs
- Component payment schedules

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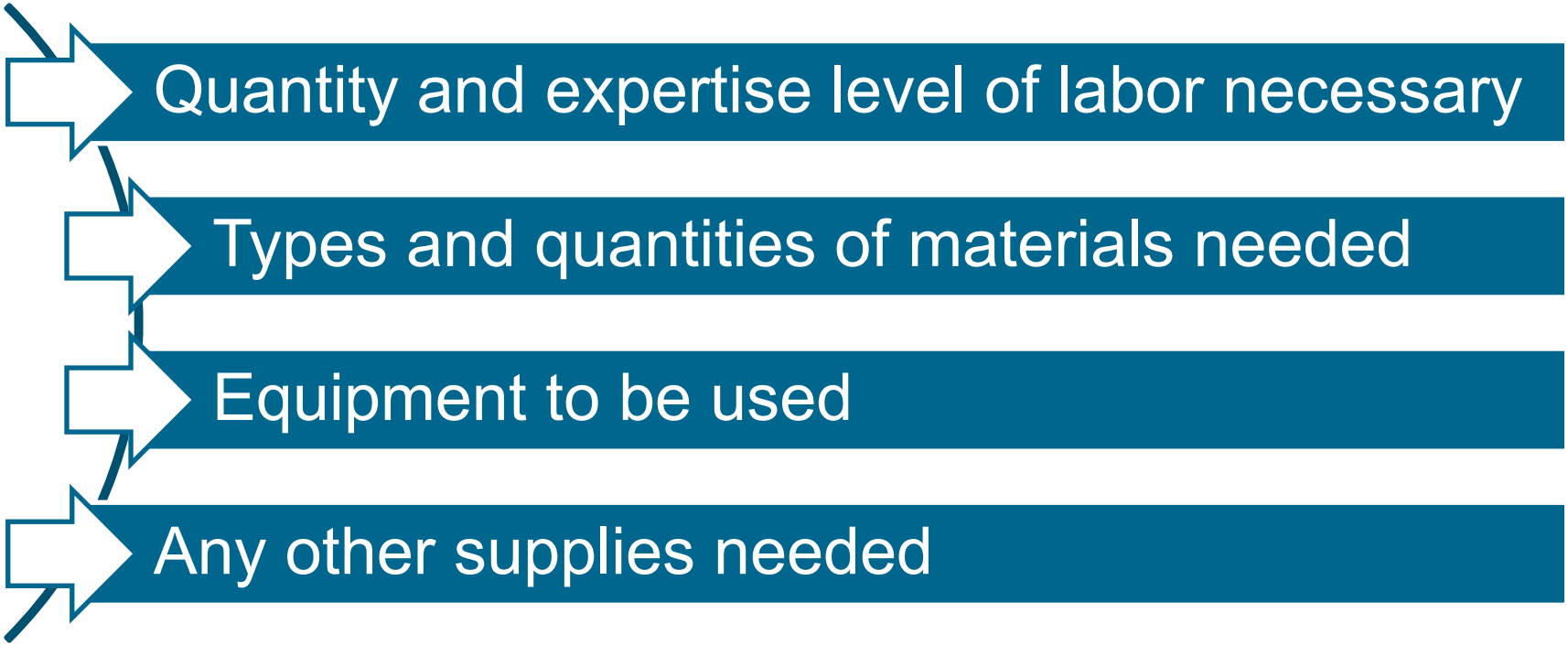
Estimate Cost and Schedule



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Select Transformation Program KPIs

Define Metrics and Measurement Processes

- Overall progress against schedule
- Project performance against budget
- Individual process/project progress against schedules
- Number of change requests
- Number of approved/rejected requests
- Project benefits realization
- Team member performance

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Craft Messaging Content

Communicate the Need and Future State of Success

- Marketing stakeholders can help make business case persuasive.
- Identify and understand target audience

Examples of questions for decision makers:

- What do they value?
- Are they risk-averse or aggressive?
- What is the climate of the organization and marketplace, and how does this affect the positioning of the business case?
- Are there supportive stakeholders who have a strong relationship with the decision makers and can help present the case or otherwise help influence them?
- Do decision makers have areas of interest within the organization that they consistently focus on?
- Does someone in the decision-making group stand to lose something or have other reasons to oppose the project?

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Present the Business Case, Follow Up, and Take Next Steps

Once you have prepared your presentation:

- Schedule a meeting for the presentation.
- Maintain professionalism.
- Formally present the business case.
- Allow time for questions and discussion.
- Follow up no matter whether the project was approved/denied.

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SECTION G: POST-APPROVAL TASKS

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Section G Learning Objectives

- Assemble and complete the project portfolio.
- Use various tools to expand on the brainstorming processes.
- Work around identified resource constraints.
- Refine the business case based on new information.
- Create a portfolio management plan.

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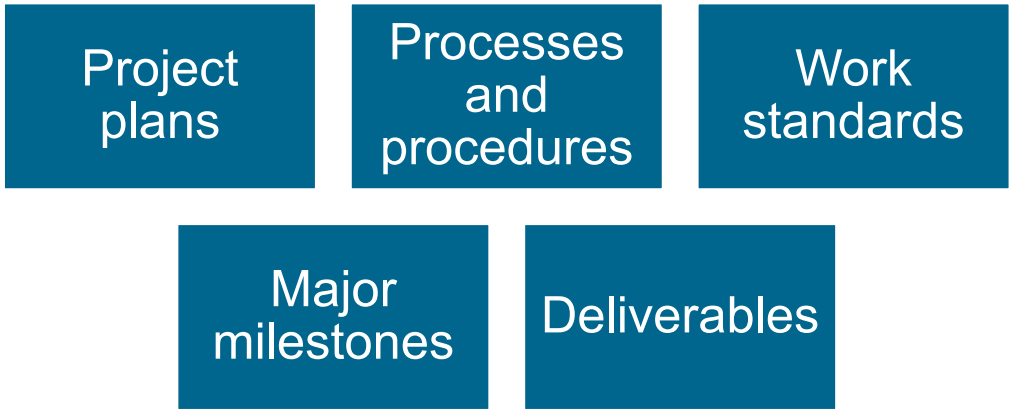
Project Portfolio Scope

- Project portfolio scope statement
- Analysis of selected metrics and identification of any gaps
- Work breakdown structure, which includes other project documentation



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Assemble Project Portfolio

Tools to Expand on Brainstorming/Planning Processes

- Brainstorming repeated for approved project goals and tasks
- Tools to help expand on brainstorming and planning:
  - Nominal group technique: each person shares an idea, and the group discusses and prioritizes them
  - Mind mapping
  - Rich pictures
  - Affinity diagrams
  - Cause-and-effect diagrams
  - 5W2H framework

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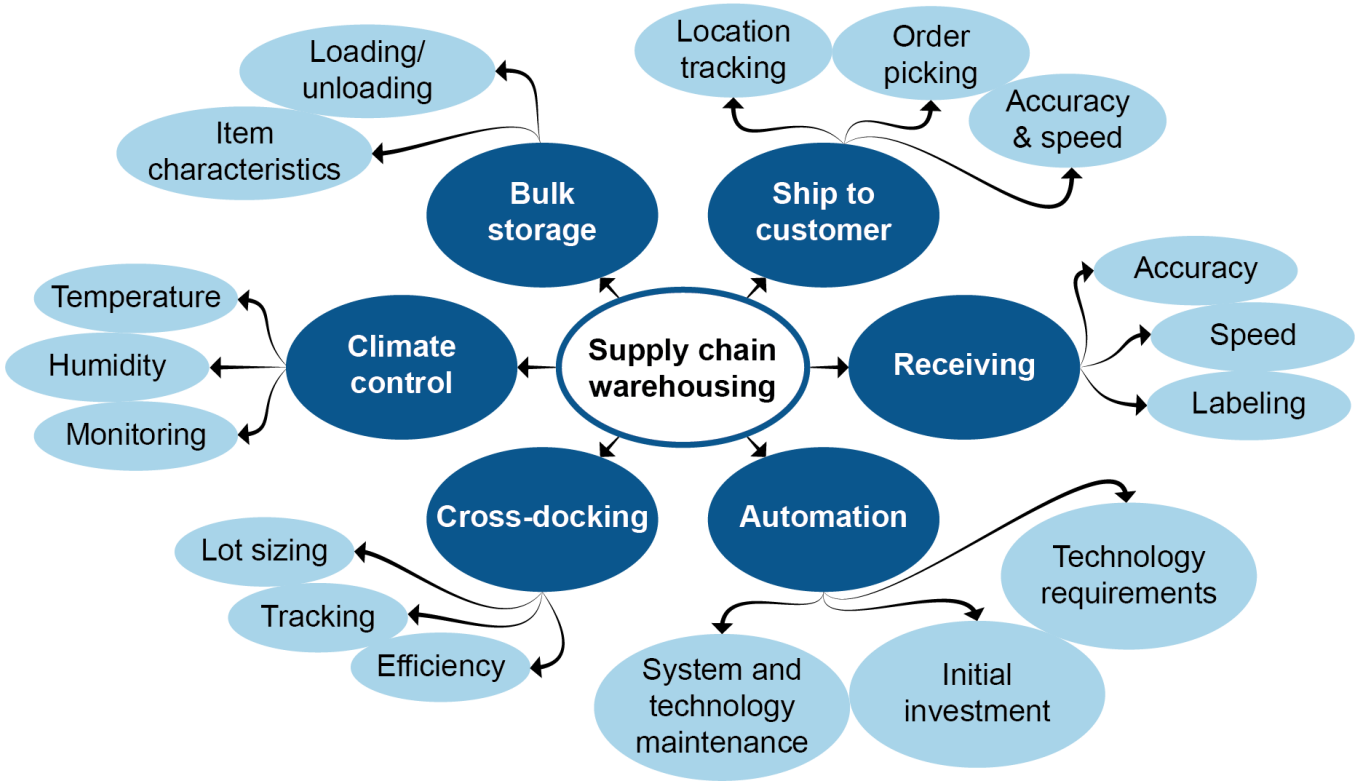
Mind Mapping



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Rich Pictures

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Affinity Diagram

Issue: Product recall causes		
Inspection	Customer feedback	Product materials
Frequency	Costs	Return processes

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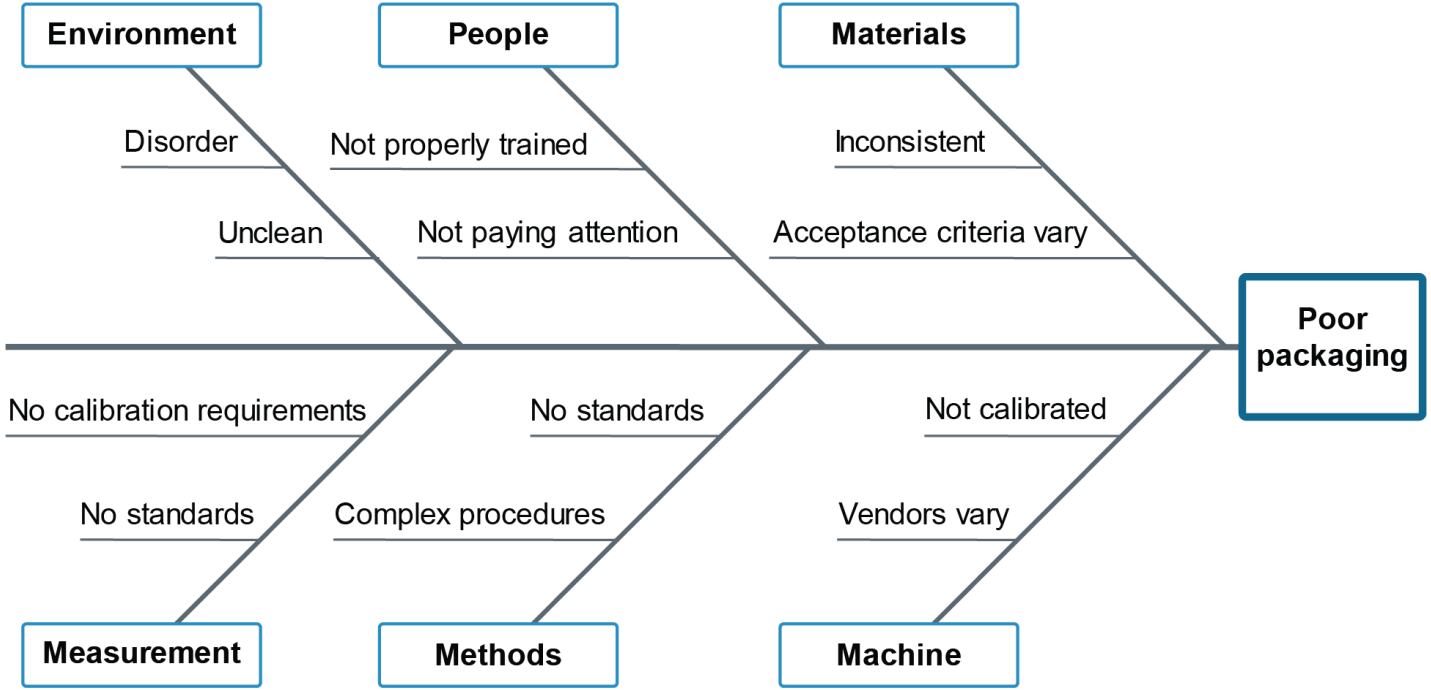
Cause-and-Effect Diagrams



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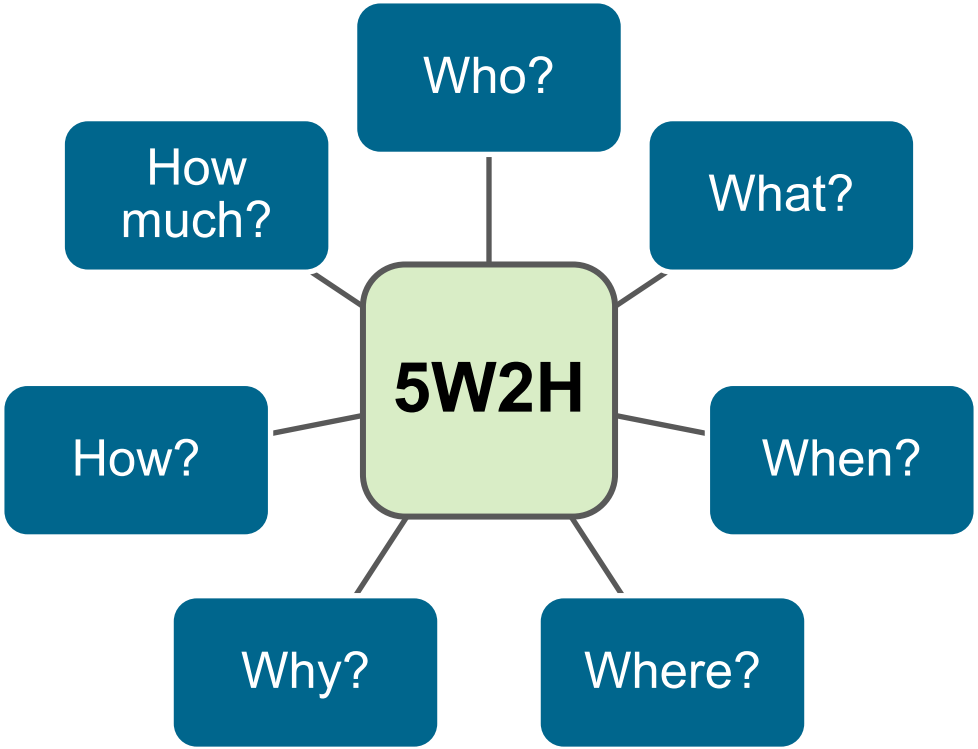
Assemble Project Portfolio

5W2H Framework



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Validate Costs, Schedules, Resources, and KPIs

Validate Financial and Customer Service Commitments

Validate Commitments

- Following approval, revalidate
  - Previously identified costs
  - Initial commitments.
- Justify requests for additional resources.

Working Around Constraints

- There will be planned tasks that exceed the available resources.
  - Finance availability may be an issue.
  - Negotiate to get additional resources.

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Evaluate and Select People and Solutions

Selection of the project team is crucial.

- Use a detailed organizational chart
- Capture team members' skills, duties, and other key details.

Employee	Current position	Job profile	Seniority level	Skills gap between current level and next level

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Auditing

- Set up auditing and assessment tools during project initiation.
- Define
  - Audit scope
  - Audit criteria
  - Specific assigned roles and responsibilities.
- Use an audit team that is separate from the project team when possible.

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Validate Costs, Schedules, Resources, and KPIs

Select Consulting Partners and SC Business Outsourcing Partners

Pros	Cons
▪ Addresses labor availability constraints. ▪ Potential addition of missing best-practice expertise. ▪ Expertise leads to increased efficiency. ▪ Energy injection into project. ▪ Outside perspectives may generate additional insight. ▪ May have ability to sway decision makers.	▪ More expensive. ▪ May be difficult to find qualified consultants. ▪ Consultants require training and time to learn details of the business. ▪ Presence of external consultants may drive perceptions that harm implementation. ▪ Increased risk of scope creep.

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Refine Supply Chain Transformation Business Case

Refining the Business Case

- Update business case as initial work begins on project.
- Supply updated and increasingly detailed information.
  - Helps shore up promised financial, capital, and labor support
- Reassess financial value of supply chain improvements.
- Do ongoing analysis of alternatives.
  - Selecting suppliers, consultants, software
  - May be contractual obligation

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Portfolio Management Plans and Definition

Governance	Oversight	Change management
Balance and dependency management	Prioritization	Communication, risk, procurement, compliance

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Ensure Proper Funding, Support, and Oversight Over Project Management and Risk Management

- Set processes to ensure project is monitored
  - Weekly basis
  - Funding, resources, task barriers, struggling persons/teams
- Tracking
  - Color-coded systems
  - Easy-to-monitor indicators

What work was done last week?

What work has been completed against the plan?

What work is planned for the coming week?

What issues are impeding progress?

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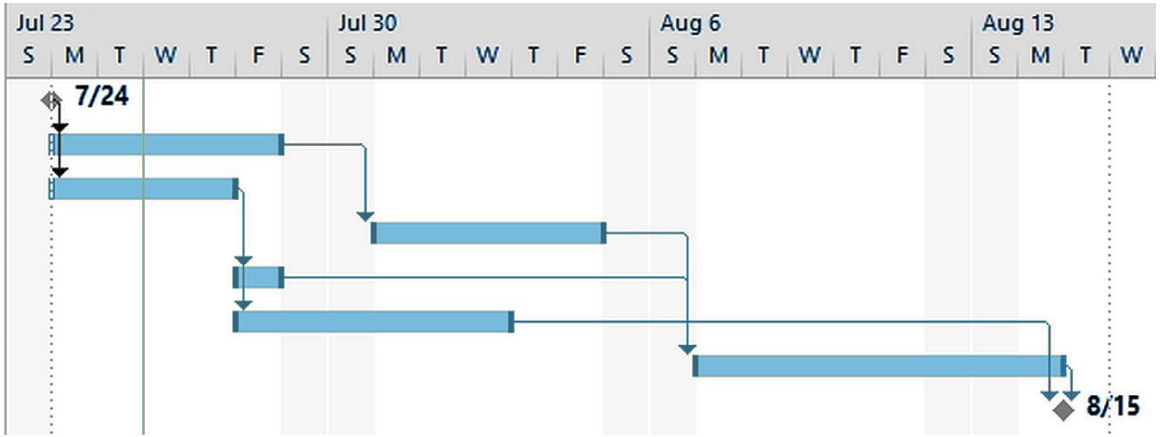
Set Key Steps, Milestones, and Time Line

Task Name	Duration	Start	Finish	Predecessors
Start	0 days	7/24	7/24	
Task A	5 days	7/24	7/28	1
Task B	4 days	7/24	7/27	1
Task C	5 days	7/31	8/4	2
Task D	1 day	7/28	7/28	3
Task E	4 days	7/28	8/2	3
Task F	6 days	8/7	8/14	4,5
Finish	0 days	8/15	8/15	6,7



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