

COURSE HANDBOOK



CSCF

Certificate in Supply Chain Fundamentals



Module 1: INTRODUCTION

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Welcome to the CSCF self-paced course.

In this course, you will learn the fundamentals of procurement, procurement processes and evaluations, contract management & strategies, covering the key concepts and terms. It is a self-paced course, allowing you to complete it on your own timing.

This course consists of four modules. Each module contains a knowledge check, which is a learning quiz, providing explanation when an incorrect answer is selected. There is also an advanced test based on the case studies that will help you to brainstorm and answer by using the knowledge you got in this course. In addition to the interactive slides, you also have access to the handbook comprising the slides and notes. The handbook is already set up for printing, which you can do on your home printer or get it printed at a copy and print shop.

Once you have reviewed all the modules, then you may take the test which is a separate section in the course. Upon passing the test, you will be able to download your certificate. Your certificate will have a unique ID, which is helpful in responding to verification requests in connection with higher education or employment.

Fasten your seat belt and get into the action! Good luck!



Learning Objectives

- 1 Introduction to Supply Chain Management
- 2 Definitions - Supply Chain Management
- 3 The 3 Vs of Supply Chain
- 4 Objectives of a supply chain
- 5 Supply chain – a competitive advantage
- 6 SC's Core Responsibility
- 7 Supply Chain Functional Areas
- 8 The 3 Flows and 2 Views of supply chain
- 9 Supply Chain Drivers and Facilitators
- 10 Balancing the 4cs of Supply Chain Management
- 11 Supply Chain Channels



Learning objectives for the CSCF certificate program are based on industry research and stakeholder feedback. These include familiarization with the basic principles and practices, essential skills, tools and methodologies of Supply Chain Management.

You will note that the learning objectives are listed at the beginning of each module, and the portion relevant to each module is covered in that module. This is to help you keep a tab on the overall course content.



WHAT IS SUPPLY CHAIN MANAGEMENT?

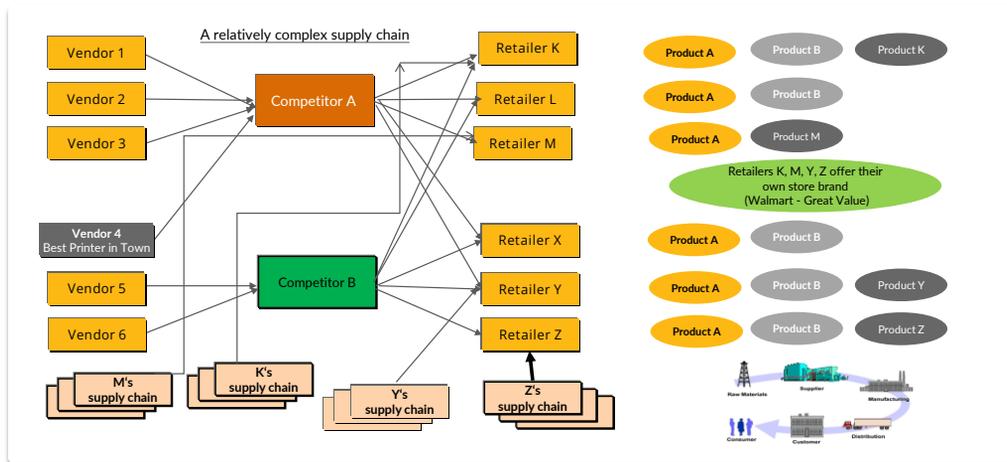
Supply chain management is the function responsible for balancing supply and demand, through the oversight of materials, capacity, information and finances as products move through the pipeline, from supplier to manufacturer to wholesaler to retailer to the end-consumer. Supply chain management involves coordination, collaboration and integration of the various entities and flows, both within and among the participating organizations.



Supply chain management is the handling of the entire production flow of a good or service — starting from the raw components all the way to delivering the final product to the consumer. A company creates a network of suppliers (“links” in the chain) that move the product along from the suppliers of raw materials to those organizations that deal directly with users.



A COMPLEX SUPPLY CHAIN



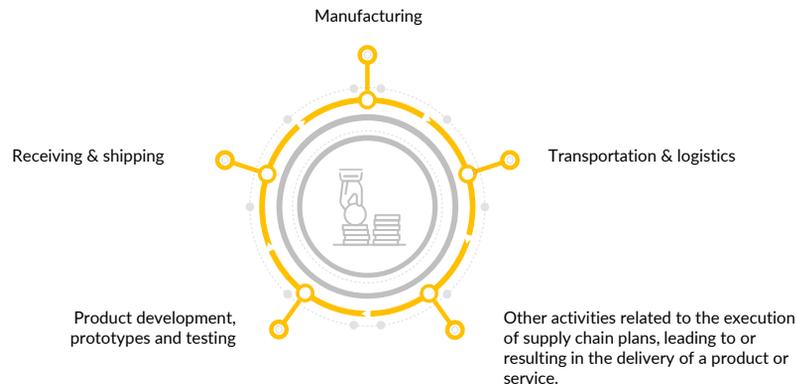
Compared to the single flow, conceptual diagram of a supply chain shown earlier, this diagram represents the complexity of today's supply chains, comprising of the following elements:

1. Multiple markets
2. Multiple competitors
3. Supply sources that might be supplier to the competition.
4. Capacity optimization, through acquisition and/or contract manufacturing
5. Dedicated or shared distribution network, with competing priorities.
6. Domestic and international trade variables, including transportation costs, duties and tariffs, exchange rates, trade agreements, etc.
7. Other internal and external factors that define the opportunities and limitations of supply chains.

The above diagram applies to local as well as global trade, with underlying relationship and complexities. As we will learn, complexity is an inherent part of today's businesses, and companies that develop capabilities to harness complexity with efficient processes and effective leadership, are successful.



WHAT CONSTITUTES OPERATIONS?



What does operations management involve?

Operations management is chiefly concerned with planning, organizing and supervising in the contexts of production, manufacturing or the provision of services.

As such, it is delivery-focused, ensuring that an organization successfully turns inputs to outputs in an efficient manner. The inputs themselves could represent anything from materials, equipment and technology to human resources such as staff or workers.

Examples of the types of duties or specialist positions this encompasses are procurement (acquiring goods or services from external sources), managing relations with those involved in processes, and improving a company's sustainability with regard to its use of resources



THE EVOLUTION OF SUPPLY CHAIN MANAGEMENT



Supply chain management body of knowledge is relatively new.

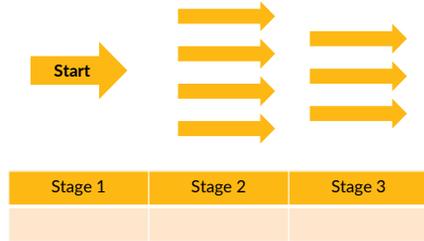
It has evolved since its inception during the past thirty to forty years, and is mainly attributed to the development of computers and their application to business.



Activity 1

Choose a product of daily use, map it's supply chain from

Product: _____



Supply chain management encompasses such a wide range of functions that it can seem daunting, even to the most experienced international businessperson. However, the process can be effectively modelled by breaking it down into several main strategic areas.



STRATEGIC PLANNING

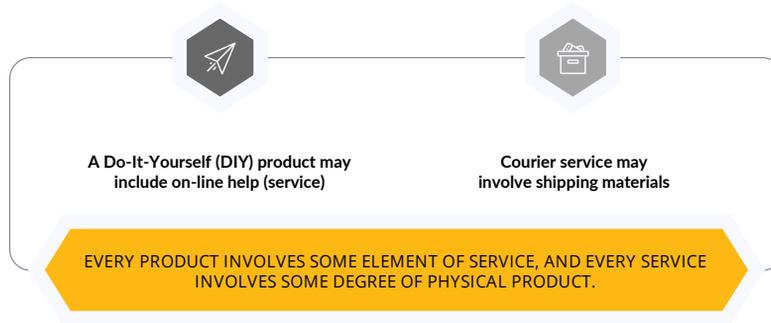


The basis of a competitive strategy is the differentiation in the product and services versus what is offered by the competition. Without differentiation, there is hardly any reason for a company to expect customers to prefer its products over others. In the context of competitiveness, strategy defines how a business differentiates itself from its competitors.

Strategic differentiators include price, quality, convenience, innovation, prestige and other. Once the strategic differentiators are identified, then the competitive strategy is formulated, which guides the supply chain's design and its priorities.



STRATEGIC MIX: PRODUCTS AND SERVICES



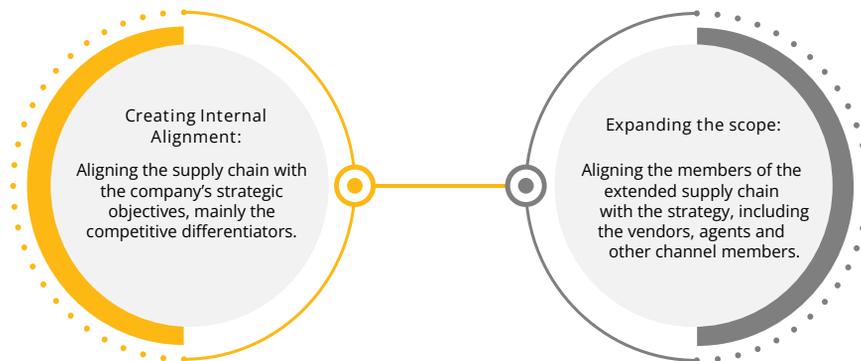
Every product involves some element of service and every service involves some degree of physical product.

For example, a Do-It-Yourself product may include on-line help and a courier service may involve shipping materials.



ALIGNMENT WITH STRATEGY

Alignment generates focus and momentum. There are two stages in aligning supply chain with strategy, as follows:



As we will see in the coming chapters, the position of channel members and channel masters depends on the strength of the respective entity. For example, a leading retailer is channel master for smaller vendors having lower brand equity,. However, the same retailer may be a channel member for products with strong global brand position, which is a source of customer traffic.



Attribute	Purchasing	Manufacturing	R&D	Distribution
Quality				
High				
Moderate				



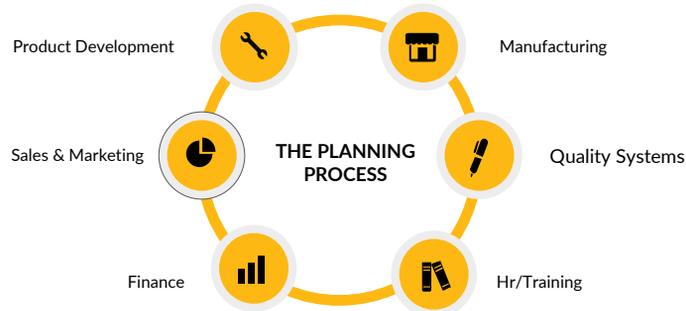
Supply chain management body of knowledge is relatively new.

It has evolved since its inception during the past thirty to forty years and is mainly attributed to the development of computers and their application to business.



ALIGNMENT OF PLANS FROM EACH AREA OF BUSINESS

Planning process combines the various aspects of product and service, coordinating the many processes such as Product Development, Sales and Marketing, Finance, Quality Systems, HR and others.



Supply chain planning is the component of **supply chain management** involved with predicting future requirements to balance **supply** and demand. SCM is sometimes broken down into the stages of planning, execution and shipping.

Supply Chain Planning represents the processes and activities that help assess the current state, determine the desired state, and a course of action (the Plan) to attain the desired state over a specified period of time, defined by certain specifications such as cost and quality.

It is important that all concerned parties and stakeholders are involved in developing the plan for it to be realistic and acceptable. The agreed plan as well as any changes and updates should be readily visible to all concerned in order to keep the resources aligned and avoid waste.



BALANCING THE 4Cs

This would vary for each organization, based on factors such as capital intensive vs. labor intensive industry, centralized vs decentralized management, skill level required, inventory and customer service targets, etc.



Customer Service, Cash Flow, Cost & Capacity are interlinked, and feed into each other. An imbalance in one area can have a domino effect on other areas.

A summary of potential relationships is given in the following slides.

In order to achieve sustainable growth, it is necessary to balance the four sees of supply chain, which are customer service, cash flow, cost and capacity.



BALANCING THE 4Cs

	CUSTOMER SERVICE	CASH FLOW	COST	CAPACITY
LONG-TERM, STRATEGIC PLANNING	Proactively Identifying emerging trends and new product/service opportunities. Technological advances, lifestyles changes, economic cycles, political changes.	Favorable accounts payable and receivable policies. Utilizing the project Earliest/Latest Start Dates to optimize cash flow.	Choice of business funding and capitalization, leveraged vs. equity. Technological upgrades. Outsourcing vs. in-house strategies for product families.	Investment decisions, locations and human capital/succession plans: Better forecast would help maintain appropriate level of capacity, hence avoid waste or loss of customer service.
MID-TERM, BUSINESS PLANNING & BUDGETING	Better sales forecasting and well-managed Sales & Operations Planning process would support customer service.	Better customer service would generate greater cash flow.	A well balance inventory and capacity plan will reduce cost due to stable production schedules and optimized inventory.	Process improvement through upgrades, additions and well-planned outsourcing can optimize capacity utilization, hence lower cost.

The table on this and the next few slide shows the relationship between the four sees of supply chain management and the various levels of planning.



BALANCING THE 4Cs

	CUSTOMER SERVICE	CASH FLOW	COST	CAPACITY
NEAR-TERM TACTICAL OPERATIONS PLANNING	On-time shipment, coordinated Available To Promise (ATP) process, and peak carrier performance would support customer service, hence greater cash flow.	Managing receivables and payables within the policy guidelines would help optimize cash flow and avoid bridge-financing costs.	Ensuring schedule stability in manufacturing and logistics would help reduce cost by avoiding expediting and overtime, scrap and other forms of waste.	Scheduling and flex planning would help optimize capacity in the near term, thereby allowing the business to add/upgrade capacity ahead of time, in a well-planned way.
ORGANIZATION - INFRASTRUCTURE	Proper location of facilities can greatly impact customer service.	Appropriate IT capabilities and communications technology can help track payments and improve cash flow	Appropriate type of production machinery and warehouse/ material handling equipment can avoid waste and minimize cost.	Aligning capacity with the forecast through various strategies (in-house/outsource, seasonal staff/flex, overtime, weekend, etc.) can help optimize capacity until the next upgrade becomes due.



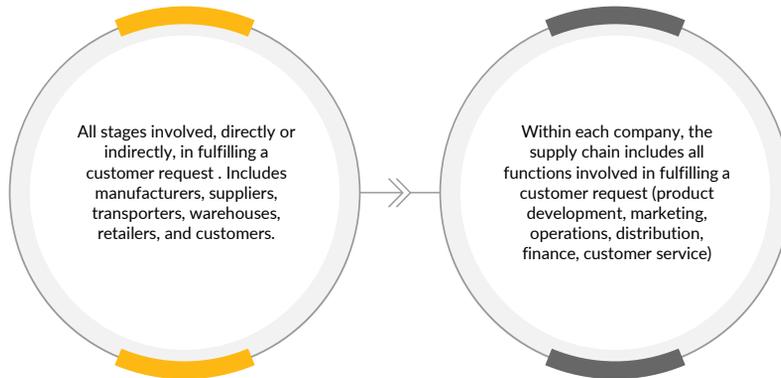
BALANCING THE 4Cs

	CUSTOMER SERVICE	CASH FLOW	COST	CAPACITY
ORGANIZATION - POLICIES, SKILLS, METHODS AND PROCESSES	Well trained and motivated/empowered staff plays an important role in customer service excellence.	Payment policies and optimized bridge financing can ensure continued supply of cash at optimum cost.	Time fence policies for operations can bring stability and reduce costs. The goal must be to balance customer service and cost.	Continuous enhancement and skills upgrade can keep the capacity at peak performance.

The table on this slide shows the relationship between the four sees of supply chain management and the various levels of planning.



SCOPE OF SUPPLY CHAIN MANAGEMENT

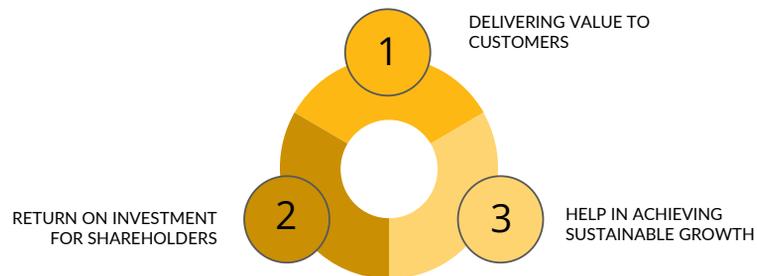


Supply chain include all stages from the farm to the kitchen, i.e., from the source of raw materials to the end-consumers and all the entities in between.

Remember, customer is a part of the supply chain.



OBJECTIVES OF A SUPPLY CHAIN



Objectives of a supply chain include the following:

- Delivering value to customers
- Return on investment for shareholders
- and help in achieving sustainable growth.

Supply chain management is concerned with the efficient integration of suppliers, factories, warehouses and stores.

The objective is to produce and distribute merchandise in the right quantities to the right places at the right time.



SUPPLY CHAIN MODELS: 4Cs PRIORITY MODEL

BRASI's 4Cs Priority Model for a Sustainable Supply Chain

The 4C Model is based on achieving sustainable growth by aligning the Supply Chain Strategy, Planning and Operations with the Vision and Mission of the business, and balancing the four critical elements, or the pillars, i.e., Customer Service, Cash Flow, Cost and Capacity.



BRASI's three levers for sustainable growth are Cash Flow, Capacity and Customer Service.

Maintaining a balance among these elements helps with sustainable growth.

In a competitive supply chain environment, sum of the profits generated by each supply chain member represents the overall supply chain value.



CHANNEL MASTERS, PARTNERS, MEMBERS

The players in the channel process are analogous to an athlete team. Each channel member performs a specified role. Channel players “wear the jerseys” of manufacturers, retailers, wholesalers, plus a wide variety of other types of specialized businesses that perform activities vital to successful distribution.

The channel master exercises influence over the other companies in the supply network often directing activities, technology and behavior in the supply network.



A channel master is an enterprise within a supply chain that has compelling control over the sales of a product.

For example: Walmart making it mandatory for all participating vendors to embrace RFID technology.

A channel master in one supply chain may be a minor player in another supply chain, depending on the volume, complexity and sole sourcing situations.

The channel master assumes the leading or controlling role in managing demand and resources, so that the entire supply chain attains the best customer service at the lowest cost.



CHANNEL MASTERS, PARTNERS, MEMBERS



Channel Master

The Channel Master is supposed to manage demand and resources so that the entire supply chain attains the best customer service at the lower cost.

The Channel Master power depends on 3 criteria's:

- * Intimate Customer Knowledge
- * Ownership of Customer through Brand name
- * Ultimate Demand Creator for the entire supply chain



Manufacturer/Producer

A channel partner is a company that partners with a manufacturer or producer to market and sell the manufacturer's products, services, or technologies. Channel partners may be distributors, vendors, retailers, consultants, systems integrators (SI), technology deployment consultancies, and value-added resellers (VARs) and other such organizations."

Three key dimensions characterize the channel master, and there may be a separate channel master for each.

The political channel master has the decision-making power and dominates the value stream. The big hypermarkets are an example for many consumer-goods supply chains.

The economic channel master dominates the money and resources in the supply chain. Usually this goes with political power, but not always, particularly when supply chains are changing over time.

The planning channel master directs the traffic of other companies in the channel by correctly managing the channel's physical and information flows. It is less celebrated and less familiar, but offers an important service

A channel partner is a person or organization that provides services or sells products on behalf of a software or hardware vendor.

Value-added resellers, managed service providers, systems integrators, original

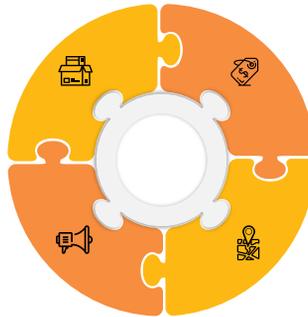
equipment manufacturers, and distributors may all be called channel partners.



CHANNEL MASTERS, PARTNERS, MEMBERS

Development of channel structure involves a degree of commitment among channel participants.

The commitment is typically desirable from the standpoint of ensuring performance, it may inhibit the ability of participants to adapt to changing market, competitive or environmental conditions.



Because of the dynamic nature of these forces, flexibility may become an overriding objective in certain channel situations.

Flexibility may be particularly critical in new-product industries.

Sometimes upstream companies which receive little or no planning information from their large customers downstream, look at sales of their customers' products to gauge demand for their own.

This is usually not a good idea since the demand of the overall value stream is not the same as the demand and the takt for the various member companies upstream. In an ideal world, maybe, but in the real-world inventories, order sizes, lead times, and other factors make sure that upstream demand is different.

Demand at the end of the value stream should be used for information only, for identifying trends.

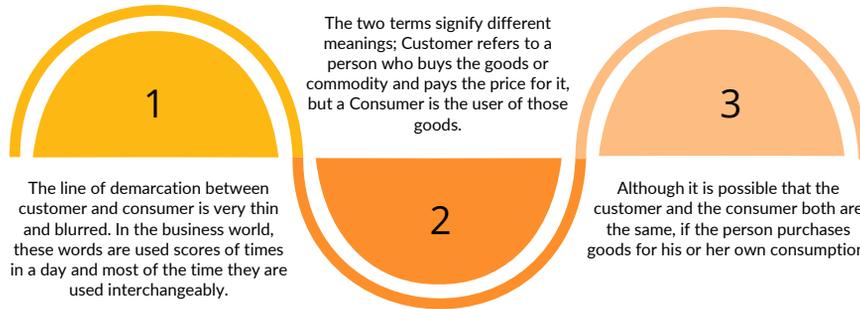
One company, a manufacturer of a large range of home and industrial equipment, combines political, economic and planning power. It consciously maps its value streams (supply chains) from the customer of its customer to the supplier of its supplier. It has a powerful Sales and Operations Planning process. It works with suppliers and subcontractors to help them become better performers.

Another company has little political power, because it is an affiliate of a much larger

company which siphons off most of its profits. To leverage its remaining economic power, it decided to become a planning power and intentionally upgraded all of its manufacturing and logistic systems to excellence status. It has survived, introduced new products and been a good employer over the years.



CUSTOMER AND CONSUMER



A **customer** buys products from businesses, while a **consumer** uses the business products. You can actually be both a **customer** and a **consumer** in a business transaction.



CUSTOMER AND CONSUMER

BASIS FOR COMPARISON	CUSTOMER	CONSUMER
Meaning	The purchaser of goods or services is known as the Customer.	The end user of goods or services is known as a Consumer.
Resell	A customer can be a business entity, who can purchase it for the purpose of resale.	No
Purchase of goods	Yes	Not necessary
Purpose	Resale or Consumption	Consumption
Price of product or service	Paid by the customer	May not be paid by the consumer
Person	Individual or Organization	Individual, Family or Group of people

Now it is clear that the person who is a customer is not necessarily a consumer and vice versa.

Enterprises must focus on the two as they should take care of what is demanded of the product by the consumer as well as they should advertise the product so well that it will grab the attention of the millions of customers instantly because the buying decision is taken by the two together or by keeping in view of the other. So, the companies should give equal importance to both.



THE 3 Vs OF SUPPLY CHAIN MANAGEMENT



You will see the three vees of supply chain management on the slide.

These are interconnected, since forward visibility helps control variability and results in increased velocity.

The objective is to increase velocity of the supply chain by improving visibility of market demand and minimizing variability in the operational results.

You might wonder, why is variability undesirable? Don't customer want variety?

Indeed, product variety is desirable. However, it is different from variability in quality or service level.

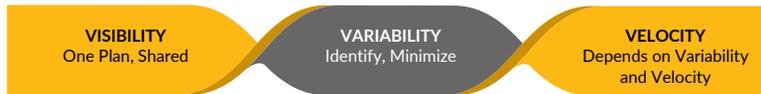
You prefer a certain brand of snack for its taste. Imagine finding out that the taste varies from time to time – most likely undesirable.

Variability can be minimized by using Six Sigma methods, which will be discussed later in the course.

Similarly, Lean is the tool to improve velocity, and will also be discussed later on.



THE 3 Vs: Why?



Why improve supply chain visibility? How?

To be able to respond to customer needs! Through better forecasting and communication!

Why reduce variability? How?

To deliver consistently good quality! (Note the difference between variability (not desired) and variety (desired). Through better process control/Six Sigma tools!

Why increase velocity? How?

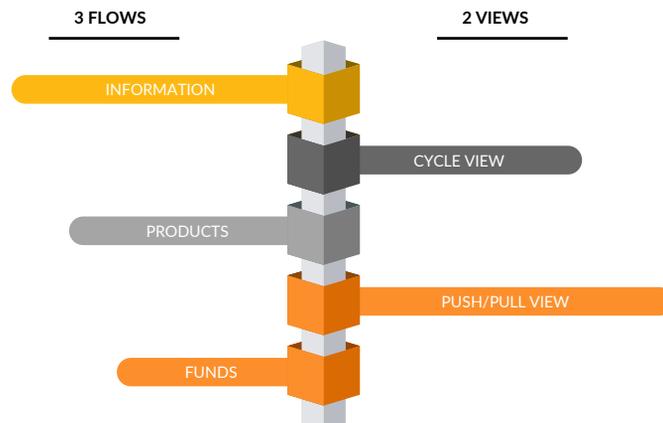
For faster delivery speed! Through Lean and Just In Time approach!

WHEN WE ARE ABLE TO PREDICT, IT IS AMAZING WHAT WE CAN ACHIEVE!

The three Vs have link many aspects of supply chain management and can be found as an underlying principle in the productivity tools such as Lean, Six Sigma and Just-In-Time (JIT).



— FLOWS & VIEWS IN SCM



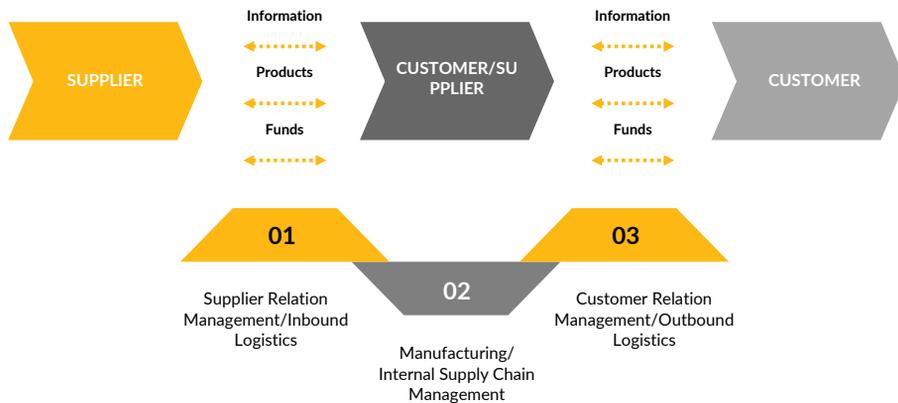
Let us now explore the three flows and two views of supply chain management.

The three flows are information, products and funds.

And the two views are cycle view and push pull view.



🔑 FLOWS IN SUPPLY CHAIN MANAGEMENT



The three flows are explained as follows:

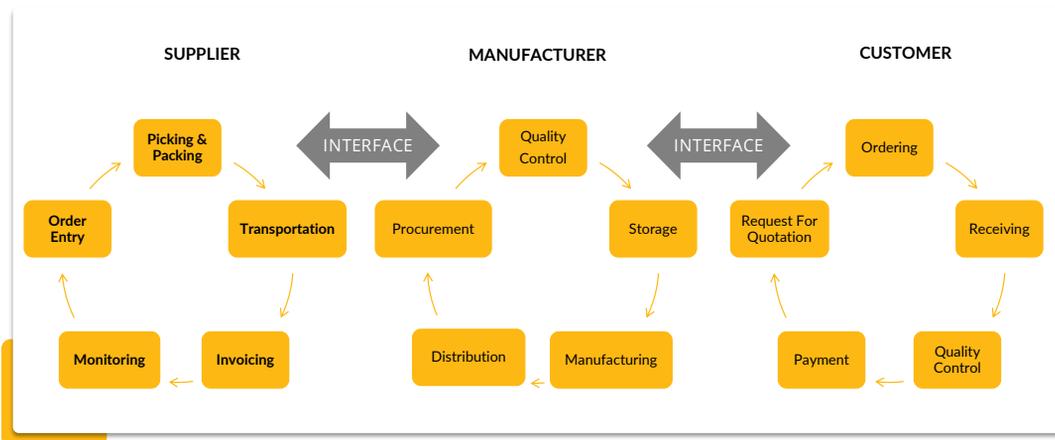
Information/data flow comprises the request for quotation, purchase order, monthly schedules, engineering change requests, quality complaints and reports on supplier performance from customer side to the supplier.

Product flow includes a smooth flow of an item from the producer to the consumer. This is possible through various warehouses among distributors, dealers and retailers.

On the basis of the invoice raised by the producer, the clients examine the order for correctness. If the claims are correct, money flows from the clients to the respective producer. Flow of money is also observed from the producer side to the clients in the form of debit notes.



CYCLE VIEW OF SUPPLY CHAIN



Supply Chain is a sequence of processes and flows that take place within and between different stages and combine to fill a customer need for a product.

The processes in a Supply Chain are divided into series of cycles, each performed at the interface between two successive stages of a Supply Chain. Cycle view of Supply Chain is useful in making operational decisions as role of each member of Supply Chain is clearly defined

Number of cycles depend on the number of stages in the supply chain

Grocery supply chain has all four cycles separated

Dell sells directly to customers, hence only two cycles



PUSH/PULL VIEW OF SUPPLY CHAIN

Push: Producing against a forecast, in anticipation of customer order.



Pull: Producing, finishing or shipping against a customer order.

Push/Pull View of Supply Chain Processes is explained as follows:

Supply chain processes fall into one of two categories depending on the timing of their execution relative to customer demand

Push pull view of supply chain categorizes processes based on whether they are initiated in response to a customer order (pull) or in anticipation of a customer order (push). The view is very useful when considering strategic decisions relating to supply chain design

The key difference between push and pull is that Push is the execution of production in anticipation of customer orders or a forecast, whereas Pull is the execution of production or shipment, against a customer order.



THE PUSH/PULL BOUNDARY



In logistics **chains** or **supply chains** the stages are operating normally both in **push**- and **pull**-manner. **Push** production is based on forecast demand and **pull** production is based on actual or consumed demand. The interface between these stages is called the **push–pull boundary** or decoupling point.



DELAYED DIFFERENTIATION OF POSTPONEMENT

In case where a base product has many options at the finished goods level, it is cost-effective to manufacture up to the pre-finished stage against the forecast, and store the product, until a customer order is received for a specific finish, which will allow to perform the final finish step.

This strategy offers the following benefits:

1. Delays the expenditure on final finishing until customer order is received, thereby lowering inventory cost.
2. Keeps the options open by postponing the finishing step until a firm order is received, thereby adding flexibility to customer service.



An example of delayed differentiation using the Push/Pull concept is as follows:

Hillside Farms produces bottled orange juice. Its customer consists of retail stores, which require store-brand labeling on the bottles.

Hillside farms annual production is 2 million bottles, which are labeled for 10 to 15 retail customers. Order quantities from each customer vary from time to time, depending on the season, promotion and other factors.

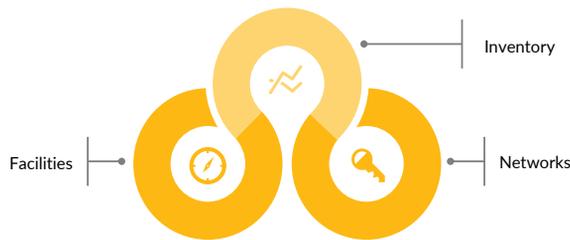
If Hillside Farms labels the bottles based on the previous order history or sales forecast, then there is a risk that the customer order quantity might change, causing a leftover balance of custom-labeled bottles in case of smaller order than forecast, or a last minute rush in case of the orders being higher than forecast. Also, the entire batch might need rework in case of a change in the label design for promotion, etc.

Therefore, Hillside Farms fills the bottles and stores them without labeling, i.e., push process against forecast and delays or postpones labeling. Once an order is received, labels are printed, bottles are labeled and shipped, thus avoiding the risks to inventory.



SUPPLY CHAIN DRIVERS AND OBSTACLES

Drivers of supply chain include Facilities, Inventory and Networks. These are physical elements and can also become **obstacles** if not *managed* properly.



This slides shows the main drivers of Supply Chain Performance.

Facilities are the places where inventory is stored, assembled, or fabricated – production sites and storage sites

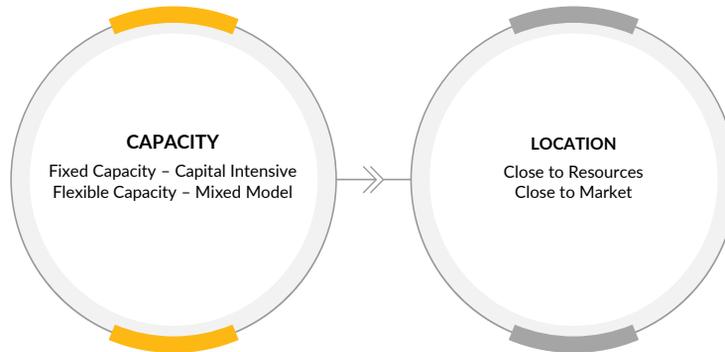
Inventory is the raw materials, work in process and finished goods within a supply chain.

Transportation is the act of moving inventory from point to point in a supply chain, combining various modes and routes.

Information is the data and analysis regarding inventory, transportation, facilities throughout the supply chain –potentially the biggest driver of supply chain performance



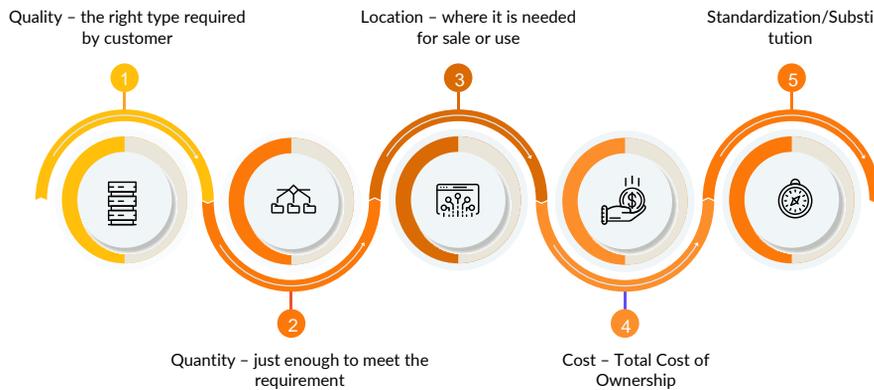
SUPPLY CHAIN DRIVERS AND OBSTACLES (Facilities)



Facilities Facility are the actual physical locations in the supply chain network A place where inventory is stored, manufactured or assembled. Hence facilities can be categorized as Production Facilities, such as factories, and storage Facilities, such as warehouses.



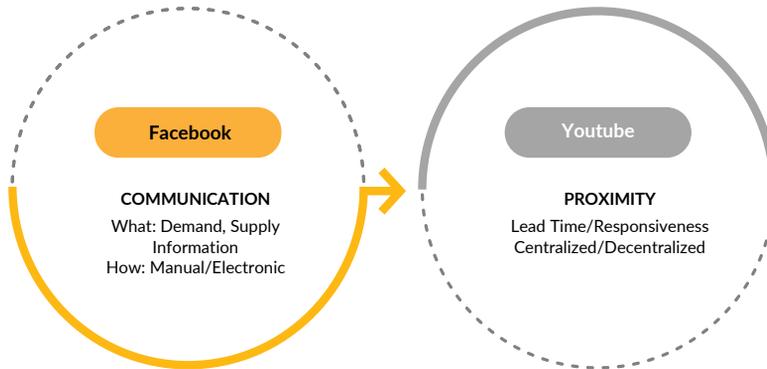
SUPPLY CHAIN DRIVERS AND OBSTACLES (Inventory)



Networks are the combination of distribution and information systems that drive the supply chain information and products.



SUPPLY CHAIN DRIVERS AND OBSTACLES (Networks)



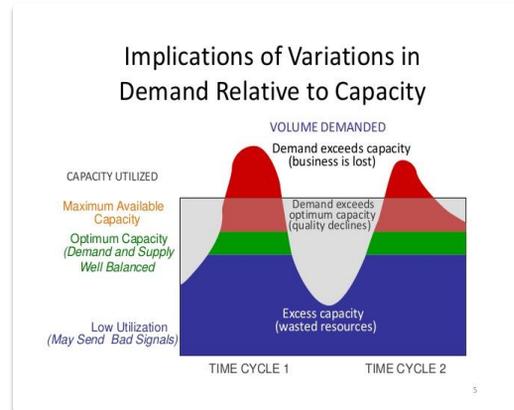
Supply chain drivers can become obstacles if not managed properly.



SUPPLY CHAIN FUNCTION: MAIN RESPONSIBILITY

BALANCING DEMAND AND CAPACITY

One of the most common problems facing manufacturers across all industries is the difficulty of effectively balancing demand with supply. Manufacturers are continually faced with the challenge of determining what to make, how much to make, and when to make it. When companies fail to meet this challenge effectively, they suffer a multitude of consequences.



Failing to balance demand with supply not only affects the entire manufacturing organization, but the complete Business trading network as well. The plant may not have the right raw materials to meet production needs. There may be increased production costs due to unscheduled changeovers to meet unplanned promotional activities.

Excessive and costly inventory may be stocked for discontinued or slow-moving items. Conversely, inventory shortages for new and promoted products may inhibit promotional programs. Stockouts may occur because companies failed to have the right product in the right place at the right time.

And if there are frequent stockouts, it can lead to increased costs due to expedited orders or, even worse, permanent customer loss. Keeping demand and supply in balance is a constant struggle.

The consequences of poor customer service, high inventories, cash flow difficulties, and failure to meet planned business goals lead companies in search of a process to better manage the delicate balance of demand and supply.



SUPPLY CHAIN FUNCTIONAL AREAS

SUPPLY CHAIN PROCESSES CAN BE DIVIDED IN TO THREE CATEGORIES:

Customer Relationship Management (CRM)



Internal Supply Chain Management (ISCM)



Supplier Relationship Management (SRM)



The three main groupings shown above, represent the supply chain management functions within an organization, as follows:

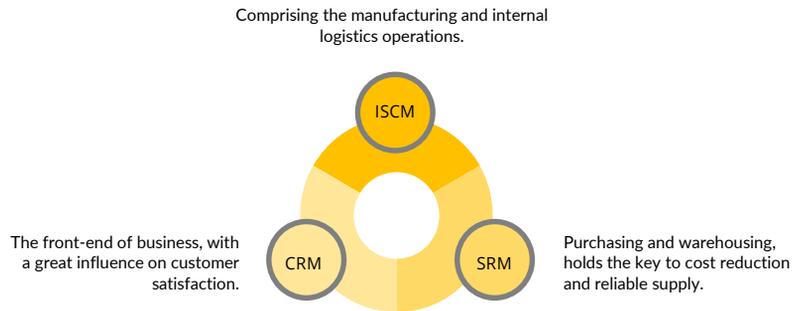
Customer Relationship Management represents the activities ranging from forecasting to order management, finished goods inventory management, warehousing and shipping.

Internal Supply Chain Management comprises the manufacturing operations, maintenance, product development, work in process inventory management, production control and other activities related to production.

Supplier Relationship Management includes purchasing, vendor management, inbound logistics, raw materials warehousing and inventory management. . The different types of procurement are typically handled by different teams, specializing in their respective processes.



SUPPLY CHAIN FUNCTIONAL AREAS



Within the supply chain, one company's CRM function may be closely integrated with the SRM function of its customer company. Also, the ISCM function of a company using a third-party manufacturer would be working closely with the vendor for technology transfer, quality systems, production planning and inventory management.



SUPPLY CHAIN FUNCTIONS & ROLES

Supply Chain Functions encompass the internal and external processes cycles that interface with each other and drive the supply chain from the beginning to the end.

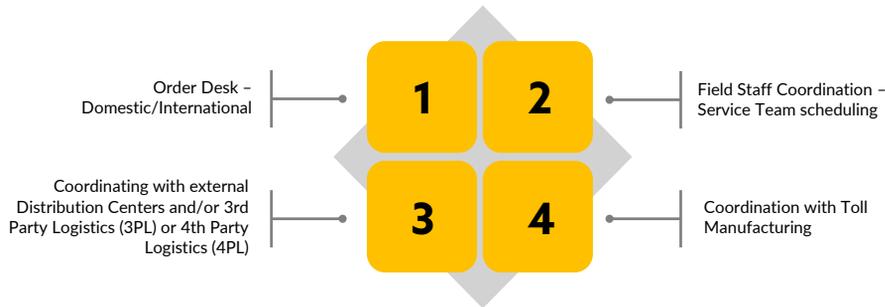


Supply chain management is a cross-functional approach that includes managing the movement of raw materials into an organization, certain aspects of the internal processing of materials into finished goods, and the movement of finished goods out of the organization and toward the end consumer.

As organizations strive to focus on core competencies and becoming more flexible, they reduce their ownership of raw materials sources and distribution channels. These functions are increasingly being outsourced to other firms that can perform the activities better or more cost effectively. The effect is to increase the number of organizations involved in satisfying customer demand, while reducing managerial control of daily logistics operations.



SUPPLY CHAIN FUNCTIONS & ROLES (CRM)



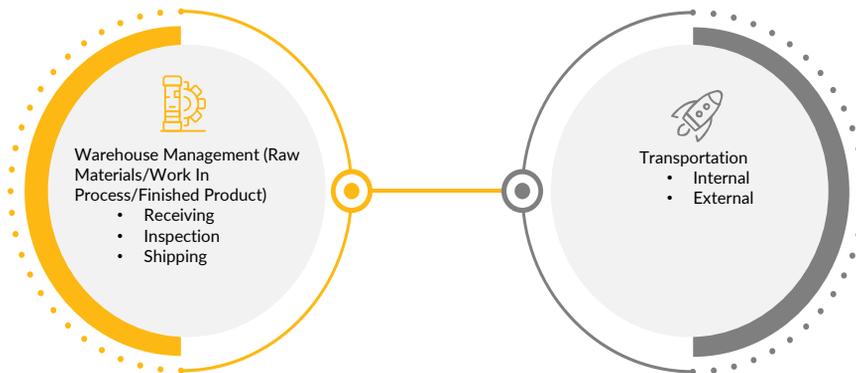
Focus: Alignment with Supply Chain Strategy

Customer Relationship Management comprises the following functions and sub-processes:

- Lead generation
- Needs identification and analysis
- Customer qualification
- Maintaining and communicating product specifications
- Customer query handling
- Cost estimation and margin analysis
- Managing or coordinating promotions and campaigns
- Preparation and submission of quotes
- Sales closing, order confirmation
- Order processing for manufacturing, sourcing or picking from stock
- Delivery of product or service
- Coordination for installation or commissioning of equipment
- Follow-up for after-sales service and supply of spares and consumables.



SUPPLY CHAIN FUNCTIONS & ROLES (Distribution & Logistics)



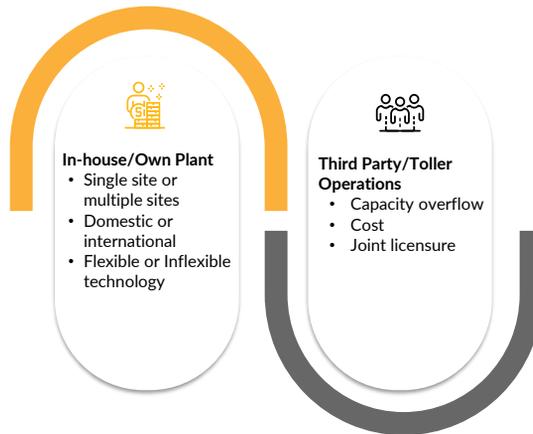
The term Logistics refers to all the processes involved in storing, moving, transporting or in any other way handling material.

Role of logistics in activities before start of material and after completion of manufacture up to transportation to the immediate customer has been well recognized in the past also.

But the logistics cost and effectiveness is also affected by, and in turn affect all other activities along the supply chain.



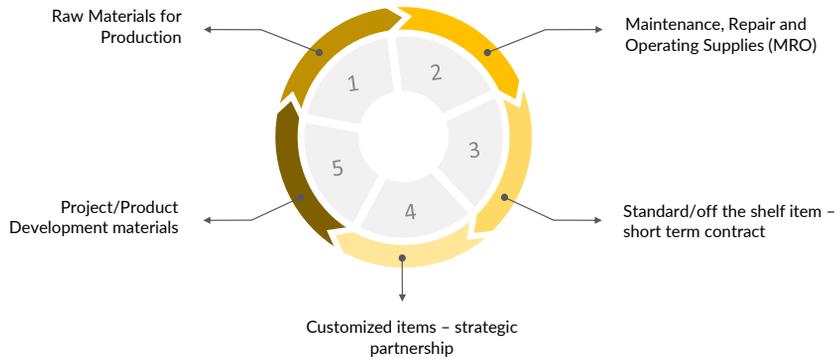
SUPPLY CHAIN FUNCTIONS & ROLES (Manufacturing)



Manufacturing represents the core of internal operations of a company. No SCM policies, can operate in isolation from the manufacturing activities. Manufacturing supports SCM in many ways like, reducing manufacturing lead times and supplying material closely matched to customer lot size and time requirements.



SUPPLY CHAIN FUNCTIONS & ROLES (Procurement)



Focus: Alignment with Supply Chain Strategy

Procurement is the act of finding, acquiring, buying goods, services or works from an external source, often via a tendering or competitive bidding process.



— SUPPLY CHAIN FUNCTIONS & ROLES

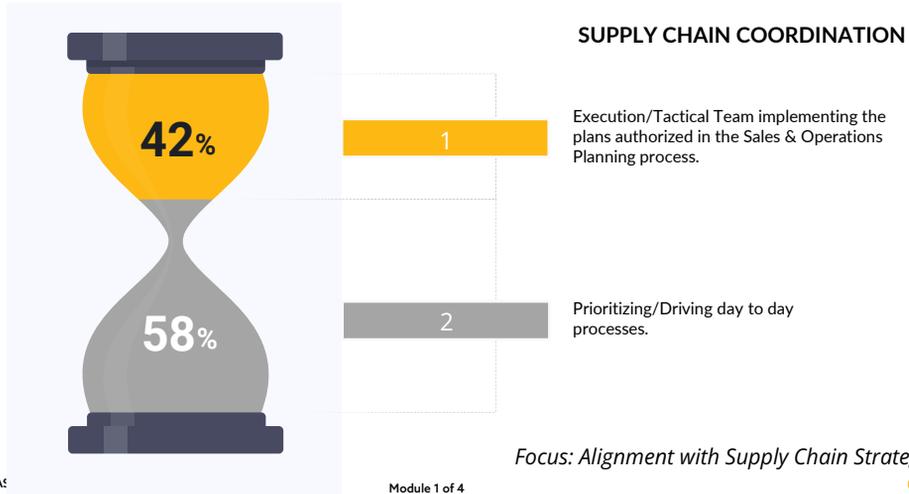
Coordination with other departments, mainly sales and marketing, manufacturing, quality, distribution, development, regulatory, finance, facilities.



Coordination implies actions by various agents in the supply chain that are aimed at increase in total supply chain profits. It also implies that supply chain agents avoid actions that improve their local profits but hurt total profits. Hence supply chain coordination principles requires each stage of the supply chain to take into account the impact its actions have on other stages.



SUPPLY CHAIN FUNCTIONS & ROLES



A lack of coordination creates the bullwhip effect in the supply chain. Due to this effect, fluctuations in sales become larger and larger fluctuations in orders at higher stages in the supply chain. This leads to situations wherein large shortages or large surplus capacities are felt in the supply chain cyclically.



KEY CONSIDERATIONS IN SUPPLY PLANNING

Inputs to the supply planning process include:

1 Demand information (sales forecast, internal demand, project/development, etc.).

1

2

2 Target inventory at the end of the plan period

3 Inventory on hand

3

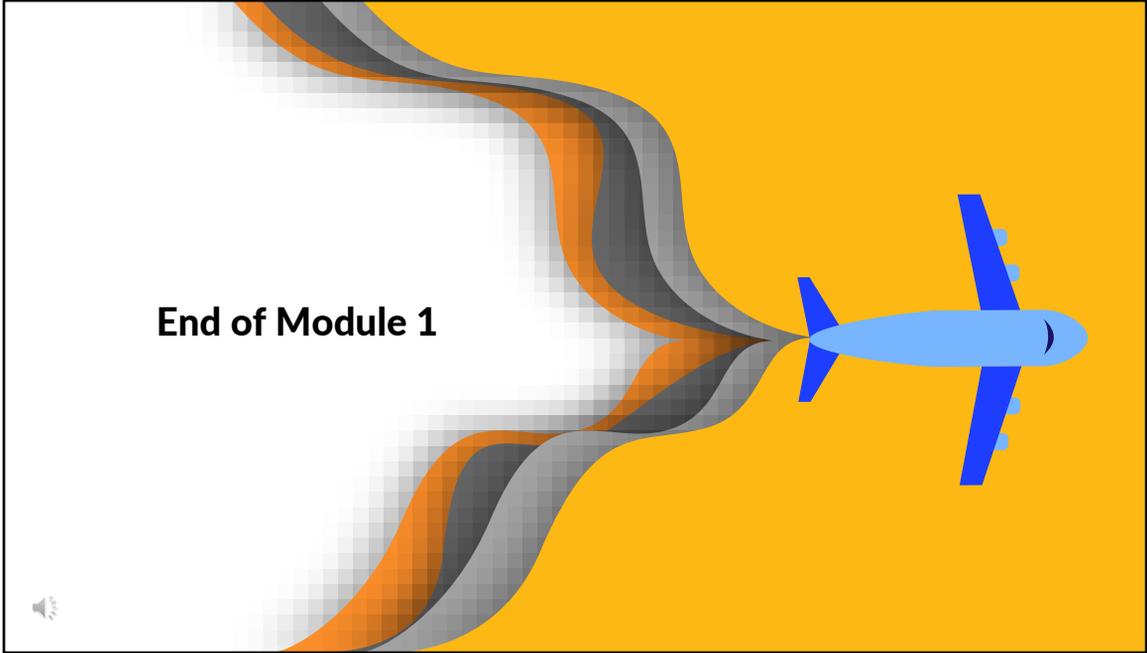
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4 Supply Plan to achieve the target inventory



Following are the inputs to the supply planning process:

- Demand information (sales forecast, internal demand, project/development, etc.). These are termed as Independent Demand, meaning demand external to the planning process such as Material Requirements Planning)
- Inventory on hand
- Target inventory at the end of the plan period
- Supply capabilities



The end of module 1.

Key Topics

- Supply Chain Fundamentals
- 3 Vs and 4 Cs of supply chain management
- Sales Forecasting
- Sales and Operations Planning
- Master Scheduling
- Material and Capacity Requirements Planning
- Economic Order Quantity or Lot Size
- Reordering Methods
- Safety Stock, MIN and MAX

Module 1: INTRODUCTION



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