Supply Chain & Logistics Management

1. What Are Logistics?

Ans. Logistics refers to the overall process of managing how resources are acquired, stored, and transported to their final destination. Logistics management involves identifying prospective distributors and suppliers and determining their effectiveness and accessibility. Logistics managers are referred to as logisticians.

2. What are the Understanding Logistics in Management and Business?

Ans. In simple terms, the goal of logistics management is to have the right amount of a resource or input at the right time, getting it to the appropriate location in proper condition, and delivering it to the correct internal or external customer.

For example, in the natural gas industry, logistics involves managing the pipelines, trucks, storage facilities, and distribution centers that handle oil as it is transformed along the supply chain. An efficient supply chain and effective logistical procedures are essential to reduce costs and to maintain and increase efficiency. Poor logistics lead to untimely deliveries, failure to meet the needs of clientele, and ultimately cause the business to suffer.

The concept of business logistics has been transformed since the 1960s. The increasing intricacy of supplying companies with the materials and resources they need, along with the global expansion of supply chains, has led to a need for specialists known as supply chain logisticians.

In the modern era, the technology boom and the complexity of logistics processes have spawned logistics management software and specialized logistics-focused firms that expedite the movement of resources along the supply chain.

3. What Is Logistics in Business?

Ans. In business, logistics is the process of transporting and storing raw materials, finished goods, inventory, and other resources. Logistics in a business is typically made up of many components, including customer service, demand forecasting, warehousing, material handling, inventory control, order processing, and transportation.

4. Why Is Logistics Important?

Ans. Logistics is critical to a company's bottom line. It enables the movement of materials or goods, the satisfaction of contracts, and the fulfillment of services. Effective logistics management ensures smooth movement along the supply chain and can provide a competitive advantage.

5. What Jobs Are Available in the Logistics Industry?

Ans. Careers in logistics can include truck driver, customer service representative, dispatcher, freight agent, supply chain manager, transportation analyst, procurement manager, logistician, and operations manager, among others. A degree in logistics or business administration will be helpful for many roles in logistics, including logistician, a career that is expected to grow much faster than average.

6. What is logistics management?

Ans. To better answer the question, "What is logistics management?", it's beneficial to review its definition. Logistics management is a comprehensive process that ensures that you have a plan in place to fulfil the needs of your customers and oversee the resources that enable the business to manufacture a product or deliver a service. It largely involves managing the procurement, storage and transportation of physical resources. Logistics management is an instrumental part of supply chain management.

The primary aim of a logistics management strategy is to keep customers content and to help a business achieve organisational goals. Each step within a logistics management strategy is mapped out to generate a clear understanding and consensus regarding who performs what duties. A company may also explain their logistics management strategy to customers, so they can have a better idea about what to expect.

- Inbound Logistics - Inbound logistics operations include activities such as material acquisition, material handling, transportation, and storage of commodities.
- Outbound Logistics - Outbound logistics operations include the collecting of products, maintenance, and distribution and transportation of commodities to the end user.

7. What are the objectives of logistics management?

Ans. The principal aim of logistics management is to effectively move and track inventory in a supply chain. It also helps reach the desirable level of customer service and satisfaction at the least possible cost. Here are a few objectives of logistics management:

- Providing a more efficient flow of operations: Logistics management not only enables a smoother flow of manufacturing processes but also ensures timely delivery and an effective utilisation of resources and raw materials. It allows a clear flow of information between different departments with thoughtful planning and consistent reviews.
- Enabling easier communication: Logistics management works between the different departments within a business and external trading partners to procure raw materials and transport finished goods. Seamless communication is necessary for the success of any business, as a single instance of miscommunication between involved parties can lead to loss of time and other valuable resources.
- Minimising manufacturing costs: Delay in procurement or transport of raw materials means a delay in production, which in turn results in an increase in manufacturing costs. With an efficient logistics management process in place, you can ensure that all departments are in sync and work towards maximising business profits.
- Gaining a competitive edge: You can provide better customer service with an efficient logistics management process in place, as the process aims to reduce or completely eliminate errors by creating a streamlined flow of processes and focussing on speeding up delivery processes. This ensures you make deliveries on time and that customers are content, in turn creating more sales and giving your business a competitive edge over other businesses in the same field.
- Enabling efficient inventory management: Inventory management can directly impact production management, financial management and customer service management.

Efficient logistics management ensures that the inventory management of a business is effective and helps keep accurate levels of stock at all times.

8. What are the Types of logistics management?

Ans. Logistics management processes are of four types. Each emphasises and becomes a part of a different supply-chain element. These types include:

- Supply management and logistics: This type of logistics management involves calculating and planning when you require materials and how to store them. This stage enables you to examine the supply of the product you are shipping to customers and see if they have additional feedback regarding the supply.
- Distribution and material movement: Distribution and material movement is the act of shipping materials and loading, unloading and specifying the stock of the materials you are shipping. You can note the usage of materials and make sure that these materials move from the warehouse to the store that is selling to customers.
- Production and logistics management: Production and logistics management is the cycle of managing materials required to manufacture a particular product. Companies identify the best time to manufacture a product, so it can meet their customers' demands accurately.
- Reverse logistics and product return: This type alludes to the recovery of materials during the production phase. An example can be removing existing materials from a building site for constructing new apartment homes in the same area.

9. What are the 6 benefits of logistics management?

Ans. Given that the movement of goods is what drives cash flow, it stands to reason that managing that movement—logistics management—is a core business concern. Indeed, logistics management impacts a company's bottom line for better or worse. It's best not to leave that impact to chance.

The following are six major benefits of effective logistics management.

Visibility:

Logistics management affords greater visibility into the supply chain. This enables businesses to better control costs, tease out efficiencies, spot supply chain problems, conduct demand planning and gain insights into opportunities.

Reduced overhead:

Logistics management enables companies to reduce overhead in areas from cutting shipping costs to shrinking how much warehouse space they need by proactively controlling inventory levels.

Improved customer experience:

An excellent customer experience (CX) is the driving factor behind repeat sales. By delivering orders accurately and quickly, you improve the customer experience which in turn increase brand loyalty and future sales.

Preventing loss:

Logistics management helps prevent loss in several ways. One is by a true inventory accounting, so your company knows exactly how much stock it has on hand at any given time. Companies can also track movement and current location so stock won't be misplaced or diverted without notice. In addition, by ensuring optimal storage and transport conditions, such as temperature and moisture management, solid logistics prevents spoilage and damage.

Support expansion:

Demand forecasting supports expansion by realistically calculating inventory needs and ordering, transporting and stocking accordingly. Further, logistics management best practices help companies scale to fulfill more customer orders on time.

Competitive edge:

Delivering orders correctly and on time is a foundational element in the customer experience—and good CX is key to repeat orders as well as solid brand reputation and net promotor scores, which in turn help a company acquire new buyers. Logistics management helps a company consistently deliver, or over deliver, on promises and sharpen its competitive edge.

10. What are the 7 Rs of Logistics Management?

Ans. The Chartered Institute of Logistics and Transport (opens in a new tab), an international organization for supply chain, logistics and transport professionals, defines the seven Rs of logistics as "getting the right product, in the right quantity, in the right condition, at the right place, at the right time, to the right customer, at the right price."

And in truth, that is the goal of logistics management.

Right product:

Job #1 is delivering the product that was ordered according to specifications: color, size, brand, quantity. But also consider an automated maintenance plan where manufacturers use IoT data to send a "just-in-time" replacement part, or something else that the customer may have not specified but needs. The point is to get buyers the products that are right for them or their situations.

Right quantity:

Say an item can be purchased as either a single unit or in packs of 12, which are also considered a unit. On a larger scale, a manufacturer may sell parts in a box containing a few products or as a pallet of multiple boxes. Getting quantity right demands clarity in how inventory is listed as well as proper picking and packing.

Right condition:

New, used or refurbished, customers expect a product to function properly and otherwise be useable. Products should therefore be inspected for flaws and damage prior to shipping. And, return shipping processes should be simple and convenient for customers.

Right place:

Tracking to ensure receipt and that shipped items were delivered to the right address are essential parts of logistics management. A package that is never received and must be replaced costs a company twice—and damages the customer relationship.

Right time:

Often, from the customer's perspective, timing is everything. Whether it's a consumer ordering a birthday or holiday gift or a manufacturer that needs a raw material to meet its schedules, late arrivals may cost the customer or be returned as no longer needed.

Right customer:

Order mix-ups, address errors and other mishaps communicate a lack of respect for the customer and inattention to detail. An ERP system that automates outbound logistics can minimize errors and maximize a company's supply chain execution.

Right price:

It's important that your pricing be competitive for the geographic area and the industry to turn your inventory regularly and at a good margin. It is also imperative to adjust pricing—up or down—according to demand. To succeed here, companies need continuous insights into profitability ratios and unit margins.

11. What are the Evolutions of Logistics Management?

Ans. Planning, organizing, and controlling the movement of goods and services between points of origin and consumption constitute logistics management. It includes a range of operations, including shipping, warehousing, inventory control, and order fulfilment.

It is impossible to overstate the role logistics management plays in the effective and efficient delivery of goods to customers.

This blog explores the evolution of logistics management, including its early stages, current trends, and challenges.

Logistics Management in its Early Stages

Focusing on transportation and storage was a defining feature of logistics management's early stages. With little thought given to other aspects of the supply chain, the main objective was to move goods from one location to another as quickly and efficiently as possible.

However, as industries become more globalised and complex, new problems appear that necessitate a more comprehensive approach to logistics management. Here are some examples of logistics management's initial phases:

1. Military logistics in ancient times

Military operations, where the effective movement of personnel, equipment, and supplies was essential to battles and campaigns, are the origin of logistics management. Military logistics can be traced to ancient Persia, where Cyrus the Great set up a network of supply points and transportation routes to support his armies. This is the first documented example of military logistics.

2. The Industrial Revolution and its impact on logistics management

Significant modifications to logistics management were brought about by the industrial revolution in the 18th and 19th centuries. Businesses now have new opportunities to move goods over long distances swiftly and effectively thanks to the development of steam power, railroads, and mass production methods. As a result, businesses started upgrading their storage and transportation systems to satisfy consumers' rising expectations.

3. Development of transportation systems and logistics infrastructure

Transport and logistics infrastructure made significant strides in the 20th century. The development of trucking, air cargo, and container shipping revolutionised the movement of goods. This made it simpler and more affordable to move goods across international boundaries and continents. Building warehouses, distribution centres, and other logistics facilities contributed to supply chain effectiveness improvement by cutting lead times and inventory costs.

Modern Logistics Management

A more integrated and team-based approach to supply chain management is the hallmark of modern logistics. While globalisation has created new challenges that call for a more sophisticated approach to logistics management, technology has played a significant role in improving logistics efficiency and effectiveness. The following are significant events that have affected modern logistics management:

1. Emergence of supply chain management

The term "supply chain management" first appeared in the 1980s and 1990s as a more comprehensive method of managing logistics. From locating raw materials to delivering finished goods to customers, supply chain management includes the coordination and optimization of every activity involved in the creation and delivery of goods and services. For this strategy to succeed, suppliers, manufacturers, distributors, and retailers will all need to work together and communicate more effectively.

2. Adoption of technology in logistics management

Recent years have seen a significant change in logistics management due to technology adoption. The effectiveness and precision of logistics operations have increased with the use of cutting-edge software systems for inventory control, warehouse management, and transportation management. Monitoring real-time supply chain activities is also possible via real-time tracking and monitoring systems, improving visibility and control.

3. Globalization and its impact on logistics management

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As businesses become more globalised, logistics management faces new challenges. A more sophisticated approach to logistics management is necessary to manage complex supply chains across numerous nations and regions. When managing global supply chains, businesses must consider elements such as customs laws, international trade agreements, and cultural variances.

Current Trends in Logistics Management

Today's trends in logistics management are centred on adapting to consumers' changing needs, enhancing sustainability, and utilising technology to optimise logistics processes. Current logistics management trends include:

1. E-commerce and last-mile delivery

Since more consumers choose to shop online and have their purchases delivered to their doorsteps, e-commerce has had a significant impact on logistics management. This has caused more emphasis on last-mile delivery, which is the last phase of the delivery process from the warehouse or distribution centre to the customer's location. In response to e-commerce demands, companies are exploring a variety of delivery options, including drones, autonomous vehicles, and crowdsourced delivery services.

2. Sustainability and green logistics

A growing emphasis on sustainability in logistics management is a result of public awareness of environmental issues. Companies are looking at ways to reduce waste throughout the supply chain and cut back on their carbon footprint. This entails using eco-friendly transportation methods, such as electric vehicles, enhancing delivery routes to save on fuel, and putting sustainable packaging strategies into practice.

3. Big data analytics and predictive modelling

Big data analytics and predictive modelling in logistics management have grown in significance. With these technologies, businesses can analyse enormous amounts of data to find trends and patterns, improving decision-making and logistics operations. Businesses can also forecast future demand with predictive modelling, which can then be used to modify their supply chain.

Challenges in Logistics Management

Managing logistics involves a number of difficulties that require businesses to be flexible and agile. Businesses must overcome the following obstacles to succeed in today's cutthroat business environment:

1. Global Supply Chain Disruptions

Global supply chains interrupted by calamities, unstable governments, and pandemics are one of the biggest problems facing logistics management today. These interruptions may result in material shortages, shipping delays, and higher transportation costs. This could have a big effect on both businesses and customers.

2. Labour Shortages and Workforce Management

Logistics management must also deal with the lack of skilled labour, especially in the trucking industry. This could lead to higher salaries and more competition for workers, which would raise company costs. Management of a diverse workforce of full-time employees, part-time employees, and contractors is becoming harder for businesses.

3. Regulatory Compliance

Logistics management is governed by local, national, and international laws. Businesses must stay informed and ensure compliance because these laws can be complicated and change frequently. Regulation violations may result in penalties, legal action, and reputational harm to a company.

4. Environmental Sustainability

Businesses are under pressure to adopt more sustainable practices as consumers' awareness of logistics' environmental impact grows. This may entail spending money on eco-friendly transportation options, planning delivery routes more efficiently, and using eco-friendly packaging materials. However, putting these practices in place can be expensive and time-consuming. Additionally, suppliers and customers unwilling to pay more for sustainable products may oppose businesses.

12. What is the Importance of Logistics Business in Global Economy?

Ans. The importance of logistics in the global economy cannot be overstated. It plays a vital role in facilitating the movement of goods, services, and information across the world, contributing to economic growth, efficiency, and competitiveness. Below are some key points that highlight the significance of logistics:

- **Supply Chain Efficiency:** Logistics ensures the smooth flow of goods and services from suppliers to manufacturers, distributors, retailers, and ultimately to end consumers. An efficient logistics network reduces lead times, optimizes inventory management, and lowers operational costs, thus enhancing overall supply chain efficiency.
- **Trade Facilitation:** International trade heavily relies on logistics to connect markets and nations. Efficient logistics infrastructure, such as ports, airports, and customs procedures, streamlines the movement of goods between countries, enabling global trade and economic integration.
- **Job Creation:** The logistics sector is a significant employer worldwide. From truck drivers and warehouse workers to supply chain managers and freight forwarders, millions of people work in logistics-related roles, contributing to job creation and economic livelihoods.
- **Competitive Advantage:** Companies that invest in well-organized and agile logistics operations gain a competitive edge. Efficient logistics can lead to faster delivery times, improved customer satisfaction, and cost savings, making businesses more attractive to consumers and investors.

- **Market Access:** Logistics enables companies, especially small and medium-sized enterprises, to reach wider markets beyond their local regions. It fosters access to new customers and opportunities, driving business growth and expansion.
- **Support for Other Industries:** Logistics provides essential support to various industries, such as manufacturing, retail, agriculture, pharmaceuticals, and more. It ensures the timely availability of raw materials, machinery, and finished products, keeping these sectors functional and productive.
- **Economic Growth:** A well-developed logistics infrastructure stimulates economic growth by facilitating trade, investment, and consumption. It enables the movement of goods across regions and countries, promoting economic development and prosperity.
- **Innovation and Technology:** The logistics industry has been at the forefront of adopting new technologies and innovations. From advanced tracking systems to autonomous vehicles and artificial intelligence, logistics continually evolves to become more efficient and sustainable.
- **Disaster Relief and Humanitarian Aid:** Logistics plays a crucial role in disaster relief and humanitarian aid efforts. It ensures the timely delivery of essential supplies, food, medical equipment, and other necessities to affected areas during crises.
- **Environmental Sustainability:** While logistics is essential for economic growth, it also faces challenges related to environmental sustainability. Improving logistics efficiency and adopting eco-friendly practices can lead to reduced carbon emissions and environmental impact.

In conclusion, logistics is the backbone of the global economy, connecting businesses, consumers, and nations through efficient movement and distribution of goods and services. Its continued development and optimization are essential for fostering economic growth, trade, and sustainable development worldwide.

13. What are the Key Differences of logistics and Supply Chian Management?

Ans. Supply chain and logistics are two interrelated ideas that are crucial to making sure that goods are distributed from producers to consumers in an effective manner. Logistics management is in charge of the operational aspects of shipping and storing commodities, whereas supply chain management manages the overall strategy. Here are some key differences to make you understand what is the difference between logistics and supply chain management:

Scope:

Supply Chain encompasses the end-to-end processes, including sourcing, manufacturing, distribution, and customer service. Whereas, logistics focuses on the movement, storage, and distribution of goods within a supply chain.

Function:

Supply Chain manages strategic planning and coordination of all activities related to the product's journey. Logistics handles the operational execution of transportation, storage, and order fulfilment processes.

Components:

The supply chain involves multiple functions and components like procurement, production, marketing, and customer service. On the other hand, logistics concentrates on transportation, warehousing, and inventory management.

Time Frame:

Supply chain management covers the entire lifecycle of a product, whereas logistics deals with the movement and storage of products in a specific time frame.

Focus:

Supply Chain emphasises overall process optimization, cost reduction, and value creation. However, logistics focuses on efficient movement and storage of goods to meet customer demands.

14. Distinguish of Logistics and competitive advantages?

Ans. **Effective and efficient service is vital**

It is no wonder that logistics is emerging as a vital cog in corporate renewal processes. Indeed, logistics can make a huge contribution to the achievement of sustained competitive advantage, in particular if the combined impact of improved customer service and lower cost-to-serve is considered.

Competitive advantage is, generally, gained by offering a customer service of greater value, with lower prices and superior benefits. Logistics, conversely, aims to meet customer demand at the lowest possible cost whilst facilitating the flow of materials, information and funds among supply chain partners. From the perspective of this objective, logistics can put a company ahead of its competitors by ensuring effective and efficient services, such as delivering the right products faster, on time, to the right place and at the right price. With the market becoming increasingly demanding as well as full of uncertainty, there is always a need for firms to be flexible in terms of the above if they are to achieve competitive advantage.

Firms, therefore, need to focus on procurement, transportation, warehousing and inventory, facilities management, information management and customer service in their strategic planning with the objective of improving efficiency in all aspects in order to gain competitive advantage. The proper management of these elements can create rare opportunities for firms as they seek to meet customer demand. Sharing real-time information, more accurate forecasts, cost reduction and agility in the supply chain can be achieved via a logistics-orientated strategy.

Logistics must be applied at strategy level

A notable element within firms today is the classic contrast between the contribution of logistics to competitive advantage and the ability of firms to apply logistics principles in their day-to-day and strategic plans. It is not amusing that some companies relegate logistics issues away from the strategic platform where they objectively belong. This is an error in logistics

strategic planning and should not be overlooked. A unified, comprehensive and integrated planning process will achieve competitive advantage through value and customer service, which should result in superior customer satisfaction that will anticipate future demand for logistics services and the management of the entire supply chain's resources.

The strategic planning of logistics should, nonetheless, happen in the context of overall corporate goals and plans. This requires an understanding of how the different elements and activities of logistics interact in terms of trade-offs and the total cost to the organisation. There is undeniably an increase in complexity in logistics and the supply chain, which necessitates better planning, which can come from trained logistics professionals.

Procurement, transportation, and warehousing and inventory management can no longer be practised as usual if a competitive advantage is to be attained. Organisations thus need to take a proactive approach in their strategic logistics planning process and differentiate their activities from a uniform and predictable model to more responsive models in order to handle increasing complexity.

Manage logistics costs

Transport is a key function of a firm's logistics activities, therefore, the costs associated with a particular logistics network have to be accurately captured and managed. Transport rates determine what a particular shipment will cost per unit weight for particular distances. Organisations should thus be capable of managing this aspect efficiently if they wish to achieve competitive advantage.

Warehousing costs are also critical for network analysis and can be examined in terms of fixed, storage and handling costs. The capacity of a warehouse facility will determine the flow through the facility. Management should ensure that capacities are at their optimum and avoid unwarranted excessive surplus capacity as this raises fixed costs associated with a facility. Related to warehouse management is the management of inventory, a critical element in logistics strategic planning. Inventory is a key element of every organisation's balance sheet and affects the financial performance of an organisation. The inventory turnover ratio is an indicator of the efficiency with which an organisation manages its inventory.

Furthermore, service level requirements are a very important consideration when it comes to supply chain and logistics strategies meeting service level criteria as set by management. It is often the case that customers cannot be targeted with the same service level, owing to the heterogeneity of their composition, hence, firms plan specific service levels for different customers.

Logistics can have a significant effect on the overall performance of an organisation

To identify opportunities for long-term competitive advantage, organisations must be aware of and examine emerging management issues in logistics before considering the right logistics strategies to gain competitive advantage in the dynamic world of global competition.

Supply Chain & Logistics Management

The forces of today's intensely competitive business environment call for significant changes in how business processes are conducted. As a consequence, many organisations have focused on reducing costs through increased productivity, while also attempting to improve quality and service at the same time.

The result of continually reducing costs and striving to improve service is that a company begins to find itself in the dilemma of being a commodity provider rather than a value-added supplier. To be a value-added supplier means to provide a level of service which stands above the rest – this can rarely be achieved without a focus on logistics strategy.

At Commerce Edge, we understand the importance of logistics at the heart of an organisation's competitive strategy. We can assist you with your training needs, to enable – and improve – your organisation's logistics services to your customers.

15. What are integrated logistics?

Ans. The integrated logistics model is one in which all units, resources and technology across supply chain and logistics coordinate and work together. It provides supply chain visibility to all ensuring common bottlenecks in logistics are mitigated.

Based on the maturity of the logistics company or division, integrated logistics solutions can include:

- Inventory, storage and warehousing
- Transportation, customs and distribution
- Packaging, shipping, delivery, returns and reverse logistics
- Customer support services and marketing management
- IT and data management and analytics

Instead of having all these units operate in silos, the goal of integrated logistics management is to have all processes interconnected and synced. This naturally will help logistics teams to be more efficient, save time, optimise resources, and have access to real-time data to cut logistics transportation costs and be profitable.

16. How integrated logistics works?

Ans. Next, let us understand how integrated logistics work and help to solve logistics challenges. By now we understand that all logistics processes within the supply chain system should be interdependent. Procurement must be mapped to inventory, demand and storage, fulfilment to distribution, delivery to returns and inventory – it's a full cycle.

Procurement

The procurement phase involves identifying raw material suppliers, demand forecasting, planning purchase, placing POs, checking for quality/quantity and transporting to warehouses for inventory planning. Having an integrated logistics strategy would involve coordination

between all these departments and processes, use of technology, stock level updates for replenishments, lead time alerts and more.

Warehousing and distribution

Warehouse automation systems enable warehousing centres to keep track of stocks in-real-time. This ensures the availability of inventory without disrupting production and supply chain operation. Accordingly, distribution happens. Based on the type of company, distribution can be through inbound or outbound logistics, i.e., distribution of raw material to production units or distribution of finished goods to retailers/wholesalers.

Many eCommerce businesses use micro-fulfilment centres to stock-up near their core markets and customers. Many small businesses also prefer to work with third-party logistics companies with 3PL warehouses to keep stock near their target audience. This also reduces time wasted and risk of damages during loading-unloading.

Technology and analytics play and important role here, with key updates on stock levels, order status, etc. Once again, an integrated logistics strategy must be in place to ensure that these activities do not take place in-silos.

Packaging, shipping and delivery

The next important functions that can be streamlined with integrated logistics management are packaging, labelling, shipping and delivery. E-Commerce business has made same day or next-day delivery the norm. Customers prefer to buy from brands that promise quick, damage-free, no cost deliveries. With integrated logistics, there's better coordination between all departments in the logistics system, ensuring that the overall customer experience is never compromised.

Returns and refund management

Returns and refund management is a key component of online business. The eCommerce sector has made the returns process so convenient and hassle-free that customers expect similar level of efficiency and convenience across all platforms (online and offline).

Integrated logistics facilitates coordination between warehouses and transporters and can plan reverse logistics process in a systematic manner. Once a parcel is picked up from the customer as returns, the system can evaluate the category of return and take further steps. For instance, taking the example of our garment's seller, if a customer returns an apparel due to wrong size fit or poor quality, the apparel can be restocked, the product description can be updated and it can be resold. However, if the apparel was being returned due to damage to product, then it must be returned to the manufacturer with further plans, e.g., selling in the secondary market, thrift stores etc.

17. What are the Difference between logistics and integrated logistics?

Ans. The difference between logistics and integrated logistics is more than semantic nuances. It represents a fundamental shift in the way supply chain management is conducted. While traditional logistics focuses on specific, granular tasks, such as transportation or warehousing,

integrated logistics involves a holistic approach that seeks to integrate and optimize all activities.

Traditional logistics tends to address short-term problems and specific activities without always considering the relationships and dependencies between the different parts of the supply chain. Integrated logistics, on the other hand, takes a long-term perspective and recognizes that all logistics functions must be coordinated to improve overall efficiency.

Customer focus is another differentiator. While traditional logistics focuses more on reducing operating costs, integrated logistics goes further by prioritizing the continuous improvement of the customer experience. We pay special attention to factors such as delivery times, product availability and the ability to adapt to changing market demands.

In practice, integrated logistics involves close cooperation between different departments within a company and the introduction of advanced technologies. The key is to recognize that each element of the supply chain is interconnected and that improving it will have a positive impact on overall performance.

In conclusion, the important difference between logistics and integrated logistics lies in their approach and philosophy. Integrated logistics seeks global maturity by looking at the entire supply chain, while traditional logistics focuses on individual components. This shift in perspective is essential in a business world that demands efficiency, flexibility and exceptional customer experiences.

18. What are the Objectives of a company's integrated logistics?

Ans. Integrated logistics in a company strives to achieve a variety of objectives beyond traditional supply chain management.

Some of the main objectives are:

- Cost reduction: the optimization of complex logistics processes aims to reduce operating costs and increase efficiency at every stage of the supply chain.
- Improve customer utility: integrated logistics focuses on improving the customer experience by ensuring on-time delivery, order accuracy and flexibility to meet specific needs.
- Reduce lead times: effective coordination of logistics activities can help shorten lead times, respond quickly to market demands and increase competitiveness.
- Resource optimization: from efficient inventory management to strategic distribution channel planning, the objective is to maximize the use of resources, ensure optimal asset utilization and minimize waste.
- Adapt to changes in demand: integrated logistics focuses on flexibility, enabling companies to adapt quickly to changes in market demand while avoiding overstocking or stock-outs.
- Internal and external collaboration: foster close collaboration with external partners in all departments of the company and throughout the supply chain to promote effective communication and shared decision making.

- Sustainability: minimize the environmental impact of the supply chain, including by considering sustainable logistics practices.
- Continuous improvement: integrated logistics strives to implement an improvement process by continuously evaluating operations and implementing adjustments to maintain long-term efficiency.

19. How is integrated logistics integrated into a company?

Ans. The effective integration of integrated logistics in a company involves close collaboration between all departments related to the supply chain. The implementation of advanced information technologies, such as the logistics software, warehouse management systems and TMS software, is critical to efficiently coordinate operations. In addition, staff training and alignment of business objectives with logistics strategies are essential for success.

20. What is Inventory Flow?

Ans. Inventory flow refers to how a business controls and manages the movement of products through its supply chain. It involves creating a system or set of procedures that are followed to make sure that inventory is physically moved to the next supply chain stage.

When inventory flow is smooth, inventory moves from stage to stage easily and efficiently, without delays or mistakes.

21. Why is inventory flow important?

Ans. A good inventory flow ensures that your ecommerce operations function seamlessly with minimal delays and disruptions. It also benefits your business in several key ways that improve overall performance and help boost your bottom line.

Warehouse efficiency

The inventory flow inside a warehouse is directed by a warehouse control system, which helps to coordinate activities between different subsystems. That way, conveyors, carousels, and sorters can function seamlessly and in a coordinated manner.

The better inventory flow is, the more efficient warehouse management can be, since product routes are optimized and warehousing workflows are all functioning smoothly.

Reduced labour costs

When inventory flow is good and a warehouse runs like a well-oiled machine, it takes less time to perform tasks — especially if you automate more menial or repetitive functions. In this way, proper inventory flow helps reduce labor costs, as warehouse staff is free to focus on tasks that require a human touch.

Consistent inventory forecasting

When inventory flow is smooth and traceable, you can always have an accurate idea of your stock levels in real time. There's predictability in the movement of inventory, which also makes it easy to consistently forecast your future inventory needs.

22. What are Inventory Ownerships?

Ans. https://vijaysangamworld.wordpress.com/tag/inventory-ownership/

23. What Is Measurement and Management in An Integrated Logistics System?

Ans. In this way, working with logistics professionals, specifically within the context of a connected logistical system, is never-ending. It is about more than just the correct execution of standard tasks. Instead, it's about monitoring the effectiveness and efficiency of the whole logistics system. In order to achieve this, it is essential to continuously measure the results achieved, which is vital in the logistics field, especially in an integrated system. In this respect, technicians consider several indicators:

- Volume: Measures the workload (e.g., the number of orders processed by managers, for example.);
- Effectiveness: indicates the efficacy of the procedure (e.g., customer evaluation);
- Efficiency: evaluates the cost and resources involved in executing the process.

To ensure the creation of an efficient logistics system, it is essential to have experts in the field capable of evaluating these and other variables.

24. What are the Integrated logistics barriers?

Ans. Supply chain integration can be a time-consuming and resource-intensive task for companies. But lack of such integration will result in highly isolated companies that are unable to take advantage of economies of scale or better business practices that are being employed by competitors. Here are a few of the most commonly faced barriers to the integration process.

1. Lack of knowledge or access to technology IT

Technology plays a major role in supply chain integration. Global fashion brands are using AI and fully-automated communication and tracking systems. Smaller businesses may not have access to such technologies. They can hire resourceful aggregator platforms that can deliver on the integration at optimized costs.

2. Cost of integration

Supply chain integration is cost-intensive. It requires capital investment and recurring managerial costs. Affordability has to be pictured before committing to an integration process.

3. Lack of information sharing

Supply chain integration requires the cooperation of both the supply-side businesses along with internal departments. But suppliers can be wary of being monitored or sharing information that can be crucial to their business staying competitive.

4. Demand distortion-bullwhip

A bullwhip effect sets in when the procurement is based on inaccurate data that is inconsistent with consumer demands. This results in distorted information sharing which can negate the whole process of supply chain integration.

5.Lack of inclusivity

Most businesses including clothing labels make the mistake of focusing on their internal growth and end up sidelining the customers and suppliers. This results in an information gap and mistrust which can be addressed by making the supply chain transparent and inclusive.

25. Types of Logistics Performance Cycle?

Ans. To better understand the similarities and differences in the nature of physical distribution, manufacturing support and procurement performance cycle are discussed below.

1) Procurement cycle (Inbound): -

Procurement is concerned with purchasing and arranging inbound movement of materials, parts and/or finished inventory from supplier to manufacturing and assembly plants, warehouses or retail stores. The acquisition process is called purchasing in manufacturing organization, in government organisation it is called procurement and in retailing and whole selling it is called buying. All these three terms namely purchasing procurement and buying are referred to as inbound logistics. These activities are related to product and materials from outside suppliers. It includes-(i) Resource planning, (ii) Supply sourcing, negation, (iii)Order placement, (iv) Quality assurance, (v) Inbound transportation, (vi) Receiving and inspection(vii) Storage and handling.

2) Manufacturing support performance cycle: -

The manufacturing support performance cycles provides production logistics. Manufacturing can be viewed as being positioned between the physical distribution and procurement operations of firm. Manufacturing logistical support has the primary objective of establishing and maintaining an orderly and economic flow of materials and work in process inventory to support production schedules.

The isolation of manufacturing support as a distinct operating area is a relatively new concept in logistic management. The justification for focusing on performance cycles to support manufacturing is found in the unique requirements and operational constraints of modern production strategies. It is important to once again stress that the mission of logistics manufacturing support is to facilitate the what, where, and when of production, not the how.

Manufacturing support is significantly different when compared with either physical distribution or procurement. Manufacturing support logistics is typically captive to firm, whereas the other two performance areas must deal with behavioural uncertainty of external customers and suppliers. Even in situation when contract manufacturing is used to augment internal capacity, overall controls greater than in the other two operating areas.

Within a typical manufacturing organization, procurement provides materials and externally manufactured components when and where needed. Once a firm's manufacturing operation is

initiated, subsequent requirements Frontierland movements of materials or semi-finished products are classified as manufacturing support.

When a firm has multiple plants that specialize in specific production activities, the manufacturing support system may require a vast network of performance cycles manufacturing support operations, as contrasted to either physical distribution or procurement, are limited to movement under internal management control.

3) Physical Distribution Performance Cycle (Outbound Logistics):-

Physical distribution operations involve processing and delivering customer order. Physical distribution is integral to marketing and sales performance because it provides timely and economical product availability. The overall process of gaining and maintaining customers can be broadly divided into transaction creating like advertising and selling and physical fulfilment activities.

From the logistical perspective physical distribution links, a firm with its customers. It resolves marketing and manufacturing initiatives into an integrated effort. The interface between marketing and manufacturing can be conflictive. On the other hand, marketing is dedicated to delighting customers. The expectation is that zero defect service will be achieved and customer focused marketing efforts will be supported.

26. What is the procurement life cycle?

Ans. The procurement cycle is the process businesses use to find and obtain goods. It involves multiple steps, including identifying the need for a good or service, finding the right supplier, negotiating terms, creating a purchase order, and receiving the delivery.

It's also known as the procurement life cycle or, more simply, the procurement process. An efficient approach to procurement helps businesses ensure they're paying the right price for goods and services, minimizing delivery times, and building a strong supplier network. And optimizing the procurement process is one of the best ways to improve procurement efficiency.

In any given business, it's the procurement team that is responsible for implementing procedures throughout the procurement process. But how a procurement process looks is entirely dependent on the size and type of business. There's no one-size-fits-all approach, so you should tailor the procurement process to suit your business's own unique circumstances.

However, there is a general procurement process template which outlines the major steps in the cycle.

Steps in the procurement process/cycle

Whether you're a procurement manager creating a process from scratch, or you feel that you need to reassess your existing procurement procedures, below are seven crucial steps in the procurement life cycle to pay attention to.

1. Identify required goods or services

The procurement process starts with the need to obtain goods or services from an outsourced company. These goods or services can be internal (meaning any materials required to run the business) or external (raw materials or goods that the business will eventually sell). This stage, therefore, involves assessing the needs of each department and setting a budget.

For example, if a clothing manufacturer were starting out, they'd use this stage to outline how many and what type of embroidery machines they'd need. Or, if a larger clothing company were expanding, they'd return to this stage to determine what equipment they required to meet customer demand.

2. Consider a list of suppliers

This stage involves sourcing suppliers and determining their ability to provide the best quality and value for goods or services. While this seems straightforward, it's vital to find reputable vendors with which whom you can develop a long-term bilateral partnership.

Best practice in this area is known as strategic procurement. Strategic procurement revolves around the idea that businesses should align their procurement strategy with their broader business objectives, rather than treating it as an afterthought. In other words, strategic procurement is proactive and deliberate, rather than responsive.

When considering vendors, it's a good idea to compare all the different options on offer in depth. Generally, ideal traits for a reputable supplier are accountability, production capacity, strong ethics, and free-flowing communication.

For example, a clothing manufacturer looking for a new embroidery machine, which is a considerable investment, should conduct thorough market research in advance of the point they actually need the machine. By comparing machines from several suppliers, they will be more likely to find an option that will suit their budget, needs, and preferences.

The same company, using a non-strategic procurement process, might wait until they're desperate for a new machine. They'll then have less time to consider their options, meaning they're likely to end up getting a worse deal overall.

This same logic holds true no matter what the goods or services you're looking to procure are.

3. Negotiate contract terms with selected suppliers

After choosing your preferred potential suppliers, the next step in the procurement process is to negotiate contract terms with them. Contract negotiation is crucial in reaching a price that's fair for both parties and is an opportunity to build any additional payment term features that you want to take advantage of (like dynamic discounting or supply chain finance) into the contract.

Before entering negotiations, analyze any previous contracts to identify opportunities that will enable you to streamline costs and save money. If your previous agreements were expensive or had unrealistic terms, use this knowledge to iron out the finer details of prospective deals in the future.

For instance, a clothing company may have contracts with several suppliers, as they require a steady stream – and replenishment – of stock and materials. So, rather than ordering them each time manually, consider proposing a rolling contract that will save time, and possibly offer discounts, too.

4. Finalize the purchase order

Once a contract is submitted to a supplier and both parties are happy with the small print, the next step is to start preparing, finalizing, and sending purchase orders or purchase requests.

A purchase order is a document that outlines:

- A description of the goods or service
- Total costs
- Quantity
- Approval of workflow

When a purchase order is approved, it signals to the relevant finance team to release the details to the supplier, affording them access to the critical information they need, such as:

- A reference number
- Payment terms agreement
- Any other essential information they require

Typically sent via email, a purchase order contains a further agreement between the two parties. While a contract sets out agreements about the whole collaboration, purchase orders tend to agree to individual jobs contractually.

If the clothing company in our example required a machine upgrade, they would need to obtain internal approval. If approved, the internal team will prepare a purchase order, including a description of the new machine, pricing, and any other relevant details.

Once approved, the finance team will share the purchase order with the supplier who'll begin to prepare the order and organize payment details.

5. Receive invoice and process payment

Once a supplier receives a purchase order, the purchase order sender will receive an invoice from them stating the agreed price and instructions on how to pay. This should contain details of the order on the invoice. Improving your purchase order management process is essential in

streamlining this aspect of the procurement process. A part of this optimization could be, for example, achieved through adoption of invoice automation technology.

Depending on what's outlined in the contract, the invoice will include details of the period allowed to make the payment. Many businesses offer a thirty-day credit notice, which gives you leeway to make the payment if you cannot fulfil it at the time of the order.

However, payment terms will always depend on the specific contractual agreement, as well as the strength of the relationship between both parties.

6. Delivery and audit

All things going well, the delivery of ordered goods should arrive soon after the supplier receives a purchase order. At this stage of the process, it's common for businesses to make a record of when the order arrived as well as double-checking the order contents. If something is missing, this is the opportunity to contact the supplier and rectify the problem to reduce potential downtime.

For example, if a clothing manufacturer ordered a machine upgrade to cope with increased customer demand, but it arrived with a missing part, profound implications could ensue. Production could be affected, and orders could be delayed, leading to customer dissatisfaction and potential losses for refunds and compensation.

7. Maintain accurate invoices for future audits

It's an essential part of the process to keep up to date records of all invoices and payments. Then, when it's time for a cash flow audit, you can precisely calculate what you've spent throughout the contract and identify areas where you can further analyze your spending.

Maintaining accurate invoices is also key to working out whether you're overspending or sticking to your budget. For example, if our clothing company looks over their records and realize that they're overspending on materials, they could act and look for a new supplier. Or, if the spending review concluded that they're overspending on machinery and equipment, this could indicate that the brand they're using isn't suitable for their needs.

27. What Is Supply Chain Management (SCM)?

Ans. Supply chain management (SCM) is the process of managing the flow of goods and services to and from a business, including every step involved in turning raw materials and components into final products and getting them to the ultimate customer. Effective SCM can help streamline a company's activities to eliminate waste, maximize customer value, and gain a competitive advantage in the marketplace.

28. How Supply Chain Management Works?

Ans. Supply chain management represents an ongoing effort by companies to make their supply chains as efficient and economical as possible.

Typically, SCM attempts to centrally control or link the production, shipment, and distribution of a product. By managing the supply chain, companies can cut excess costs and needless steps and deliver products to the consumer faster. This is done by keeping tighter control of internal inventories, internal production, distribution, sales, and the inventories of company vendors.

SCM is based on the idea that nearly every product that comes to market does so as the result of efforts by multiple organizations that make up a supply chain. Although supply chains have existed for ages, most companies have only recently paid attention to them as a value-add to their operations.

29. What are the 5 phases of supply chain management?

Ans. A supply chain manager's job is not only about traditional logistics and purchasing but finding ways to increase efficiency and keep costs down while also avoiding shortages and preparing for unexpected contingencies. Typically, the SCM process consists of these five phases:

Planning

To get the best results from SCM, the process usually begins with planning to match supply with customer and manufacturing demands. Companies must try to predict what their future needs will be and act accordingly. This will take into account the raw materials or components needed during each stage of manufacturing, equipment capacity and limitations, and staffing needs. Large businesses often rely on enterprise resource planning (ERP) software to help coordinate the process.

Sourcing

Effective SCM processes rely very heavily on strong relationships with suppliers. Sourcing entails working with vendors to supply the materials needed throughout the manufacturing process. Different industries will have different sourcing requirements, but in general, SCM sourcing involves ensuring that:

- The raw materials or components meet the manufacturing specifications needed for the production of the goods.
- The prices paid the vendor are in line with market expectations.
- The vendor has the flexibility to deliver emergency materials due to unforeseen events.
- The vendor has a proven record of delivering goods on time and of good quality.

Supply chain management is especially critical when manufacturers are working with perishable goods. When sourcing goods, companies should be mindful of lead times and how well equipped a supplier is to meet their needs.

Manufacturing

This is the heart of the supply chain management process, where the company uses its machinery and labor to transform the raw materials or components it has received from its suppliers into something new. This final product is the ultimate goal of the manufacturing process, though it is not the final stage of supply chain management.

The manufacturing process may be further divided into sub-tasks such as assembly, testing, inspection, and packaging. During the manufacturing process, companies must be mindful of waste or other factors that may cause deviations from their original plans. For example, if a company is using more raw materials than planned and sourced for due to inadequate employee training, it must rectify the issue or revisit the earlier stages in SCM.

Delivery

Once products are made and sales are finalized, a company must get those products into the hands of its customers. A company with effective SCM will have robust logistic capabilities and delivery channels to ensure timely, safe, and inexpensive delivery of its products.

This includes having a backup or diversified distribution methods should one method of transportation temporarily be unusable. For example, how might a company's delivery process be impacted by record snowfall in distribution centre areas?

Returns

The supply chain management process concludes with support for the product and customer returns. It's bad enough when a customer needs to return a product, but even worse if that's due to an error on the company's part. This return process is often called reverse logistics, and the company must ensure it has the capabilities to receive returned products and correctly assign refunds for them. Whether a company is conducting a product recall or a customer is simply not satisfied with the product, the transaction with the customer must be remedied.

Returns can also be a valuable form of feedback, helping the company to identify defective or poorly designed products and to make whatever changes are necessary. But without addressing the underlying cause of a customer return, the supply chain management process will have failed, and future returns will likely persist.

30. What are the types of supply chain management?

Ans. Supply chain management does not look the same for all companies. Each business has its own goals, constraints, and strengths that will shape its SCM process. These are some of the models a company can adopt to guide its supply chain management efforts.

Continuous flow model: One of the more traditional supply chain methods, this model is often best for mature industries. The continuous flow model relies on a manufacturer producing the same good over and over and expecting customer demand will show little variation.

Agile model: This model is best for companies with unpredictable demand or custom-order products. This model prioritizes flexibility, as a company may have a specific need at any given moment and must be prepared to pivot accordingly.

Fast model: This model emphasizes the quick turnover of a product with a short life cycle. Using a fast chain model, a company strives to capitalize on a trend, quickly produce goods, and ensure the product is fully sold before the trend ends.

Flexible model: The flexible model works best for companies affected by seasonality. Some companies may have much higher demand requirements during peak season and low volume

requirements in others. A flexible model of supply chain management ensures that production can easily be ramped up or wound down.

Efficient model: For companies competing in industries with very tight profit margins, a company may strive to get an advantage by making its supply chain management process the most efficient. This includes utilizing equipment and machinery in the most ideal ways in addition to managing inventory and processing orders most efficiently.

Custom model: If any model above doesn't suit a company's needs, it can always turn toward a custom model. This is often the case for highly specialized industries with high technical requirements, such as an automobile manufacturer.

31. Why Is Supply Chain Management Important?

Ans. Supply chain management is important because it can help achieve several business objectives. For instance, controlling manufacturing processes can improve product quality, reducing the risk of recalls and lawsuits while helping to build a strong consumer brand. At the same time, control over shipping procedures can improve customer service by avoiding costly shortages or periods of inventory oversupply. Overall, supply chain management provides multiple opportunities for companies to improve their profit margins and is especially important for businesses with large and international operations.

32. What are the benefits and objectives of supply chain management?

Ans. Supply chain management (SCM) is the process of managing the flow of goods and services from production to delivery. It involves planning, organizing, and controlling all aspects of the supply chain in order for businesses to meet customer demand efficiently. The objectives of supply chain management include optimizing efficiency, minimizing costs, increasing customer satisfaction, and providing a competitive advantage to firms. To that end, companies need to ensure that their supply chain processes are as streamlined and automated as possible.

By leveraging SCM, businesses can experience numerous benefits that help their overall operations. One benefit is improved efficiency; by having visibility into the supply chain from end to end, companies have an increased level of control over each step of the process. This allows them to make better use of resources and optimize operations accordingly.

Investment banking and financial modelling

Additionally, it helps reduce costs associated with cycle times, excess inventory, and transportation expenses.

Another benefit is increased customer satisfaction through faster response time and improved communication/collaboration between departments or external partners.

Through optimized systems such as automated warehouses or connected networks of suppliers, companies can quickly provide customers with what they need before anyone else — leading to more satisfied customers in turn. This can be a significant advantage in today’s market where speed and customer service are paramount features for remaining competitive.

Finally, streamlining processes and automation can create a more reliable supply chain that responds quickly to changes in demand or shifts in technology or customer preferences. By utilizing SCM best practices such as full cycle planning or forecasting models based on historical data analysis businesses have greater flexibility when adapting their strategy or responding to true needs at any given time — giving them another leg up on the competition!

33. What are the principles of supply chain management?

Ans. Supply Chain Management is the process of managing the flow of goods from their point of origin to the point of consumption. It requires strategic collaboration between all parties involved in the chain, which includes manufacturers, shippers, distributors and retailers. To ensure successful implementation of a Supply Chain Management strategy, it is important to consider key principles.

The first principle is collaboration: This involves developing partnerships with suppliers and other stakeholders in order to optimize efficiency and streamline communication across the supply chain. Through collaborative efforts, organizations can work together more effectively to meet customer needs and deadlines.

The second principle is visibility: A successful supply chain management strategy requires visibility into every stage of the process from start to finish. This helps organizations identify trends, detect potential problems and gain insight into customer preferences in order to make informed decisions about inventory levels, transportation strategies and supply chain activities.

The third principle is efficiency: Organizations must strive for low costs without sacrificing quality or customer service levels throughout the entire supply chain process. This helps them maximize profits while meeting customer needs in a timely manner. To achieve this goal, companies should focus on reducing waste and improving automation processes across their supply chains.

The fourth principle is cost optimization: Supply Chain Management strategies should be designed with cost optimization as one of their main goals. Organizations should strive to minimize costs such as labor costs or freight charges while still maintaining high quality standards throughout the production process. Additionally, they should look for opportunities to reduce costs through efficient methods such as lean manufacturing or just in time delivery systems.

The fifth principle is risk mitigation.

34. What Is a Value Chain?

Ans. A value chain is a series of consecutive steps that go into the creation of a finished product, from its initial design to its arrival at a customer's door. The chain identifies each step in the process at which value is added, including the sourcing, manufacturing, and marketing stages of its production.

A company conducts a value-chain analysis by evaluating the detailed procedures involved in each step of its business. The purpose of a value-chain analysis is to increase production efficiency so that a company can deliver maximum value for the least possible cost.

35. What are the Five Levels of Organizational Activities?

Ans. An organization is made up of many people and activities. Companies plan for the future and manage the present. They budget, report and track success by developing processes and systems that monitor success and progress. An increasing important function involves hiring the right people and developing them into successful and effective employees. Organizations also organize their work in the most efficient manner, which allows for the proper mix of people, products, services and systems.

Planning

Planning is an essential element for all organizations. The degree and effectiveness of your company's planning process develops your company for both the present and the future. Some organizations have a very formal process that ultimately produces a thorough and executable plan for each of the company's operating quarters. Plans are created for sales, products, people and systems. Expenditures are anticipated and results, including profitability, are estimated and planned. Planning is an activity that leads your company to the future.

Staffing

Maintaining the proper staffing levels is essential for all companies. Having too few people means poorer customer service and even weaker financial performance. Too many employees drains profits and creates redundancies that harm the profitability of your organization. Keeping exactly the correct number and mix of talented people in your company is essential for survival, and constantly having a pool of promotable and talented associates is a daily job for all successful companies.

Budgeting

An organization must have a solid budgeting process or profitability and success will suffer. Some companies have a budgeting process that is simple and uncomplicated, while others have a systematic and thorough process that produces a workable budget for everyone. Consistent budgeting over time helps when producing an estimate, but the involvement of everyone in your company in the budgeting process is the best way to ensure accuracy. Once the budget is created, you can then accurately and efficiently operate your company with a solid road map.

Reporting

Reporting carries throughout your entire organization. From entry-level employees to the highest points in your organizational charts, reporting is an essential element for all companies. Customer service associates report sales and satisfaction scores. Supervisors enter their sales and profit levels into your tracking system. Division managers are accountable for the profitability of their stores, and your human resource team tracks turnover and benefits statistics. Department heads discuss results with your vice presidents, and company executives are accountable to the board of directors.

Directing

Directing others flows throughout all layers of your organization. Every employee of your company is accountable to a supervisor or manager who directs the performance of their associates. Progress is tracked and reported and improvements are made based on results. Performance discussions are frequent and the work of your company flows smoothly when everyone is led to produce results. Directing the work of others is common in your management team's performance reviews, and evaluating the success of others is a vital task that happens during every minute of your organization's day.

36. What are the industry levels of supply chain management?

Ans. It is important to create a productive supply chain that will work on all three levels. Beginning with strategic planning and ending with the management of daily operational tasks, the effectiveness at each of these levels ensures a smooth and highly efficient supply chain.

Strategic Level

At the strategic level, planning is done where the entire groundwork of how the supply chain will work is carried out. Data from various sources is taken and decisions are made keeping in mind the long-term goals of the company. When strategic planning is conducted, every major factor affecting the supply chain such as consumers, suppliers, transportation, company goals, resources, etc. are analysed, and its use and value determined.

At the strategic level, issues that are discussed include:

- Choosing the resources
- Calculating costs
- Establishing customer demand
- Product management
- Carrying out innovations and experiments to meet customer demand
- Finding methods to make the chain more effective
- Strategic level is a vital level of Supply Chain Management, as creating an effective strategic plan ensures the success of the other two levels.

Tactical Level

After the broader planning where long-term suitability of operations is carried out, at the tactical level, planning on how the short-term goals must be met is done. The short-term goals may include:

- Finding new suppliers or engaging with older ones better
- Gathering of the required materials and human resources
- Creating schedules for suppliers and employees
- Ensuring transportation needs are met
- Developing methods to synchronise supply and demand better
- Looking at warehousing facilities

At this level, the decisions that are made impact the cost and the effectiveness of the supply chain. As the decisions regarding the day-to-day operational activities are taken, the role of factual information, experience of the planners and innovation becomes important.

Operational Level

At this level, the decisions taken are implemented and the day-to-day operations are managed to fulfil the goals determined during the first two steps. At the operational level, planning, analysis and changes are conducted to keep the supply chain optimised. It needs to be remembered that success at this level heavily depends upon the other two levels. Without effective planning for both long and short-term, operations on a daily basis cannot be improved to reach maximum productivity.

The operational level involves the following activities:

- Ensuring that supply is consistent and the demand is met
- Keeping an account of progress, materials and human resources
- Managing materials, operations and human resources
- Making sure that waste is reduced/removed

When all three levels are given equal importance, a supply chain can be optimised, demand met every time and costs reduced. Avoiding the first, the second, or the first two levels may lead to the inability to meet demand, widening the difference between company goals and operations, an increase in cost due to waste and ineffectiveness, and lack of productivity. Therefore, companies must invest in the strategic and tactical level before moving to the operational level.

37. What are the Components and supporting activities in value chain in supply chain management?

Ans. In his concept of a value chain, Porter splits a business's activities into two categories, "primary" and "support," whose sample activities we list below.1 Specific activities in each category will vary according to the industry.

Primary Activities

- Primary activities consist of five components, and all are essential for adding value and creating competitive advantage:
- Inbound logistics include functions like receiving, warehousing, and managing inventory.
- Operations include procedures for converting raw materials into a finished product.
- Outbound logistics include activities to distribute a final product to a consumer.
- Marketing and sales include strategies to enhance visibility and target appropriate customers—such as advertising, promotion, and pricing.
- Service includes programs to maintain products and enhance the consumer experience—like customer service, maintenance, repair, refund, and exchange.

Support Activities

The role of support activities is to help make the primary activities more efficient. When you increase the efficiency of any of the four support activities, it benefits at least one of the five primary activities. These support activities are generally denoted as overhead costs on a company's income statement:

- Procurement concerns how a company obtains raw materials.
- Technological development is used at a firm's research and development (R&D) stage—like designing and developing manufacturing techniques and automating processes.
- Human resources (HR) management involves hiring and retaining employees who will fulfill the firm's business strategy and help design, market, and sell the product.
- Infrastructure includes company systems and the composition of its management team—such as planning, accounting, finance, and quality control.

38. **What are the Five Functions of Supply Chain Management**?

Ans. The five functions of supply chain management include the following:

1. Purchasing

The first function of supply chain management is purchasing. In the manufacturing process, raw materials are required to produce goods and products. It is important that these materials are procured and delivered on time so that production can begin. For this to occur, coordination with suppliers and delivery companies will be required to avoid any potential delays.

2. Operations

Demand planning and forecasting are usually required before materials can be procured, as the demand market will dictate how many units to be produced and how much material is required for production. This function is important in supply chain management as organizations must accurately forecast demand to avoid having too much or too little inventory that will lead to losses in revenue. Therefore, demand planning and forecasting must be tied in with inventory management, production, and shipping to avoid such mistakes.

3.Logistics

Logistics is the part of supply chain management that coordinates all aspects of planning, purchasing, production, warehousing, and transportation so that the products will reach the end-consumer without any hindrances. It is helpful to have adequate communication between multiple departments so that products can be shipped to customers quickly and at the lowest cost.

4. Resource Management

Production consumes raw materials, technology, time, and labor. Resource management ensures that the right resources are allocated to the right activities in an optimized manner. This will ensure that an optimized production schedule is created to maximize the efficiency of the operations. When calculating the available capacity, you should consider the capabilities of

each resource and determine whether they can perform the work that is scheduled on it. This will ensure that you are not over-promising orders and that your production schedule is feasible and accurate.

5. Information Workflow

Information sharing and distribution is what keeps all of the other functions of supply chain management on track. If the information workflow and communication are poor, it could break apart the entire chain. Many disruptions that arise in supply chains can be prevented by increased visibility and communication. Having a consistent system that is used by all departments will ensure that everyone is working with the same set of data and will prevent miscommunications and time spent updating everyone on new developments.

39. What are the Contributions of Supply Chain in Economic Growth?

Ans. Delivering the right product at the right time, at the right place, at the right cost, in the right quantity, of the right quality – this is the precise role of supply chain management.

Reliable supply chains are one of the key drivers of economic growth. The supply chain ecosystem constitutes several other industries and sectors.

From the economic standpoint, for developing countries, supply chains create opportunities, augment productivity, improve technology and skills, increase employment, and diversify exports. Long-terms business relations ensure more income and uninterrupted revenue.

Developed countries, on the other hand, have advantages in the form of skilled labour at cost-effective rates. Moreover, with supply chains now becoming more competitive and resilient, they assure better transparency in their operations.

Supply chains of today are different from the ones that functioned earlier. They have an important role to play, especially in the post-covid world. From resource optimization to seamless and sustainable procurement of raw materials, effective inventory control to demand-supply harmony, efficient delivery to customer satisfaction – supply chain performance is now dependable on each of these components.

A critical element is technology that is reshaping the functioning of this industry, making it more transparent, visible and traceable. With the advent of digital supply chains, the performance of the industry as a whole is improving, thereby, making greater contributions to the world economy.

Warp and Weft International is a forward-looking supply chain management company, following a holistic strategy, embracing digitization and making way for more transparency, better collaborations and enhanced customer satisfaction.

40. What is the Value Creation in Supply Chain Management?

Ans. To understand how to increase a company's value, knowing how the value is created is a key factor. There are three commonly-used ways to analyze a company's value.

1. For a publicly-traded company, market capitalization (market cap) is the value. The market cap is how much all the outstanding stock is worth at the current share price.

2. For a private company, the value can be estimated by using some multiplier, which is industry-specific, times the earnings before interest, depreciation, and amortization (EBITDA). This gives an estimate of what most investors would think the company is worth.

3. Another way to value any company (public or private) is by calculating the economic profit. Economic profit is the profitless the cost of the capital used to create it. For comparative purposes, calculate the economic value-added (EVA), which is the net profit after taxes, minus the opportunity cost of the capital invested in the company.

Research conducted by Stern Stewart on companies that focus on creating EVA growth discovered that they usually outperform the market and competitors consistently, in terms of valuation. When the EVA of a company increases over time, the value also increases.

From an investor's point of view, even a company earning a profit may have an inferior EVA. For example, a company that has $100 million in capital invested and an annual net profit after taxes of $8 million, has an 8% return on investment (ROI). If the investor has alternative investments with a similar level of risk that earn 10% annually and the company's net profit after taxes returns only 8% to the investor in value, this is not an attractive investment.

In this case, the opportunity cost of placing the capital with the company is 10%. The ROI of 8% is less than the 10% opportunity cost. This creates a negative 2% EVA, which is not attractive. If the investor can, the investor should move investment money away from a company with a negative EVA to the investments with similar risks that pay the higher ROI. If the investor's returns exceed the opportunity cost of 10%, then there is a positive EVA and the investment is attractive to the investor.

The world's best value-added investor, Warren Buffet, amassed a fortune by hunting for companies that he could buy, which produced an EVA of 15% or higher. Buffet's value investing strategy is a buy-and-hold strategy of owning a company's stock forever as long as the company continues to produce a positive EVA.

Amazon's Supply Chain Model

Amazon has a market cap of $1.57 trillion (11-11-2020). The value of Amazon soared to new heights during the pandemic because of increased demand, which the company was able to handle with operational excellence. Even with global supply chain interruptions, which made many things unavailable, people wanted to buy a lot more things on online. Amazon had to hire 100,000 new workers, twice, to keep up with the demand. During 2020, Amazon's profits tripled. Amazon's success comes from a consumer-first strategy driven by economies of scale, data and process mining, an intense focus on process efficiency and cost reduction, strategic acquisitions, and continual cash flow improvement. The principle behind Amazon's success

can be summarized in a single word, “relentless.” In a PBS FRONTLINE documentary about how Amazon started, this word, relentless, is said to drive the company’s founder Jeff Bezos as the company’s key mission. At Amazon, there is a relentless pursuit of operational excellence. Amazon became so efficient in managing the supply chain for value creation that it is now going to have to pay a big fine in the EU for antitrust violations. The allegations are that Amazon used its unique position of being both an online marketplace and an online retailer to take unfair advantage of its marketplace retailers. It does this through data and process mining when creating its own new products to sell at retail that compete with the other retailers selling on Amazon.

The antitrust allegations aside, all businesses can learn from the best practices used at Amazon to increase their company’s value. However, you might want to stop just short of creating a global monopoly that competes with its own customers and attracts antitrust violations with massive fines. Or maybe not, since Amazon has plenty of money to pay these fines. What is a few billion in fines when the company is worth over a trillion and a half dollars?

Now that we have a clear metric to use with EVA as the valuation model and an example of the best practices in mind with Amazon, let’s do a deep dive into how you can use advanced supply chain management techniques to build the value of your company or a company you invest in as a private equity firm.

How does the supply chain drive the company’s value?

A company's value is directly affected by the company’s supply chain performance. Supply chain management includes operating in the most cost-efficient manner; however, if you want to maximize value, there is much more than just standard cost reduction measures to consider. The supply chain is the company’s circulation system; its lifeblood, of how information and materials flow from the supply side through the company to its customers. The traditional focus of supply chain management is procurement, manufacturing, warehousing, and shipping. Along with cost reduction measures, transportation logistics of how products get to customers are important. These are just some of the areas where possible improvements can be made in the supply chain for cash flow improvement to boost company value.

Here are four ways a supply chain can positively impact a company’s valuation:

Increased Revenues: Supply chains, which operate with the best practices, create economic profit by enabling increase sales revenue supported by exceptional delivery of products to customers that encourages continued growth.

Cost Efficiency: An efficient supply chain controls 60% to 70% of a typical company’s costs.

Reduced Working Capital: An efficient supply chain reduces capital investment requirements by lowering the inventory needed to be kept on hand and increasing inventory turnover with the help of smoothly-operating transportation logistics.

Asset Utilization: An efficiently run supply chain makes maximum utilization of a company’s physical assets such as manufacturing facilities, warehouses, and retail space in physical stores.

Increased revenues with lower costs increase economic profit. The use of less working capital and maximizing facilities use reduces the investment needs and that also increases economic profit. These four factors above combine to improve a company's value over time. The most impactful supply chain management considers the entire enterprise and its efforts in procurement, logistics, and operations to create a cross-functional alignment in the business that focuses on cost, cash flow, and growth. The goal is to produce the highest product availability at the lowest cost with the least amount of capital investment required. A well-managed company wants higher revenue, lower costs, and to use less working capital to operate. Investors are very responsive to a company's ability to produce economic profit and value the company accordingly. Moreover, private equity firms have become extremely aware of the risks of supply chain interruption. They know how important the logistical and transportation companies and processes are to national and worldwide economies.

Supply Chain Disruption

A serious supply chain disruption can wreak havoc on a company's value, yet prior to the pandemic, many companies operated without a formal strategy to manage risk in their supply chains. The global pandemic clearly showed not only the financial risk of a supply chain disruption but life-or-death risk as well. COVID-19 testing was hampered by the inability of laboratories to get enough of the chemical reagents needed to conduct the tests.

The best practices for supply chain management have risk mitigation of supply chain disruption as a fundamental operational strategy. For example, supplier reconfiguration can reduce the number of vendors by working with consolidated partners and by using the techniques of cross-functional governance/cooperation.

Backup suppliers can be identified for critical components and a risk analysis made of continued availability. Just-in-time inventory management fails when a critical component is suddenly unavailable and orders cannot be filled. Inventory stock levels are managed for both the immediate need and the risk of components being unavailable.

The Relationship between Working Capital and Cash Flow

The best way to think about working capital is from an operational point of view. Increases in working capital reduce cash flow. To improve a company's value, the goal is to reduce working capital and increase cash flow. Operating working capital is the value of inventory (raw materials, work-in-progress, and finished goods) plus accounts receivable minus accounts payable. Cash flow is the net cash from operations minus any increase in capital investments and minus any increase in working capital. Working capital is the money that is tied up in things that are not yet converted into cash flow. If a company lowers its working capital requirements, it automatically increases its cash flow because it frees up cash that was just sitting there doing nothing.

Supply Chain & Logistics Management

Companies that use supply chain efficiencies to reduce working capital needs and increase cash flow generate more economic profit. Ways to achieve this using supply chain management are to reduce finished goods inventory, raw materials, and work-in-progress.

Here are some helpful strategies to reduce finished inventory:

Manage Product Offerings: Reduce the number of SKUs to manage the inventory of fewer, but popular, products. For slow-selling products, sell or liquidate the remaining stock, without producing more, and eliminate the SKUs.

Manufacturing: Improve manufacturing flexibility to respond faster to changes in demand.

Inventory: Use product segmentation as a strategy to reduce the excessive inventory of slow-selling items and have more inventory of the fastest-selling items. Reduce raw material inventory and work-in-process inventory.

Planning: Use a sales and operational planning process to manage any constraints in the supply change in alignment with product demand.

Here are some ways to reduce raw materials and work-in-progress inventory:

Components: Re-engineer products to reduce parts complexity.

Supplier: Work with suppliers to lower the lead times for supplies.

Non-Production Materials: Reduce inventory of materials not used for production, such as maintenance supplies.

Lean Manufacturing: Implement lean manufacturing strategies for process improvements.

Using Supply Chain Management to Increase Cash Flow

Cash flow can be increased by holding on to cash longer by allowing account payables to increase and by receiving cash sooner by collecting account receivables faster. The problem is that if a company allows account payable to increase, this may disrupt important supplier relationships when the company becomes a slow-paying customer. Getting customers to pay accounts receivable sooner is quite difficult.

Supply chain management offers unique approaches to these challenges. It is possible to create a win-win situation by consolidating materials purchases and making long-term purchase commitments with a few key suppliers in exchange for increased time to pay their invoices. This allows account payable to expand and the company to hold onto cash longer.

For accounts receivables, it is possible to make customers willing to pay faster if the lead time for orders is shortened and the customers can carry lower amounts of inventory. This reduces their inventory carrying costs. Consider if it is possible to make these faster resupply arrangements with customers to get them to pay accounts receivables sooner. Alternatively, it is possible to factor in receivables by selling them off for a discount to a third-party.

Achieving Supply Chain Excellence

A long-term commitment and the enthusiastic involvement of the top leadership in a company is required to achieve supply chain excellence. For many years, Amazon continued to invest heavily in building out its infrastructure. It took a long time for the company to show a profit. The early investors in Amazon were major institutional players who have a very long-term investment time horizon. Even after Amazon went public in 1997, it was many years before the company showed its first profit in 2001. However, once Amazon started generating profits, the profits expanded. Now that Amazon has the dominant market share of online retail sales, the profits are going up exponentially. Amazon is on track to make over $12 billion in profits for 2020. This is more than triple the previous year. The early investors got a fantastic financial reward for their patience when investing in Amazon's build-up of supply chain excellence.

Here are some strategic steps that companies can take to create supply chain excellence:

Talent: Hire the best employees available who are experienced in supply chain management, support their work efforts, and make supply chain improvements a critical part of the long-term business strategy. Enhance the professional development of employees through cross-training and continuing education programs.

Technology: Embrace the newest technology and always keep updating systems. Supply chains are improved by both digital and physical innovations. Recent digital innovations include blockchain, IoT, 5G, cloud services, Big Data mining, artificial intelligence, cognitive analytics, facial recognition, and much more. Physical innovations include things like drones, 3D printing, autonomous vehicles, wearable tech, and robots.

Collaboration: Many supply chain improvements come from a win-win collaboration with suppliers and customers or by creating other collaborative business partnerships.

Cross-Functional Governance: Use an integrated business process with sales and operational planning to avoid functional silo problems. Provide excellent customer service by integrating all functions within the company that has customer touchpoints. Change from just serving customers to customer relations management.

Meet Performance Benchmarks: Follow the best practices strategies to deliver improved supply chain performance by successfully meeting the goals on-time and on-budget. Make sure to keep the focus on the bigger picture and not become overwhelmed with the granular details.

Virtual Integrations: Stay focused on core competencies and hire outside consultants and service providers by using the best practices for selecting third-party logistics solutions providers.

Information Sharing: Share information across the supply chain. Promote visibility from the suppliers to the customers. For example, have an online web portal where suppliers can see the dates that their invoices will be paid and another portal where customers can see order fulfillment dates for refill orders.

Agility: Improve the company's ability to respond to the changing environment quickly and adapt faster than the competition.

End-to-End Integration: Understand how all the components fit together and work with the entire process to implement strategic cost savings, inventory management, cash flow management, working capital management, improved responses to growth opportunities, and risk mitigation. To do this effectively requires end-to-end integration across all functions.

Megatrends Impacting Supply Chain Management

Value creation comes from tracking megatrends to make improvements in the supply chain that create operational excellence.

Increased Offers and Products

Supply chain management is consistently challenged to give customers more choices than ever before.

Shelf-Ready Product Packaging

Value-added services such as tagging items with prices and building retail displays that are shelf-ready help enable the process to get items on the store shelves and increase inventory turnover.

Improved Customization

Personalization is a megatrend that requires enhanced customization capabilities.

Emergency Preparedness

Supply chain management takes on a whole new level of importance in emergencies. The pandemic exposed major weaknesses in the global supply chain. Disruptions in the supply of surprising items like toilet paper were unexpected. At the same time as food lines were forming in the cities, which were many blocks long, food produced with no way to go into distribution, after the bars and restaurants closed, was rotting in the farmer's fields. This pandemic is not a one-and-done phenomenon. It is a permanent supply chain disruption risk problem that needs to be addressed on all levels, in every country, and made a part of every company's long-term planning.

Conclusion

Supply chain management is the key driver of creating company value because it takes into account the operating costs, cash flow, working capital, and has an impact on the revenues as well. Supply chain management involves all departments in a company. It benefits from having enthusiastic support from C-level management. Once the logical connections are made between increasing company value and supply chain management, it is easy to see the importance of focusing on a long-term strategy for supply chain improvements to create supply chain excellence that dramatically increases a company's value. If you want your company to be the next one valued at over a trillion dollars, pay close attention to supply chain management.

41. What is the leveraging value in supply chain management in today's customer economic growth?

Ans. In today's modern business environment, the competitive landscape and requirements to successfully compete are evolving and shifting constantly. The primary reason for this is that the rapid escalation in disruptive technology has led to increased customer demands. It's been happening since the rise of the internet. Another factor driving change is the steady performance of the global economy over the past decade and the resulting increases to standards of living. The combination of these two factors has drastically changed the way consumers value and evaluate the goods and services at their disposal.

These changes and disruptions are impacting small businesses and large enterprises alike. With consumer preferences shifting towards features and convenience, businesses are forced to attack product development from a value perspective as opposed to taking the historically popular cost-centric approach. On the B2B front, customers are placing more emphasis on supplier competencies such as visibility, integration, and risk management. In recent years this has brought increased attention to the concept of value change management. While the definition of a value chain will vary slightly depending on the source, it is in essence a set of integrated activities performed to deliver a valuable product or service to a given market. The overall goal of value chain management is to deliver the most value for the least cost in order to create a competitive advantage.

The idea of a value chain was pioneered by American academic and Harvard professor Michael Porter in his 1985 book *Competitive Advantage: Creating and Sustaining Superior Performance*. In this book, Porter introduces the five activities that contribute to establishing a company's value chain. Maximizing the value in any one of these five areas will provide a company with an immense competitive advantage in its industry.

1. Inbound Logistics: Receiving, warehousing, and inventory control.
2. Operations: Value-creating activities that transform inputs into products, such as assembly and manufacturing.
3. Outbound Logistics: Activities required to get a finished product to a customer. These include warehousing, inventory management, order fulfillment, and shipping.
4. Marketing and Sales: Activities associated with getting a buyer to purchase a product.
5. Service: Activities that maintain and enhance a product's value, such as customer support and warranty service.

In some professional circles, the terms "supply chain" and "value chain" are often times lazily used interchangeably. While the activities associated with supply chain are of central importance to the value chain, the value chain covers a broader scope of activities. Supply chain refers to all of the steps and processes that go into producing and delivering goods or services such as sourcing, procurement, manufacturing, and logistics. Value chain on the other

hand, includes all of the business operations which add utility or value for a business's customers. Below I will discuss a few examples to make this picture clearer.

Samsung is a manufacturer of high-end electronic products such as TV's, tablets, and cell phones.

o Supply chain- all of the components that go into producing Samsung's products are part of the company's supply chain.

o Value chain- the extended warranties Samsung offers on its products are part of the company's value chain.

Best Buy is a consumer electronics retailer.

o Supply chain- all of the products Best Buy sells are part of its supply chain.

o Value chain- Best Buy has a very strong value chain. Some components include: free delivery into your home, installation and repair services performed by Best Buy's Geek Squad.

Now that I have provided more definition around what a value chain is, hopefully it is clear why now more than ever it is important for companies to focus on developing their value chain in order to obtain and retain customers. In my next post I am going to dive deeper into value chain competencies specific to supply chain management and procurement such as risk management and supplier integration, and discuss how these competencies are being valued by business customers.

42. What are the 5 supply chain performance drivers to foster efficiency and responsiveness?

Ans. While supply chain efficiency has long been the primary goal of many organizations, as a priority, efficiency now competes directly with the need for responsiveness. We're operating in a time where instability, supply chain disruption, and rising costs reign supreme. The increased productivity and lowered costs efficiency offers have, in many cases, been pushed down the agenda in favour of a supply chain that can accommodate unexpected fluctuations in the market and changes in customer preferences.

The tricky thing is, this reprioritization might not be forever. In today's climate, your priority could be responsiveness. But, in calmer times, you'd optimize for efficiency.

For companies that find themselves battling between responsiveness and efficiency, this article will explore how performance drivers can be optimized in favour of supply chain efficiency or responsiveness.

Supply chain performance driver #1: Production

Production optimized for responsiveness: The key to responsiveness in production is to ensure production lines have the capacity to pivot to meet fluctuations in consumer demand quickly. A few ways to do this:

- Ensure your factories have excess capacity
- Use flexible manufacturing techniques to produce a wide range of items
- Have multiple, smaller production facilities close to distribution centers and customer hubs to decrease delivery time
- Production optimized for efficiency: Conversely, if you need to foster efficiency, you'll want to take the opposite approach. To prioritize efficiency:
- Schedule your production facilities to have little excess capacity
- Focus on producing a limited range of items
- Centralize production in large central plants for better economies of scale (even though delivery times may be longer for some customers)

Supply chain performance driver #2: Inventory management

Inventory management optimized for responsiveness: Optimizing responsiveness can dictate stocking higher product levels and at more warehouse locations. Efficient inventory allows for unexpected fluctuations in demand that can be met promptly. However, this approach incurs higher storage costs, which must be weighed against the benefit of widespread availability.

Inventory management optimized for efficiency: To foster efficiency in inventory management requires reducing inventory levels of all items, especially those that do not sell frequently. Careful analysis is required to par back successfully as lowering inventory levels can result in stock-outs, unmet demand, and missed revenue opportunities. You can also limit stock to select central distribution centers to limit economies of scale and attain cost savings.

Supply chain performance driver #3: Location

Location optimized for responsiveness: Location, location, location. To prioritize responsiveness means maximizing convenience. You'll want to establish operations within close range of customer groups.

For example, fast-food chains use location to be very responsive to their customers by opening many stores in high-volume markets. Having many locations allows chains to respond quickly to consumer demand — but this approach also increases operating costs because now they've got to staff and run many stores.

Location optimized for efficiency: Efficiency is achieved by operating from a select few locations and centralizing activities.

For example, e-commerce retailers serve global markets from a few central locations that perform a wide range of activities. While this centralized approach allows e-commerce retailers to run efficiently, it also makes them susceptible to disruption.

Supply chain performance driver #4: Transportation

Transportation optimized for responsiveness: Faster modes of transportation, such as air freight, offer faster and more flexible delivery. The downside? They're expensive, which can place limitations on the quantity of goods you can ship.

FedEx and UPS are two companies that provide high levels of responsiveness in the last-mile of delivery, using expedited transportation methods to deliver products often within 48 hours.

Transportation optimized for efficiency: Transportation efficiency can be achieved by moving products in larger batches by bulk carriers, such as ships or railroads, less often. While bulk carriers are great an option when your goal is volume and cost reduction, you sacrifice speed and flexibility by using this approach.

Using a centralized distribution center instead of multiple separate locations is another way to improve efficiency and save on costs, but, again, will sacrifice delivery speed and responsiveness.

Supply chain performance driver #5: Information

Information optimized for responsiveness: Knowledge is power. The technology for collecting and sharing information has become more widespread, easier to use, and more affordable. Supply chain solutions can now use internal performance data and external market data to re-plan supply chain plans based on real-world events and scenarios.

For example, if a Tik Tok video causes a sudden surge in demand, supply chain planning software can illuminate the supply chain effects. It can tell you how much supply you'll need to produce and how much inventory to send to which distributors.

Information optimized for efficiency: With all internal supply chain data centralized in one location, supply chain planning software that uses advanced AI-based analysis, can also illuminate inefficacies and optimize for efficiency.

For example, AI-based software can recommend assembly line schedules to optimize the production of a certain product.

Striking a balance between responsiveness and supply chain efficiency.

43. What are the Framework and importance in supply chain management?

Ans. Supply chain management (SCM) is an important factor in managing the product of a business and recognizing the needs of the customer. In the supply chain, crucial information for a business is contained in order to decide how a commodity is sold in order to change prices and value for the consumers. Companies who manage their supply chains will increase their profitability and satisfy their customers' requirements better.

The supply chain management process includes a wide variety of functions, from receiving an order till delivery of products and after-sales services. Some of SCM's core activities are as follows:

- Constant provision of intermediary or raw goods and services will maintain business continuity.
- Tracking and monitoring of goods status, business activities, etc.
- Identify strategic locations to achieve beneficial outcomes.
- Streamlining of redundancy reduction processes and operational cost reduction.
- Conducting a business with a market situation and overall condition relevant and competitive.
- Mounting, testing, packing and delivery of any production activities.
- The logistics are organized to deliver and distribute the products in a timely manner.
- After-sales support management and returns for processing.
- The timely delivery of high quality products will enhance customer satisfaction.
- Plan production and distribution through consumer demand forecasting.
- Efficient inventory management increases the level of unprecedented demand.
-

44. Why supply chain management is importance?

Ans. Supply chain management works by knowing the needs of the consumer to adjust plans on the basis of that knowledge. Supply management ties production to shipping and delivery of goods from the beginning as a raw material before the finished product is shipped to the customer. Supply chain management monitors both corporate and distributor inventory to coordinate with past and potential sales and to identify supply needs

- The operating costs of supply chain management firms are minimized.
- Customer expectations can be more fully understood by supply chain management firms, which enhances customer loyalty by supplying the right product without error at the right location.
- This simplifies data processing and thus improves the company's profits.
- SCM improves the transparency of financial, content, flow of data and management of results.

45. What are the different techniques in supply chain management?

Ans. Specific steps for supply chain management to reach production and sales goals

1. Add the plan to meet the needs or demands of consumers. In order to enhance potential growth and the use of assets, factors such as sales and inventory must be evaluated. Managers can set targets for sales or inventory reduction to save resources and money.

2. Determine customer logistics and draw up distribution maximum plans. Logistics involves the use of key household sites until smaller localized networks are distributed. Supply chain managers are gathering up data to analyse and affect the distribution trends or changes in the season.

3. Develop primary outsourcing methods strategies are built by an overall evaluation of the method to incorporate cost-effective strategies such as outsourcing. When these systems are maintained within the organization or using local enterprises, marketing and distribution can be better controlled. Managers assign duties to meet requirements and reduce costs.

4. Evaluate and consider the needs of the customer to help the decision-making process. Information collection helps to recognize deficiency areas and promotes practise to bring value both to the organization and to consumers. Data offers useful insight into the use and demand of consumer goods so managers can create economical methods without compromising efficiency or satisfaction of customers.

46. Effective strategies in supply chain management?

Ans. The Strategic Analysis of your network of the supply chain will lead to a set of plans for the business in the future, from primary to about five years.

The corporate strategy as well as tactical and organizational execution of optimization strategies are protected by these plans. Naturally, emergency measures such as supplies and labour shortages should be in place for responding to emergencies. These plans help the business transition from a more reactive approach to a constructive supply chain.

Strategic Planning: The whole path to the company's priorities is established by this technique. The management, development, transport and distribution of inventory objectives are established and matched to technology and customer service. Management will analyse organizational processes and investment areas at this level. The strategy should include the projection of clients' demand for services through the supply chain. The strategy should include

This technique needs to be split into all functions. For example, if the plan requires more often the purchase of smaller amounts of raw materials, the procurement department does not invest in one year of supply to increase the price.

The speed of change is outweighing the capacity of many businesses to sustain themselves. Adopting modern or evolved business models demands a high degree of agility and a willingness to adapt. There may be far-reaching consequences for society for major changes in the structure and capacities of an organization.

Tactical planning: the tactical plan should span a duration of one to two years, with personnel, including staff, to support the longer-term strategy. The Tactical Plan should include time frames for each phase, specific skills and any specifications for resources, such as new storage areas. The strategy should also include external resource provisions such as consultants and facilities.

Operational Planning: This section incorporates the approach into the everyday work of strategies, plans and programme. In order to increase organizational effectiveness, the Strategy allocates resources and performance indicators. Operational planning, depending on your company, includes regular, weekly or monthly tasks to schedule and track your business daily.

Contingency planning: The contingency plan includes the business' worst scenarios, such as adverse weather, work difficulties, lack of major suppliers and suppliers. Any incident that may send startling waves to the entire company should be included in contingency plans.

The purpose is to focus on your response before an incident takes place and to help shorten the time to respond. Another target is the internal and consumer disturbance minimization. There will be activities.

47. What is supply chain effectiveness?

Ans. Supply chain effectiveness is an external standard of how well an organisation is meeting the demands of the various groups and organisations that are concerned with its activities. These groups might include customers, partners, suppliers and vendors.

To measure supply chain effectiveness, it is important to look at not just what is going on within the walls of your own company, but how this is ultimately impacting stakeholders.

48. Efficiency vs. effectiveness of supply Chain Management?

Ans. Many companies know how to make their global supply chains run efficiently. But the true test is not just about running efficiently but also effectively. Effectively encompasses all things outside looking in towards the company and its responsiveness. Unexpected events, such as changes in consumer demand or natural disasters, threaten to undermine even the most efficient operations. Operational effectiveness and responsiveness provide companies with the flexibility to quickly react to these types of events and remain a strong player.

When business variables are not constant (and they often are not), lead times are critical. A company that has full visibility into its supply chain, including work-in-process inventory, can increase its lead time to respond to unexpected shifts and detect problems earlier.

In general, it is very difficult to improve supply chain efficiency in meaningful ways, unless both efficiency and effectiveness are considered. It is time to look beyond internal company requirements to how improvements in processes will impact external partners and customers. In other words, not only must companies do things right, but they must also do the right things.

49. What are the relationships of Supply Chain Management?

Ans. A supply chain is a network of organizations that are involved in the process of transforming raw materials into finished goods. The term ‘supply chain’ is used to describe the entire process, from the sourcing of raw materials to the delivery of the finished product to the end customer.

There are three main types of relationships within a supply chain: supplier-manufacturer, manufacturer-retailer, and retailer-customer. The supplier-manufacturer relationship is between the organization that supplies the raw materials and the organization that transforms those raw materials into finished goods. The manufacturer-retailer relationship is between the organization that produces the finished goods and the organization that sells those goods to customers. The retailer-customer relationship is between the organization that sells the finished goods and the customers who purchase those goods.

The term 'supply chain relationships can also refer to the relationships between different organizations within a supply chain. For example, a supplier may have a long-term contract with a manufacturer, or a retailer may have a preferred relationship with a particular manufacturer. These types of relationships can provide benefits such as stability and predictability for both parties involved.

50. What are the points for building long term relationships with vendors in supply chain management?

Ans. Building Strong Vendor Relationships

To be a successful Amazon seller, you need to offer the right products. To carry great inventory, you need to create and maintain relationships with credible, experienced suppliers.

This is no easy task because solid connections are built slowly — one deal at a time. What can you do to ensure lasting positive business relationships with your vendors? Here are our top seven tips for sellers:

1. Communicate

The first step to nurturing an effective business relationship is by establishing and maintaining a connection. This means that you should be in touch with vendors regularly. If at all possible, meet in person at your office so that vendors can get a better feel for your business, and visit their offices as well. Share your goals with vendors and ask how they can help achieve those goals. A good e-commerce supplier will likely be able to offer some sound business advice and suggestions.

In addition, you should maintain communication, even when problems arise. For example, let vendors know if their products have received poor reviews so that they can be given the chance to address any issues. The more you make an effort to work together, the more likely vendors will stick with you during challenging times. Make sure both sides understand what their roles and responsibilities are — only then can you take a relationship from a discussion and grow it into a long-term partnership. Respect what each of you bring to the table and leverage those qualities to propel both of your businesses to the next level of growth.

2. Pay Promptly

You will be far more likely to build trust with vendors if you respect the conditions that they have set. Be sure to consistently pay your bills fully and on time, so that your suppliers see that you are a reliable customer. Sticking to their rules means that if you ever need a favor from them in the future — for example, a rush order or different payment terms — they will be more likely to help you out.

3. Provide Lead Time

Keep your vendors in the loop by informing them early on about new business goals and special promotions. Doing so gives them the opportunity to suggest appropriate inventory for you and to prepare for larger orders. In addition, giving vendors an adequate amount of lead time helps

ensure that you remain in stock at all times, which improves your chances of winning the Buy Box.

A platform like Feedvisor can provide information about which products need to be replenished and when, allowing you to give an early heads up to your suppliers. Keeping your vendors current demonstrates that you value your relationship with them and want to work better together.

4. Refer Your Vendor to Colleagues

Finally, if you have the good fortune to work with an excellent vendor, be sure to refer him or her to other businesses. Doing so is one of the best ways to show your gratitude for a job well done. Suppliers will appreciate this gesture and will stay even more loyal to your own Amazon business as a result.

Managing Strong Vendor Relationships

Once you have established a productive relationship with your supplier, you need to know how to maintain the relationship and ensure you are receiving value on an ongoing basis. In the constantly changing environment of an e-commerce platform such as Amazon, you must understand how to effectively manage your supplier relationships.

5. Always Under Promise and Over Deliver

When you talk with brands about their needs, make sure that you are setting up realistic goals and expectations for both yourself and the brand you are working with. Often, you only will get one shot to prove your value and experience, so rather than cater to every want and need of a vendor, identify a few key, actionable items or areas that you can truly excel at. Take those few areas, knock them out of the park, and go over the top. It's always best to do more vs. fall short.

6. Understand the Power of No

As partners look to secure opportunities and deals, we often find ourselves saying yes to everything. This is setting yourself up for guaranteed failure. If a supplier asks you if you have the capability of doing something that you truly know you cannot achieve, say no! It all goes back to being honest and never overpromising your capabilities.

The same thing goes for when you negotiate pricing. We are all business owners that need to make money. If an opportunity is not going to generate enough margin based on the time commitments that it will require of you, don't be afraid to push back with your reasoning. Keep calm and remain professional of course, but everyone deserves to have their voice and concerns heard. Not every deal will work, and that is okay.

7. Ask for Referrals

Even though there is an endless number of companies that you can approach to do business with, we still live in a very small world. If you are a seller who operates in one or a few specific

categories, the chances are high that brand owners in your respective areas know each other. Key contacts shift around to different companies all the time, but it's very common that they remain in the same industry. Someone may change jobs, but they aren't losing their network. In fact, they are likely adding to it.

When you have success with a partner of yours, or you know they are happy with the work that you are doing for them, don't be afraid to ask them to introduce you to other people that they may know. This is also why you want to be very honest with your business and your intentions from the start. While great work often gets rewarded with things like referrals, deceptive practices or poor follow through can damage your reputation faster than you could ever imagine.

51. What is VMI?

Ans. Vendor managed inventory (VMI) is an arrangement where suppliers manage inventory levels that have been pre-determined. In short, the supplier takes decisions on behalf of the retailer wherein the supplier replenishes the inventory continuously. Also known as managed inventory, VMI is a data-driven with advanced procurement software, which can help vendors plan shipping and production dates in advance to minimize stock-out risks.

To achieve the above-mentioned goals, suppliers need high levels of visibility and control which can only come from an inventory management software that can centralize, collate, analyze and interpret data in real time. The software lets users set stock thresholds and notify vendors each time stocks fall below minimum inventory levels. Furthermore, the supplier simulation functionality helps vendors see what impact different stock levels will have, helping them plan more efficiently.

52. What Are the Benefits of Strategic Sourcing for OEMs?

Ans. When choosing strategic sourcing techniques, your company benefits in multiple ways. Once you understand how helpful strategic sourcing can be for your business, you may want to upgrade your procurement methods. Its advantages include the following:

1.Cost Savings

Cost savings is a bottom-line boosting benefit of choosing strategic sourcing. Choosing suppliers that can offer greater value for their products can reduce procurement costs. Plus, when choosing a company to create a long-term vendor relationship with, both companies can negotiate for terms to be more cost-effective. For instance, the supply vendor could be willing to cut per-unit prices in exchange for a higher volume order.

To ensure the supplier continues to offer better value to your company, request they undergo regular comparisons of their services and costs to other companies. Knowing they will go through regular evaluations of their pricing; the supplier may work hard to keep its prices within a range to maintain your company as a customer.

Lastly, make sure you understand the cost margins of your supplier. Having a long-term relationship with the supplier can give you greater insight into their overhead and why they charge you specific prices for the supplies. Understanding their cost margins can make it possible for you to request more realistic prices for your supplies.

2. Ensuring Quality

Choosing your suppliers through strategic sourcing makes it easier to attain a given level of quality for your products. Good production starts with quality raw goods. Finding a partner to provide goods that meet your quality requirements is easier with the deep level of research the strategic sourcing process requires.

With customers paying more attention to where the goods they purchase come from, greater visibility throughout the supply chain is vital. In fact, businesses with greater supply chain transparency have more trust from their customers.

3. Aligning with Business Objectives

Your business objectives do not exist in a vacuum. All your suppliers must also meet those needs. When you and your suppliers have similar goals, you can better work together for common aims. Working closer together builds stronger bonds between you and your supplier. Plus, you will both have reasons to continue to support each other in business. Mutual objectives with your suppliers can improve the strength of your supply chain overall.

4. Identifying New Suppliers

With strategic sourcing, you can also identify new vendors who better meet your company's needs, cut costs or operate more efficiently. By constantly looking for new options, you can maintain your savings and know your business works with the company that will best serve you.

Plus, your business can find secondary suppliers as alternatives to obtain materials if your primary sources experience shortages or delivery issues. With backup suppliers or additional vendors in your supply chain, you can optimize your production levels with more reliable, consistent materials arriving from the vendors to your business.

5.Building Relationships with Suppliers

Sourcing looks at the long-term. Ideally, you want your business to establish relationships with the vendors you find during sourcing. By building connections, you can have better communications and more negotiating power with the suppliers. Suppliers will work to optimize their products, delivery and costs to retain your business. Better vendor relationships help all parties get and keep lasting business.

6. Managing Risks

The supply chain faces risks, especially if there is weakness at any point. By carefully choosing vendors with healthy histories and experience, your company can reduce the chances of having those suppliers not meet your needs. The strong bonds and relationships your business creates with your suppliers also improve communications. Better communication with your vendors

allows you to know if they will have a problem with delivering products to you. Then, you will have the chance to use another of your suppliers for your source.

Using multiple vendors for your business spreads out the risk to your supply chain. Consider this mitigating effect when conducting sourcing research. A single supplier could experience an issue that causes delays. The chances of your business getting interrupted by a lack of supplies decrease when you have multiple vendors you can trust.

53. What are the 7 Steps to Implement a Sourcing Strategy Process?

Ans. To implement a sourcing strategy, follow these seven steps:

1. Create a Procurement Planning Team

First, identify those who will be on your planning and procurement team. These team members will make vital decisions about sourcing. Plus, they will analyze the market and articulate the specific requirements your business has for its suppliers. This team is essential to the success of your strategic sourcing. You may want to include a procurement consultant company to assist your business, especially if you've not had experience with strategic sourcing before.

2. Analyze the Supply Market

Part of strategic sourcing is capitalizing on trends to use changes in the market to your advantage. Therefore, analyzing the supply market is essential. Look at trend forecasts for various suppliers to identify ideal times of lower costs to procure supplies. By examining market trends, you can estimate supply costs over time as prices rise and fall.

Another aspect of analyzing the market is finding potential new suppliers. Being open to changing suppliers to meet your company's changing needs can ensure that your goals are always being met.

3. Identify Requirements for Selecting Suppliers

Outline your company's specific requirements for suppliers. What type of company profiles do you require they have? Do you want them to have a history of success? Do their methods of production or acquiring products matter? How does the company's work fit with your business's objectives and branding?

These requirements and others will help your procurement team narrow down supplier options, which will help them in the next phase of researching these remaining possibilities.

4. Research Possible Suppliers

After eliminating some suppliers based on general information about their operations or branding, your procurement team will need to conduct additional research about the remaining ones. They should find deeper information about the suppliers' experience and history. This is also the time when your team can directly question suppliers about how they can help your business.

Potential questions may include how the suppliers could meet your company's quality or cost needs. Or how they might respond to a short timeline for supplying. Do they have connections they can leverage to help your company find other suppliers? Questions about how the supplier can benefit your company beyond providing products will help you to choose a partner for your operation.

5. Choose Suppliers and Negotiate Terms

Once you've researched and questioned suppliers, make your decisions and negotiate terms with them. Discuss which supplies you need, what happens if the supplier needs to provide alternatives and what you want from the partnership. Engage the supplier in the discussion to arrive at a mutual agreement that can help both of your businesses. After negotiating and signing a contract, the supplier will fall under your procurement's vendor management services.

Under vendor relationship management, your supply chain team will continue to communicate your needs and wants with the supplier. They will also encourage the development of a long-term connection between your companies to keep both parties benefiting each other.

6. Plan Your Implementation

Create a plan for how you will initiate the supply acquisition from your new vendor. Scheduling, communications, work strategy and benchmarking will be aspects of this plan to set forth your agreement. Make sure to include a means to allow for vendor feedback and to compare estimated costs to actual costs to evaluate savings.

By planning how you will set up and implement your vendor relationship, you can avoid problems during the process and ensure your supplies arrive as expected.

7. Continue to Evaluate and Reevaluate Your Strategic Sourcing Process

Though there are seven steps in a sourcing process, the method is not linear. You will continue to reanalyze the market and your vendors to ensure you always have suppliers who meet your needs and save your company money. Strategic sourcing will always require that you look for areas of improvement and make changes to improve your supply strategy. Striving to constantly improve will optimize your business's production and keep your operation running with suppliers that always offer the greatest value for your needed products.

54. What is The Relationship Between Strategic Sourcing and Procurement?

Ans. There are distinct differences between strategic sourcing and procurement, though the two have a close relation. Procurement is the broader category under which strategic sourcing is a part. The two processes have slightly different focuses and do not occur during the same stages of supply acquisition.

First, strategic sourcing involves researching options for supplies, which happens before establishing contracts or vendor relationships. It also includes a long-term focus to ensure suppliers meet the company's ultimate goals for branding, objectives, quality and cost. Most

of the process of strategic sourcing happens internally as teams discuss decisions about company aims and supplier options.

Procurement has a specific goal of getting the supplies the company needs based on the information from the strategic sourcing analysis. The overall procurement extends through establishing and maintaining vendor relationships identified through sourcing.

Having a procurement partner can make the phases of analyzing options and maintaining vendor relationships easier. Procurement consultants can research the sourcing phase and help to build connections with vendors that will match your company's needs. To make getting supplies more streamlined, you may want assistance with the entire procurement process, from strategic sourcing through acquisition.

55. What Is a Make-or-Buy Decision? What do you understand about this?

Ans. A make-or-buy decision is an act of choosing between manufacturing a product in-house or purchasing it from an external supplier.

Also referred to as an outsourcing decision, a make-or-buy decision compares the costs and benefits associated with producing a necessary good or service internally to the costs and benefits involved in hiring an outside supplier for the resources in question.

To compare costs accurately, a company must consider all aspects regarding the acquisition and storage of the items versus creating the items in-house, which may require the purchase of new equipment, as well as storage costs.

Regarding in-house production, a business must include expenses related to the purchase and maintenance of any production equipment and the cost of production materials. Costs to make the product can include the additional labor required to produce the items, which takes the form of wages and benefits, storage requirements within the facility, holding costs overall, and the proper disposal of any remnants or byproducts from the production process.

Buy costs related to purchasing the products from an outside source must include the price of the good itself, any shipping or importing fees, and applicable sales tax charges. Additionally, the company must factor in the expenses relating to the storage of the incoming product and labor costs associated with receiving the products into inventory. It also includes signing any contracts with suppliers that might require the company to be locked-in to certain deals for a certain period of time.

In a make-or-buy decision, the most important factors to consider are part of quantitative analysis, such as the associated costs of production and whether the business can produce at required levels.

56. What is capacity management? And what do you understand about this?

Ans. Capacity management refers to the act of ensuring a business maximizes its potential activities and production output—at all times, under all conditions. The capacity of a business measures how much companies can achieve, produce, or sell within a given time period. Consider the following examples:

- A call center can field 7,000 calls per week.
- A café can brew 800 cups of coffee per day.
- An automobile production line can assemble 250 trucks per month.
- A car service center can attend to 40 customers per hour.
- A restaurant has the seating capacity to accommodate 100 diners.

Since capacity can change due to changing conditions or external influences — including seasonal demand, industry changes, and unexpected macroeconomic events — companies must remain nimble enough to constantly meet expectations in a cost-effective manner. For example, raw material resources may need to be adjusted, depending on demand and the business's current on-hand inventory.

Implementing capacity management may entail working overtime, outsourcing business operations, purchasing additional equipment, and leasing or selling commercial property.

Companies that poorly execute capacity management may experience diminished revenues due to unfulfilled orders, customer attrition, and decreased market share. As such, a company that rolls out an innovative new product with an aggressive marketing campaign must commensurately plan for a sudden spike in demand. The inability to replenish a retail partner's inventory in a timely manner is bad for business.

Businesses thus face inherent challenges in their attempts to produce at capacity while minimizing production costs. For instance, a company may lack the requisite time and personnel needed to conduct adequate quality control inspections on its products or services. Furthermore, machinery might break down due to overuse and employees may suffer stress, fatigue, and diminished morale if pushed too hard.

57. What Is Material Management?

Ans. In the context of business, material management is the process of planning, organising and directing logistical activities involving materials and inventory. The core idea behind this process is to control the movement of materials and equipment by requesting them in advance, purchasing or renting them at a reasonable price and making sure they are available when needed. Material management is a key part of the supply chain process and ensures that professionals efficiently and correctly direct materials required for manufacturing procedures.

There are numerous roles in the domain of this process, like inventory control manager, material manager, inventory analyst, material planner and expediter, along with roles like buyer and logistics planner. This has become a popular organisation style, as effective teams can help maximise profits by optimising the flow of materials. This can be a challenging goal to accomplish, as there are many factors that can lead to production shortages, including:

- Inventory adjustments
- Incorrect bills of materials
- Inaccurate inventory counts
- Unreported errors

- Shipping errors
- Receiving errors
- Reporting inconsistencies

58. What Are the Core Elements of Material Management?

Ans. There are five core elements of this process. These align together to constitute the management of materials from purchase to utilisation. These are the five elements:

Materials requirements planning

This is one of the most important steps in this process, as it accounts for a major portion of the total investment of money. It directly influences the profits of an organisation as the number of materials a company procures is directly proportional to the amount of money it spends. The number of materials utilised requires careful planning. Nowadays, companies are adopting the JIT (Just in Time) model, which significantly reduces the size of the inventory.

Inventory planning and control

Inventory refers to the different types and volumes of goods a company holds at a particular time. It may include finished products and raw materials, items that are ready for the market and materials used in the production process. The optimum practice of this prices aims to reduce the size of the inventory as far as possible. This significantly reduces the costs associated with maintaining an inventory. Professionals in the industry achieve this by purchasing materials right before production or before moving a product into stores.

There are three types of inventories:

- Inventory for raw materials
- Inventory for purchased goods
- Inventory for finished parts and components

Purchasing

Most companies derive their profits from the economical purchase of various materials. Sometimes, a company may invest a large portion of its total capital for purchasing materials. Hence, the primary aim of this process is effective purchasing. This helps in increasing profits by reducing the cost of purchasing.

Flow and supply of materials

Material management plays a crucial role in supply chain management. Material managers try to maintain an uninterrupted supply of materials during the production process. They distribute these materials to various production centres. Poor management or lack of inventory disrupts the production process and the availability of material supplies. Lack of stock can cause financial losses, delays in sourcing replacement materials and disruption of production schedules.

Quality control of materials

Ensuring that the materials used in production are of high quality is very crucial. If the quality of initial raw materials is high, then it reflects in the quality of the finished products. Hence, it is necessary to source the best materials for any form of production. There are multiple factors for which professionals may employ quality control. This may include durability, thermal and weather performance, dimensions, reliability and visual appeal. All of these are important factors that can determine the value of the end product.

59. What Are The 5 Primary Objectives of Material Management?

Ans. The five primary objectives are:

- Right time: Obtaining materials at the right time to meet supplier and production demand is crucial for any organisation. Ensuring the availability of materials at the right time can reduce inventory-related risks.
- Right material: This process also aims to procure the right materials at the necessary time. Having the right materials may result in a better quality of finished products and higher profits.
- Right amount: Procuring goods in sufficient quantity can reduce unnecessary costs related to storage and organisation. The material can meet the demand and at the same time, reduce excessive stock holding.
- Right price: Securing materials at a reasonable and affordable price is another key objective. Minimising procurement costs is an effective way to increase the profits of an organisation.
- Right sources: It is important to procure materials from the right source for achieving consistent results. The right source can be a vendor or supplier who delivers the desired quality and quantity of materials at the right price.

60. What is sourcing in supply chain management?

Ans. Today's customers are more informed than ever before. They expect their needs to be met immediately, and if that isn't the case, they will take their business elsewhere. As a result, organizations of all sizes implement fast and flexible supply chain strategies to meet these new standards. Strategic sourcing in the supply chain is the outset of a robust SCM framework. It is the process of acquiring high-quality goods, services, and raw materials, at low cost and finding a balance between them.

A company's ability to source materials efficiently, streamline processes between departments, and negotiate reasonable vendor contracts all factor into the performance of an organization's supply chain. An effective sourcing strategy is one of the key pillars of an optimized SCM framework. It is essential for any company that wants to remain competitive in today's volatile business climate.

We'll explore everything you need to know about sourcing in your supply chain. From types of sourcing to importance in achieving supply chain resilience, we've got you covered with all the details you need to start sourcing efficiently today!

Sourcing in supply chain management, simply put in words, is the process of finding the right supplier who can provide high-quality products and services at a reasonable price from which the business can create cost-efficient supply chains and generate a profit margin.

It is the alpha of supply chain management, and any aberration may disrupt the efficiency of the whole supply chain. Therefore, the process of sourcing is typically divided into two processes:

Finding the right prospective supplier, where you'll approach multiple suppliers who can deliver products or raw materials with set specifications at reasonable prices.

Following the vetting process, checking the quality, accuracy, and efficiency of the product that the supplier will deliver.

The right sourcing by an eCommerce business will help them achieve economies of scale. Strategic collaboration with suppliers will result in easy manufacturing and distribution, reducing the overall cost of the product. This will help you win the price war often played by businesses.

61. What are Types of Sourcing in Supply Chain Management?

Ans. Outsourcing

It is the common and the most practical type of sourcing, where the third force executes the process. Most companies (usually startups and SMBs) delegate sourcing to another company that bids to execute the process efficiently and cost-effectively. Organizations outsource with the sole aim of tapping the expertise of third-party companies and gaining a competitive advantage.

Insourcing

Contrary to outsourcing, when companies do sourcing functions within the in-house plant is known as insourcing. This is because when the company has the expertise, resources, and labor to deliver the mandate, instead of outsourcing the responsibilities to another company, the company decides to insource the process to departments within the company.

Near-sourcing

Near sourcing is a strategy that companies use to lower the supply chain cost. So it is when companies choose to place operations (or outsource to a company) of sourcing, procurement, development, manufacturing, and supply near the end consumer market. Near sourcing reduces the costs associated with the supply chain, like transportation costs.

Low-cost country sourcing

Companies decide to do low-cost country sourcing when they try to cut their supply chain expenditure. Here companies source material, labor, and other expertise from countries where these are available at low cost. For example, China.

Global sourcing

Companies in today's digital world find countries where they can source high-quality material, labor, and expertise at low cost. The world is the marketplace. If a company does not find the right quality material domestically, they expand its options to other countries for goods and services. Plus, due to global sourcing, companies also get access to global talents and insights into how businesses run worldwide.

62. What are the Importance of Sourcing in Supply Chain Management?

Ans. **Cost-effectiveness**

The purpose of strategic sourcing is to bring cost-effectiveness to the whole supply chain process. Finding the right supplier who delivers quality at an affordable price is the motive of sourcing and the root of decreasing the cost of products and the supply chain.

Minimizing the risk with supply chain

Vetting the supplier and the resources they are offering minimizes the risk of a faulty supply chain. In addition, the sourcing process rigorously screens the quality of the material more than cost basis. This helps the company funnel down suppliers and find the best supplier whose goals match the company.

Operational excellence

Sourcing and procurement of resources is the base of a supply chain and brings operational excellence and supply chain resilience if carried out correctly.

63. What is the Importance of Procurement Planning in Supply Chain Management?

Ans. Procurement planning in supply chain management is a business process that identifies and consolidates your supply chain partners. The procurement planning process seeks to answer the following questions:

- What goods or services do you need to purchase?
- When should you purchase them?
- Which vendor should you buy it from?

The procurement planning process is cross-functional — multiple departments need to collaborate to aid the decision-making process. Procurement planning serves as a guideline to all teams to track timelines of purchase and avoid overspending on goods or services. Digital procurement platforms can help you quickly strategize and create procurement management plans for your business. Through digital platforms that maximize your stock availability and

accelerate negotiations with vendors, your enterprise can have more time to focus on building a better procurement process.

The procurement planning process also takes into account vendor applicability, cost and quality of materials, supply and payment schedules, compliance, contracting, etc. If properly implemented, a procurement management plan aids in lowering overall procurement costs, ensuring high quality of outsourced materials, and keeping your manufacturing operations running.

Role of Procurement Planning in Supply Chain Management

A good procurement management plan means setting timelines for selection of suppliers, predicting potential obstacles in the supply chain, and improving procurement visibility across the board. A few reasons why you need effective procurement planning in supply chain management as as follows:

Procurement Planning Minimizes Costs

As part of procurement planning in supply chain management, enterprises can strategically source products and select suppliers that would lower overall production costs. When you are planning the procurement process, there is plenty of time to manage operations and negotiate prices with vendors. If a business has not taken the time to set up a procurement management plan, then they will have a smaller time frame to get quotes from multiple vendors, negotiate prices, and potentially reduce the cost of the goods.

Digital procurement management platforms accelerate this process by showing the inventory levels of different departments. Using this information, you can check with every department and take stock of their supplies to project demand. This will save time during the procurement planning process, which will further free up time to negotiate prices with vendors.

64. What are the importance of logistics demand forecasting in supply chain management?

Ans. In an increasingly competitive global market, the ability to anticipate customer demand is a game-changer for any business. Logistics demand forecasting is critical for supply chain management, as it enables companies to predict customer demand, prevent stockouts and overstocks, minimize lead times, and improve customer service levels.

Accurate demand forecasting results in a plethora of benefits, such as optimizing production lead times, reducing costs, augmenting operational efficiencies, and enhancing the customer experience. Moreover, demand forecasting plays a pivotal role in implementing advanced logistics solutions such as dynamic pricing models, digital twins, just-in-time inventory management, and predictive maintenance. These solutions, fueled by accurate forecasting, can further optimize logistics operations, create efficient workflows, reduce waste, and ensure that businesses stay ahead in a highly competitive market.

However, unforeseen occurrences can have a detrimental impact on the precision of active demand forecasting models. Variables such as seasonality, supply chain trends, the economy, and global events can cause spikes or sluggish sales, which can affect inventory control. To mitigate these challenges, an accurate demand forecast is essential.

To overcome these challenges, it is advised to implement data collection and preparation, real-time data processing, continuous monitoring and improvement, and collaboration and communication for effective logistics demand forecasting.

65. What are Quantitative forecasting methods?

Ans. Quantitative forecasting methods employ mathematical models and historical data to generate projections regarding future demand. Traditional methods include moving average forecasting, econometric demand forecasting, time-series analysis, trend projection, and Multiple Aggregation Prediction Algorithm (MAPA), which each offer unique advantages and limitations.

To enhance the accuracy of quantitative forecasting methods, businesses can incorporate additional future plans, such as marketing events, and assumptions or growth modeling, for accurate demand planning. Furthermore, it is essential to take into account historical anomalies, such as abrupt increases in demand or decreases in sales due to external factors, when utilizing trend projection methods. By doing so, companies can achieve a more reliable demand forecast.

However, with the advent of advanced technology, more complex and sophisticated quantitative forecasting techniques have been developed, such as Deep Neural Networks (DNN) and complex Machine Learning (ML) models.

Deep Neural Networks

Deep Neural Networks are a subset of AI that mimics the way the human brain works, providing superior capabilities for identifying patterns and making predictions from large amounts of data. In the context of demand forecasting, DNNs can digest and process a vast array of data points, uncovering intricate correlations and patterns that would otherwise be overlooked. This deep learning technique can forecast demand with a higher degree of accuracy than traditional methods, particularly in scenarios with large-scale data sets or complex, nonlinear relationships between variables.

Complex Machine Learning Models

Complex Machine Learning models have risen to prominence as powerful tools in demand forecasting. Techniques such as Gradient Boosting, Random Forests, and Support Vector Machines have proven to be highly effective in predicting future demand.

These models can process and learn from large datasets, identify complex patterns, and make highly accurate forecasts. They are especially useful in cases where traditional forecasting methods may struggle due to the high dimensionality and nonlinearity or when dealing with many influencing factors that interact in complex ways.

One noteworthy advantage of complex ML models in forecasting is their ability to accommodate new types of data, such as social media activity or weather forecasts. They can be trained to analyze unstructured data and incorporate it into the forecasting model, adding another layer of sophistication and accuracy to demand forecasting.

While these novel techniques come with their own set of challenges, such as the need for significant computational power and expertise in model tuning and interpretation, their potential benefits are substantial. By incorporating these advanced methods into their forecasting strategies, companies can navigate complex market dynamics and stay one step ahead of demand, boosting operational efficiency and business success.

66. What are Qualitative forecasting methods?

Ans. Qualitative forecasting methods, on the other hand, rely on subjective or non-mathematical data to predict future demand, especially when historical data is unavailable or difficult to obtain. Some common qualitative forecasting methods include historical analogy forecasting, panel consensus, Delphi method, and sales force composition method.

While qualitative methods can provide useful insights, they are generally less precise than quantitative methods, which are based on past information and mathematical models. However, qualitative methods are frequently utilized in conjunction with quantitative methods to generate more precise forecasts.

67. What are the Key Factors Influencing Logistics Demand Forecasting?

Ans. Logistics demand forecasting is influenced by a variety of factors, such as data quality, seasonality, market trends, and external events. Understanding these factors and their impact on supply chain forecasting is crucial for businesses to make informed decisions regarding inventory levels, pricing, and other aspects of supply chain management.

Let's delve deeper into each of these factors and explore how they can affect the accuracy and effectiveness of logistics demand forecasting.

Data Quality

Data quality is an evaluation of how well a dataset adheres to criteria such as accuracy, completeness, validity, consistency, uniqueness, timeliness, and fitness for purpose. High-quality data is essential for accurate logistics demand forecasting, as it forms the foundation of any data analysis process.

Maintaining data quality can be challenging due to issues such as data integrity, security, and privacy. However, by implementing robust data governance initiatives, businesses can ensure that their data is precise, reliable, and of high quality.

Seasonality

Seasonality refers to the periodic fluctuations of demand or supply of a product or service over a given period, making it difficult for businesses to accurately forecast inventory levels. Seasonality can be observed in various industries, such as retail sales, which typically peak during the Christmas season and decline afterward.

To overcome the challenges associated with seasonality, businesses can employ forecasting methods specifically designed to address seasonality.

Market Trends

Market trends play a vital role in supply chain management, as they offer insight into the present and prospective state of the market. By understanding market trends and their impact on demand forecasting, businesses can make informed decisions regarding inventory levels, pricing, and other aspects of supply chain management.

To successfully forecast market trends, it is essential to gather and organize data, process data in a timely manner, consistently assess and improve predictions, and work together and exchange information with relevant parties.

External Events

External events, such as natural disasters, geopolitical developments, or changes in regulations, can have a significant impact on supply chain management, leading to disruptions and affecting inventory control. By being cognizant of external events and strategizing for them, businesses can reduce their influence on the supply chain and maintain efficient operations.

Examples of external events include natural disasters like floods or earthquakes, trade disputes, regulatory changes such as tariffs, and supply chain disruptions like strikes or supply shortages.

68. What is supply chain analytics?

Ans. Supply chains typically generate massive amounts of data. Supply chain analytics helps to make sense of all this data by uncovering patterns and generating insights. These insights can help organizations improve the quality, delivery, customer experience—and ultimately, profitability of their products.

69. What are the types of supply chain analytics?

Ans. Different types of supply chain analytics include:

Descriptive analytics

Provides visibility and a single source of truth across the supply chain, for both internal and external systems and data.

Predictive analytics

Helps an organization understand the most likely outcome or future scenario and its business implications. For example, by using predictive analytics, you can project and mitigate disruptions and risks.

Prescriptive analytics

Helps organizations solve problems and collaborate for maximum business value. Helps businesses collaborate with logistic partners to reduce time and effort in mitigating disruptions.

Cognitive analytics

Helps an organization answer complex questions in natural language—in the way a person or team of people might respond to a question. It assists companies to think through a complex problem or issue, such as "How might we improve or optimize X?"

Applying cognitive technologies

Supply chain analytics is also the foundation for applying cognitive technologies, such as artificial intelligence (AI), to the supply chain process. Cognitive technologies understand, reason, learn and interact like a human, but at enormous capacity and speed.

This advanced form of supply chain analytics is ushering in a new era of supply chain optimization. It can automatically sift through large amounts of data to help an organization improve forecasting, identify inefficiencies, respond better to customer needs, drive innovation and pursue breakthrough ideas.

70. What are the key factors of Supply Chain Analytics?

Ans. The supply chain is the most obvious face of the business for customers and consumers. The better a company can perform supply chain analytics, the better it protects its business reputation and long-term sustainability.

In The Thinking Supply Chain, IDC's Simon Ellis identifies the five "Cs" of the effective supply chain analytics of the future:

Key features of effective supply chain optimization include:

Connected

Being able to access unstructured data from social media, structured data from the Internet of Things (IoT) and more traditional data sets available through traditional ERP and B2B integration tools.

Collaborative

Improving collaboration with suppliers increasingly means the use of cloud-based commerce networks to enable multi-enterprise collaboration and engagement.

Cyber-aware

The supply chain must harden its systems from cyber-intrusions and hacks, which should be an enterprise-wide concern.

Cognitively enabled

The AI platform becomes the modern supply chain's control tower by collating, coordinating and conducting decisions and actions across the chain. Most of the supply chain is automated and self-learning.

Comprehensive

Analytics capabilities must be scaled with data in real-time. Insights will be comprehensive and fast. Latency is unacceptable in the supply chain of the future.

71. What is the Evolution of supply chain analytics?

Ans. In the past, supply chain analytics was limited mostly to statistical analysis and quantifiable performance indicators for demand planning and forecasting. Data was stored in spreadsheets that came from different participants within the supply chain.

By the 1990s, companies were adopting electronic data interchange (EDI) and enterprise resource planning (ERP) systems to connect and exchange information among supply chain partners. These systems provided easier access to data for analysis, along with assisting businesses in their designing, planning and forecasting.

In the 2000s, businesses began turning to business intelligence and predictive analytic software solutions. These solutions helped companies gain a more in-depth knowledge of how their supply chain networks were performing, how to make better decisions and how to optimize their networks.

The challenge today concerns how companies can best use the huge amounts of data generated in their supply chain networks. As recently as 2017, a typical supply chain accessed 50 times more data than just five years earlier. However, less than a quarter of this data was being analyzed. Further, while approximately 20% of all supply chain data is structured and can be easily analyzed, 80% of supply chain data is unstructured or dark data. Today's organizations are looking for ways to best analyze this dark data.

Studies are pointing to cognitive technologies or artificial intelligence as the next frontier in supply chain analytics. AI solutions go beyond information retention and process automation. AI software can think, reason and learn in a human-like manner. AI can also process tremendous amounts of data and information—both structured and unstructured data—and provide summaries and analyses of that information in an instant.

72. What is a deterministic model in the context of inventory management?

Ans. In brief, a deterministic model is a method based on the assumption that all parameters and variables associated with an inventory stock are known and that there is no uncertainty associated with demand and replenishment of inventory stock.

On the contrary, the probabilistic models recognise the fact that there is always some degree of uncertainty associated with the demand pattern and lead times for inventory stock.

Deterministic models of inventory control are used to determine the optimal inventory of a single item when demand is mostly largely obscure. Under this model, inventory is built up at a constant rate to meet a determined or accepted demand.

For example, a business has received an order in January for 100 model trains for delivery to be completed by November for the holiday season. Due to the deadline being 10 months away, the trains can be produced at a rate of ten per month.

The most common deterministic models used in inventory control today are:

Economic Ordering Quantity (EOQ) Model

- ABC Analysis
- Inventory Turnover Ratio
- Economic Ordering Quantity (EOQ) Model

One of the important decisions to be made in inventory management is how much inventory stock to actually buy. The EOQ is a company's optimal order quantity that minimises its total costs related to ordering, receiving and holding the inventory.

Because of this model's assumptions that demand, ordering, and holding costs remain constant over time — it is best to use this model in similar circumstances. EOQ also gives solutions to other problems like, at what frequency, when and helping determine reserve stock quantities.

ABC Analysis

Also known as selective inventory control, the ABC analysis suggests that inventory values are not equal, and so divides your inventory stock into three categories A, B and C. The inventory stock with the highest value is classified as 'A' inventory. The items with relatively low value as 'B' inventory and the items which are the least valuable are classified as 'C' inventory. The ABC Analysis allows different inventory management techniques to be applied to different segments of the inventory in order to increase revenue and decrease costs.

Inventory Turnover Ratio

This inventory ratio establishes the relationship between the average inventory and the cost of inventory sold during a particular period. This is calculated using the following formula:

Inventory Turnover Ratio = Cost of Goods Sold /Average Inventory.

Average inventory is used instead of ending inventory because many businesses merchandise fluctuates greatly throughout the year. When comparing the current year's inventory ratio with those of previous years, it will reveal the following points relating to inventories:

- Fast-Moving Items: High inventory ratio as this has high demand
- Slow-Moving Items: Low turnover ratio, as they have a lower demand they should be maintained at minimum quantity levels
- Dormant or obsolete Items: Zero demand. These should be liquidated or disposed of as early as possible to curb further losses.

73. What is Deterministic Planning? Discuss pros & Cons?

Ans. A supply chain planning model based on deterministic forecasting assumes that both the outcome and its corresponding input variables have fixed values. For instance, take the case of a chef who has determined the amount of meat, vegetables, oil, and gas for preparing the same menu in the same quantity, for, say, a month. This kind of inventory management is based on the assumption that day-to-day demand will be constant, alongside the procurement cost and the supply. Deterministic forecasting works satisfactorily for situations where the factors are somewhat predictable.

Deterministic demand forecasting can also be applied to supply chain management in a medium-sized retail chain. Many businesses like this found just-in-time supply management to cause delays during the pandemic. Their aim is then to optimize their inventory strategy, for example through minimizing the frequency of material orders, reducing holding costs, and avoiding the losses caused by stock-outs. The variables here include total demand, the days of sales, customer demand per day (and therefore the losses due to stock-outs), lead times for the materials, production cost and more. These variables will usually produce real-time data which can be used to build the model.

The order/delivery costs from the supplier and holding costs are outcomes as they rely on the values of other variables. A deterministic model considers all these variables as constants. For example, it assumes that the customer demands ten units every day, and that the holding cost will remain the same through the year. Each variable is given a determined value, so the outcomes will have a determined value too.

Pros of Deterministic Planning

The deterministic model uses data to build clear pictures of demand, taking variables and generating real-world cases. It does not rely on confusing algorithms and provides end-to-end transparency to supply chain managers. It provides data-driven answers, and, using these answers, companies can (if all goes to plan) see cross-functional benefits. To put it simply, the approach is, well, simple.

Cons of Deterministic Planning

Deterministic planning model lacks one main ability: to acknowledge the uncertainty of a value. Take, for example, the case of the chef or the mid-sized retail outlet whose deterministic

planning model does not consider the consequences of certain weather events, of unexpected closures, or of disruptions to production plans. It doesn't consider constraints to supply or sudden demand increases. This is poor supply chain management when applied in, for instance, complex operations in industries such as energy and utilities, chemical, metals and mining, or industrial products and machinery.

Demand planning in these industries increasingly uses the probabilistic approach. This approach uses conditional probability, which is where one event is more or less likely to occur IF another event occurs. Meaning that, if an event can be predicted more accurately, so too can the uncertainty of the prediction made on the demand.

74. What is Probabilistic Planning? Discuss Pros & Cons?

Ans. Probabilistic, or stochastic, planning, does not render deterministic planning obsolete. In fact, even where ERP systems provide accurate data for all values, a deterministic approach can yield satisfactory planning outcomes with little deviations. However, a probabilistic planning model is better at considering uncertainties in the input variables, leveraging historical and statistical data to forecast a range of possible outcomes to support decision making. The model delivers realistic forecasting by being inherently more granular in considering all the factors relevant to supply and demand planning.

With a probabilistic supply chain planning model, our hypothetical chef can better forecast the increase or decrease in demand by considering the occurrences of holidays, lockdowns, or even local events near his restaurant that will raise footfall.

Generally, a probabilistic model considers three scenarios; first, if all occurs as planned for; second, if some small but reasonably likely events occur; and third, black swan style events. Then, a probability distribution of the results is plotted to find the probabilities of each scenario. The stochastic approach works best for value chains where risks are extremely difficult to predict but have huge effects when they occur. This would then be most appropriate to apply in multi-echelon supply chains, or during continuous, long-term disruption caused by the pandemic.

Take the example of a utility or power distributor using the probabilistic approach to forecast demand loads, and therefore optimize energy system management. The input variables considered to predict energy consumption are outlined in the building energy model (BEM), which specifies how home devices are being used. Apart from this, external weather is also considered as an uncertain parameter. This methodology allows the planning team to build their competitive advantage through a point load forecast that considers even weather forecast data.

Pros of Probabilistic Planning

The probabilistic planning model uses impartial statistical rules to reflect real-world scenarios. It lets the planning team predict a range of multiple outcomes, providing a less rough-cut forecast. In addition, this model better acknowledges the variability of supply chain planning inputs, allowing the use of buffer time to deal with delays at any stage of a supply chain.

Cons of Probabilistic Planning

Since the variables are probabilistic, it's often difficult to define the relationships between different variables. The model is always dependent on a 'base mode/case,' which must be configured so that the probability adjustments can be made to the base case. Also, in more complex probabilistic planning models, the link between the statistical realizations and the real-world outcomes becomes less clear. And it almost goes without saying, that probabilistic planning requires an incredible amount of computer power.

75. What is AHP in Supply Chain Management?

Ans. AHP stands for Analytic Hierarchy Process, a decision-making method developed by Thomas Saaty in the 1970s. In supply chain management, AHP is used to prioritize and make decisions when faced with multiple criteria and alternatives. Here's how it typically works:

- Hierarchy Formation: The decision problem is broken down into a hierarchical structure, consisting of a goal, criteria, and alternatives. For example, in supply chain management, the goal might be to select the best supplier. Criteria could include cost, quality, reliability, and lead time, while alternatives could be different supplier options.
- Pairwise Comparisons: Decision-makers systematically compare criteria and alternatives against each other in pairs. These comparisons are typically done using a scale that reflects the relative importance or preference of one over the other.
- Weighting and Prioritization: AHP employs mathematical techniques to derive weights for each criterion based on the pairwise comparisons. These weights reflect the relative importance of each criterion in achieving the overall goal. Then, the alternatives are evaluated against each criterion, and their performance is scored.
- Aggregation: The scores for each alternative are aggregated using the weights derived from the pairwise comparisons to obtain an overall ranking or prioritization of the alternatives.

AHP helps in structuring complex decision problems, making preferences explicit, and providing a systematic and rational approach to decision-making. In supply chain management, it can be used for various decisions such as supplier selection, location selection, inventory management, and logistics planning.

76. What is supply chain optimization?

Ans. Supply chain optimization is the adjustment of a supply chain’s operations to ensure it is at its peak of efficiency. Such optimization is based on certain key performance indicators that include overall operating expenses and returns on the company’s inventory. The aim is to provide customers with the products at the lowest total cost possible while retaining the highest profit margins. To achieve these goals, managers have to balance costs incurred in manufacturing, inventory management, transportation, and fulfillment of customer expectations.

Considering how complex supply chain optimization is, it's best to tackle this business process as a long-term activity. What works is a blend of cost and service changes over time that take into account variations in resource costs, carrier changes, customer demographics, and other factors that require constant examination.

If a company is considering a merger or an acquisition, or is concerned with financial results, supply chain optimization is the first option to examine. Upon investigation, an organization might find several causes, such as high transportation costs, service levels that are not optimal, or unhappy service providers along the supply chain.

As the number of suppliers increases, expectations change or may grow ad hoc. The response to intense demand from the market has led to e-commerce companies diving into direct-sales capabilities without integrating them into other channels. This approach often leads to higher costs and fragmented management. Supply chain optimization is what helps create better supply chain standards.

77. What is the process of supply chain optimization?

Ans. The supply chain optimization process begins with a systematic and in-depth analysis based on forecast demand. This step is followed by creating a production and inventory plan based on the existing forecast. The entire exercise considers incoming raw materials or elements, the manufacturing process, transportation, and distribution. During this step, organizations should also examine every possibility for better e-commerce integration via omnichannel strategies.

Most companies work with professional services providers or consultants to implement technology and the organizational changes necessary to achieve tangible, real-world results.

There are three phases to a successful supply chain optimization process:

1. Design

This phase focuses on network design processes such as the location of warehouse facilities, the flow of products to and from suppliers and customers, and all the strategic objectives of manufacturing operations, including demand forecasting, supply establishment, planning, and scheduling.

2. Planning

This phase focuses on creating a strategic deployment, planning inventory, and coordinating assets to optimize the delivery of products, services, and information that flow from suppliers to customers. The purpose of this phase is to balance supply and demand.

3. Execution

This phase addresses all execution-based applications and systems such as warehouse and inventory management, management of transportation facilities and efficiency, and international trade management. It also investigates execution-based applications that play a support role in the supply chain process, including real-time decision-based support systems, supply chain visibility, and order placement management systems.

A supply chain network is a dynamic ecosystem. As it grows, so does the risk and uncertainty associated with activities across the supply chain. The factors that affect performance may be internal or external; they could be competition-driven or environmental. Considering the wide range of factors, numerous supply chain models have arisen. The model an organization chooses is based on specific supply chain optimization issues that are business-specific.

There are a number of components that commonly make up an organization's supply chain optimization model:

- Inventory
- Receipt of product and their storage
- Processing orders
- Despatching and distribution
- Customer support and service systems

When placed together, these elements allow a business to tackle most supply chain optimization issues and create a well-rounded, seamless operation, ensuring work with all trade partners goes smoothly.

78. What are the benefits of supply chain optimization?

Ans. There are many benefits a business can expect from quality supply chain optimization software:

Cost reductions

With supply chain optimization, many unnecessary costs can be eliminated, streamlining expenses of business operations. All repetitive or ineffective processes can also be eliminated or automated as needed. The focus can be moved to meeting customer needs with timely, accurate deliveries. With supply chain cost optimization, a company can have a lower inventory which helps free funds prevent stock from becoming obsolete. Additionally, supply chain infrastructure expenses can be better managed by optimizing delivery processes, logistics, and warehousing capabilities.

Increased revenues and profits

With supply chain optimization tools, managers can get an insight into all activities and work on speeding up supply chain processes. The customer is likely to be more invested in the process and can have a better experience. Orders are accurately delivered, on time, and the company becomes more responsive to customer requirements. The result is a reduced investment-to-return-on-investment cycle and quick settlement of invoices, which supports customer loyalty.

Better supplier performance

Digitizing the supply chain enables access to real-time insights into the supply chain. Suppliers' performance can be evaluated, which paves the way for improved performance where needed and rewards it, too, where appropriate. It lays the foundation for a system of continuous supplier performance improvement that's essential to strategic sourcing decisions.

Enhanced supply chain collaboration

The organizational ecosystem comprises suppliers, partners, vendors, and all the interfaces connected to them. Bringing these entities together in a single supply chain optimization solution enables better collaboration and innovation.

Every stakeholder can access updated information, and as an integrated team, they can make smarter business decisions, supporting better supply chain continuity and avoiding risks.

Integrated supply chain management

With supply chain optimization software, you can integrate and manage all supply chain capabilities from a single point. Companies can gather insights on a host of elements that are part of the supply chain system–from its visibility to sales forecasting, management of cash flow, customer loyalty, timely delivery, and credit control. Such end-to-end visibility of the whole supply chain system allows for transparent operations.

Better quality

Managing quality in a supply chain involves an end-to-end production system from procuring raw materials to product delivery. Supply chain optimization techniques help organizations bring in quality at each stage, allowing for improved efficiency and waste reduction. These techniques also provide a foundation to support supply chain planning optimization, ensuring the process follows established quality standards at every stage.

79. What are the top supply chain optimization techniques?

Ans. There are several techniques to optimize the supply chain:

Cost optimization

Cost optimization involves a mix of short-term operational refinement and longer-term transformative changes. Every cost segment in the supply chain system is investigated to see where a reduction or saving may be possible. Costs can be related to orders and their payments, storage of raw material or products, transportation, and waste.

Inventory optimization

Inventory optimization helps organizations gauge the ideal inventory level they need to maintain to ensure customer satisfaction, and where, along the supply chain, inventory optimization should happen. It uses advanced algorithms to examine and quantify the causes behind demand-supply uncertainties. This evaluation occurs across a multi-level supply chain and offers possible solutions. With supply chain inventory optimization methods, a company determines the least quantity of inventory needed across the whole supply chain network.

Network optimization

To stay a step ahead of the competition and to ensure operations are at the highest possible profitability, companies must constantly examine how their supply chains will handle any

change they may undergo. With network optimization, companies can compare their current supply chain systems to a range of possible scenarios and ascertain how they will react. Based on this, organizations can set strategic plans and goals, and on-board the right suppliers to achieve these goals. The outcome of supply chain network optimization is that an organization should be able to execute supply chain strategies at reduced cost and risk.

Software choices for supply chain optimization

There are many supply chain optimization software options that can deliver maximum performance across the entire supply chain:

Supply chain optimization platform

This is a model-based platform that employs artificial intelligence and analytics to clearly define the features of the international supply chain ecosystem. These highly effective models create platforms that account for every significant facet of the supply chain, from sourcing to manufacturing and distribution and related financial aspects of the whole operation.

B2B integration platform

This platform furnishes digital integration, automation, and the optimization of critical supply chain processes. These are processes that ascertain how an organization works with its customers, suppliers, and trading partners. Besides improving costs, digital transactions, speed, and productivity, additional benefits include enabling collaborative relationships and modern work practices. Companies have full visibility into the supply chain from a single platform, allowing them to work in close quarters with partners to securely enhance performance and expand business prospects.

Supply chain analytics platform

This type of platform offers visibility across the supply chain and provides the necessary actionable insights based on business-to-business (B2B) transactions. These insights help organizations handle crucial supply chain processes. The software uses predictive analytics to further optimize outcomes based on historical data and present-state transaction flows. It can make predictions on future supplier and customer performance, help refine trading partner performance, and drive revenue and profit.

Embedded applications

Embedded applications integrate into supply chain optimization platforms and provide core capabilities with extra functionality. These applications can address use cases such as supplier management or order and invoice processing, or product catalogue management. The ideal service provider gives businesses a wide range of complementary applications that are easy to embed in a supply chain optimization solution.

80. What are the Five best ways to implement supply chain optimization?

Ans. There is no single formula that ensures success in a constantly evolving, dynamic market. However, there are five tips that organizations should consider with supply chain optimization:

1. Think global but act local

This aspect is important to consider when strategically examining supply chains or planning value chains. Businesses need to start thinking about global opportunities for procuring goods and services when working on their international needs. Manufacturers need to look into the various channels available to ascertain the supply chain process's ideal levels of inventory.

Companies need to consider their carbon footprint levels and work toward becoming greener organizations. When creating a supply chain, it is important to optimize locally any investments in key resources of infrastructure, assets, or technology.

2. Focus on core competencies

Many companies make the mistake of taking on more than they can handle. In an ideal situation, shorter, intense jobs should be done in-house, with the longer repetitive tasks outsourced to a third party. This option is a better value proposition for the long term. Focusing on the core competencies of your staff can make a world of difference to operations.

3. Improve collaborative efforts

By improving collaboration between the manufacturer or supplier and the retailer for demand data-based forecasting and inventory management, organizations can reduce inventory and build on fulfillment rates and product availability at the specific point of purchase. Better collaboration helps ensure that a company has a lean supply chain, which improves margins and profitability. Today's technology enables several collaborative opportunities, such as mining the massive proliferation of data and using computing power advances and better connectivity to optimize testing in various fields.

4. Use mobile-based technology

Mobile, cloud-based technology works toward improving field sales, merchandising, and marketing. Making available information on provenance, origin, contents of the item, and special information on demand (possibly related to sustainability, localized content, or manufacturing methodology) helps brands connect with their consumer directly.

5. Set up a responsive supply chain

A company can extract data from a range of places, including the point-of-sales or even social media. This information helps businesses identify changes in trends and demand before they happen. This knowledge helps the supply chain respond quickly to a sudden surge in sales and helps organizations improve service levels and organize inventory to gain optimal benefits. Such multi-channel programs can help manage and change expectations from supply chain forecasting and planning structures, and enable a responsive supply chain.

The future of supply chain optimization

Responding to customer mandates quickly and accurately, with fulfillment as a top priority, is crucial for supply chain managers. Supply chains are no longer linear; they have evolved to become complex international ecosystems with several stakeholders. With the goal of providing a premium customer experience, supply chain optimization can be a game-changer.

X

Prof. Tapas Kumar Mondal