

E-BUSINESS AND SUPPLY CHAIN MANAGEMENT: A NEW METHODOLOGICAL CLASSIFICATION

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Abstract—E-Commerce and supply chain management are intrinsically related; the former is based on the latter to make sure the inexperienced, nicely timed, and fee-effective delivery of products from raw substances, E-Commerce supply chain management oversees the entire technique, from sourcing and manufacturing to stock, fulfilment, and closing-mile delivery, the use of generation and integrated techniques to meet needs, decorate patron satisfaction, and hold a competitive vicinity within the virtual marketplace. the journey of a product in an E-Commerce supply chain includes numerous essential levels and entities, Sourcing & Procurement, acquiring uncooked materials and additives from suppliers, manufacturing/production, transforming raw materials into completed goods, stock manage, dealing with inventory ranges in warehouses to fulfil demand without extra or shortages, Warehousing & Distribution, Storing products and dealing with distribution centres, Order Fulfilment, Processing orders, choosing, packing, and making geared up them for cargo, Logistics & Transportation: moving products from warehouses to the customer, together with very last-mile shipping, Returns manage, dealing with product returns and exchanges.

Keywords: E-Business, Supply Chain Management, Logistics, Warehouses, Distribution.

Introduction:

Supply Chain Management has generated massive interest in most up-to-date years for some of motives. Managers in many industries now remember that moves thinking about the resource of 1 member of the chain can have an effect on the profitability of all others within the chain. Many worldwide commercial enterprise researchers are of the opinion that extended globalisation of markets and growing worldwide opposition imply that businesses in all nations will face similar, if no longer same, aggressive environments. In Bharat due to liberalisation of economic system, the corporations are handling acute opposition in the worldwide markets. Many production companies are compelled to enhance the high-quality in their products and decrease their manufacturing expenses. This paper is cut up into factors. First detail gives with how e- business enterprise is changing supply chains. Second part of the studies paper is designed to take a look at the associated research on this place. For the purpose of the look at, the e-agency applications are divided into three classes: i- E-Commerce ii- E-Procurement and iii- E-Collaboration.

E-commerce allows a network of supply chain companions to come to be aware of and reply speedy to changing patron demand captured over the internet. E-procurement allows groups to apply the internet for getting direct or oblique substances as well as coping with rate-brought offerings like transportation, warehousing, customs clearing, price, first-rate validation and documentation. E-collaboration enables coordination of numerous decisions and sports past transactions some of the supply chain companions, each providers and customers over the net. The primary objective of Supply Chain manipulate is 'purchaser pride' and to acquire this, all roadblocks are removed in between closing client and the raw material dealer.

Essences of Supply Chain Management in E-enterprise

To successfully and effectively manipulate a complicated e-exchange deliver chain, experts divide SCM in E-Commerce components encompass:

- Sourcing and Dealer Management - This includes sourcing and procurement of raw materials.

- Production and manufacturer control - This consists of the transformation of uncooked materials into processed goods and products.
- Logistics and transportation manage - The reason of this component is to control supply, route optimisation and similar activities.
- Inventory management - through this element, SCM specialist's workout inventory manage, forecast demand, and make certain finest utilisation of garage facilities.
- Order managing and fulfilment management - This involves accepting purchaser orders, processing orders, deciding on ordered goods from stock and packaging.
- Closing-mile shipping and return control - It looks after doorstep transport of ordered objects and ideal deliver experience to customers.
- Client Relationship Management - in the end, SCM moreover guarantees purchaser servicing and opposite logistics associated with again items.

SCM is a pretty era-extensive interest; specialists take into account tech integration, information analytics and usual performance manage as important components of deliver Chain control in e-commerce.

Aspects of an E-Commerce Supply Chain Management

One-of-a-type ranges of supply Chain control in E-Commerce are:

- Planning - It includes collecting statistics, analysing and extracting commercial enterprise intelligence related to purchaser name for, delight and marketplace dynamics.
- Sourcing - At this level, E-Commerce companies look out for suppliers for raw materials, semi-completed and finished goods, compare satisfactory and one-of-a-kind parameters, and finalise their sourcing partners.
- Manufacturing - This level contains processing of raw substances and semi-finished goods to final products. E-Commerce businesses can manufacture themselves or outsource from contract manufacturers.
- Storing - This includes garage of finished items in warehouses and tracking of stock.
- Fulfilment or order manipulates - Order management or fulfilment is a vital degree in the E-Commerce business organisation. It consists of processing client orders, readying products for deliver and ensuring bundle deal handover to the right supply companions. Fulfilment is also a machine that consists of managing product returns.
- Conveyance - this is the level in which merchandise are transported from warehouses to clients' addresses. The dreams are to deliver inside the pre-scheduled time and date, without causing any product damage.

Functions of Supply Chain Management

Supply Chain Management functions are mentioned below;

- Consumer recognition
- Keeping present customers
- Streamlining of operations
- Minimum steady charge
- Elimination of paper paintings
- Simply in time
- Transparency in any respect levels
- Rising multiple deliver assets for a more than one components
- Consumer cost enhancement and charge reduction

E-Commerce

Buying and promoting on the internet is assumed via the regularly occurring time period e-commerce, just like email, that is the way of sending e mail thru the net. Enterprise at the internet is classified into B2B (commercial enterprise to enterprise), B2C (business to customer) and C2C (purchaser to patron). B2B transactions are largely amongst commercial producers, partners, and stores or amongst groups. B2C transactions take area without delay among business establishments and consumers. B2B internet websites are basically the internet assembly elements for buyers and dealers of the monetary global. They serve a constrained amount of clients. The Turnover will be frequently that of the most B2C web sites and most significantly they make income. B2C web websites are offering low value gadgets CDs, Cassettes, food, Toys, flora and playing cards and many others. Because of the fact no complex logistics are involved. C2C internet sites don't form a completely excessive part of web-based alternate. Maximum visible examples are the public sale websites. Basically, if a person has something to promote, then he receives it listed at an auction websites and others can bid for it.

E-Procurement

The internet offers an herbal platform to facilitate green procurement as numerous customers and dealers discover each other and transact regular with some pre-unique protocols. The subsequent are the procurement techniques to be had for a producer.

1. Strategic Partnership

Strategic partnership method is to expand an extended-term deliver courting with a selected provider.

2. Online Search Strategy

On-line search strategy is to store on online for a higher charge.

3. Combined technique

The combined approach is to combine each – signal an extended-time period purchase settlement with a provider up to a sure degree, but if critical greater quantity can be bought on-line.

E-Collaboration

E-Collaboration as commercial company-to-business enterprise interactions facilitated via the net. The ones encompass facts sharing and integration, decision sharing, machine sharing and aid sharing. There are many new times that have examined fantastic factors of collaboration from information sharing and integration to approach and aid sharing. Numerous instances have highlighted the impact of data integration on some specific aspect of the deliver chain. Some of the instances are cantered on coping with supply whilst others are greater concentrated at the clients. As an instance, the Solelectron case focuses on how the use of information has converted Solelectron from an easy settlement producer proper right into a full carrier supply chain integrator famous motors and Lufthansa cases illustrate how statistics can be used to increase consumer loyalty and manage the fees.

Role of Supply Chain in E-commerce organisation

We use the term e-business organization to provide an explanation for groups run on the internet, or corporations that use net technologies to decorate the productiveness or profitability of an employer. In widespread, we will describe it as any form of virtual business organisation that makes use of a computer. This utilization is pretty archaic, however, and in maximum contexts e-commercial agency refers completely too net companies. IBM became one of the first to use this term at the same time as it released an advertising marketing campaign constructed across the time period.

E-company is one of the simplest approaches to attain out to the human beings concerned within the deliver chain. All you have to do is to have a website or take a look at in with a regarded searching for engine to keep its internet web site so as for the on-line to be regarded. A business can positioned all data regarding their merchandise, services, and speak to range at the internet web site. As soon as accomplished, the internet site is to be had for the clients and exclusive participants of the deliver chain to be appeared. The clients or companies can then view all of the types of services and products to be had and as a consequence make a proposal.

E-Commerce vs E-business Corporation

Many times we use the term e-commerce and e-enterprise interchangeably, but clearly they may be remarkable requirements. In E-Commerce, Information and Communications Technology (ICT) is used in inter-organization or inter-

organizational transactions (transactions among and amongst groups) and in employer-to-client transactions (transactions between firms/ businesses and those).

Pinnacle strategies in E-commerce organisation

Few of best techniques in E-commerce organisation are noted below;

- i. **Manufacturing strategies:** production methods includes procurement, ordering and replenishment of stocks, processing of payments, digital hyperlinks with carriers and production manage techniques among others.
- ii. **Client-cantered procedures:** purchaser-targeted techniques encompass promotional and marketing efforts, promoting over the internet, processing of customers' purchase orders and bills and customer service amongst others.
- iii. **Inner management procedures:** inner control methods encompass worker services, training, internal facts-sharing, video-conferencing, and recruiting.

Digital programs decorate records go along with the float amongst manufacturing and income forces to enhance income pressure productivity. Workgroup verbal exchange and virtual publishing of internal commercial organisation information are likewise made greener. E-commerce Company can provide a virtual supply chain over the internet. It performs the following capabilities –

- i. Offers statistics on the products to all of the individuals of the supply chain.
- ii. Allows in putting orders with suppliers.
- iii. Let's in customers to region orders.
- iv. Filling and turning in the orders to customers.
- v. Receiving bills from customers

To understand that all those transactions are traditional, however with the use of e-enterprise, those transactions are now completed greater efficaciously and quick. E-Business allows transactions spherical the clock which no extraordinary mode of rate can provide. In this financial ruin we are going to find out about the 2 most vital fashions of e-commercial enterprise i.e. B2C e-commercial enterprise and B2B e-commerce enterprise.

Top strategies in E-commerce enterprise

Few of best strategies in E-Commerce enterprise are mentioned below;

- i. **Production strategies** – production methods includes procurement, ordering and replenishment of stocks, processing of bills, digital hyperlinks with providers and manufacturing control methods amongst others.
- ii. **Patron-focused processes:** purchaser-focused techniques encompass promotional and advertising efforts, selling over the net, processing of customers' purchase orders and payments and customer service amongst others.
- iii. **Internal management approaches** – inner management methods encompass worker offerings, education, inner facts-sharing, video-conferencing, and recruiting.

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- ii. Let's in placing orders with suppliers.
- iii. Let's in customers to region orders.
- iv. Filling and turning in the orders to clients.
- v. Receiving payments from customers

Business to Client (B2C)

E-business enterprise of this type takes place among an agency and a customer. However in case, the customer comes right away in contact with the agency and might view the organization brochure or prospectus together with their product and offerings and consequently, makes an order. This shape of commercial enterprise reduces the trouble of the purchasers going to the stores and buying their gadgets.

Business to Business Enterprise (B2B)

E-business of this type takes location between a corporation and an organization. Many times, one organisation is dependent on another commercial enterprise employer for raw fabric, spare elements or unique products which they require to manufacture their objects. The supply chain managers ought to be conscious that the rate furnished via using e-corporation is large. However, its accurate implementation may be very important in any other case it can even turn the other way round for the enterprise, e-agency implementation isn't a clean technique and the failure to work out right implementation has even led to huge organizations closing down.

Research in Supply Chain Management

Research in SCM has identified twelve exquisite control areas which can be associated with the state of affairs. Each location represents a deliver chain issue handling the company. For each region, we provide a brief description of the basin content material and refer the reader to 3 articles that observe. The twelve classes are,

i. Vicinity/area

Of the twelve lessons, picks on this area have possibly the longest time horizon. Selections at this stage set the physical shape of the deliver chain and accordingly create constraints for additional tactical choices consisting of transportation, logistics and stock making plans. Engineering equipment such, as mathematical fashions of facility area and geographic information systems are very beneficial in sorting the area choices.

ii. Transportation and logistics

It includes all problems associated with the bodily float of merchandise thru the deliver chain, including transportation, warehousing and cloth coping with. This category addresses a lot of important selections related to transportation control which include automobile routing, dynamic fleet control with worldwide positioning systems and merge-in-transit.

iii. Outsourcing and logistics alliances

It examines the supply chain effect of outsourcing logistics offerings. With the fast boom in 0.33 party logistics businesses, there is a large and growing organization of technology and offerings to be tested. Those include fascinating tasks consisting of dealer hubs controlled via 0.33 occasions.

iv. Sourcing and Supplier Management

This category addresses the difficulty of outsourcing components and the control of the carriers who provide them. Make/buy choices fall into this category. The ones alternatives have to incorporate top managers and strategic thinkers because of the truth they may surely online the future of the enterprise. For instance, IBM to outsource its computer operates software program to Microsoft and its precious processing unit to Intel.

v. marketing and Channel restructuring

It includes important decisions related to getting the goods from a company's factories the complete way into the consumer's arms. As with facility vicinity, those picks affect the SCM shape as well as define online an interface with advertising and advertising and marketing.

vi. Stock and forecasting

It includes strategies for ongoing stock management and call for forecasting. Business engineers and operation managers have employed statistical models for forecasting and stock making plans. Stochastic inventory models can grow to be aware of the potential cost economic savings from sharing records with SCM companions, but extra complex fashions are required to coordinate more than one place.

vii. Carrier and after income support

This category covers the important problem of supplying company and provider elements. Some fundamental companies, such as Saturn and Caterpillar, build their reputations in this location, and this region and this capability generates sizeable income

viii. Contrary logistics and inexperienced issues

This vicinity examines every contrary logistics issues of product returns and environmental impact issues. Growing regulatory pressures in many countries are forcing managers to don't forget the maximum inexperienced and environment first-class way to cope with product healing. Product restoration includes the dealing with of all used and discarded merchandise, additives and materials.

ix. Product layout and new product advent

It deals with design troubles for mass customisation, not on time differentiation, modularity and extraordinary troubles for brand new product advent. Historically, products destined for world markets are probably custom designed at the manufacturing unit to inform neighbourhood marketplace tastes. The custom designed product is ideal and managing global. German products can be fast shipped to France and customized for the French marketplace.

x. Information and digital mediated environments

n present day-day deliver chain control (SCM), statistical techniques are critical for navigating the complicated, records-rich electronic environments created through technology like massive facts analytics, the internet of things (IoT), and e-marketplaces. Actualities permit businesses to extract big insights from big datasets to energy performance, lessen prices, control danger, and beautify ordinary performance. This category addresses the impact of facts generation to lessen stock and the abruptly increasing vicinity of digital commerce.

xi. Metrics and Incentives

It refers to the size of each engineering and organisational strategies and the related financial motivations. Metrics and incentives are important to effectively handling a supply chain, and they have to be carefully aligned with an enterprise business enterprise's average method. While metrics offer visibility into typical performance, incentives inspire unique behaviours in the agency and amongst its companions. Misaligned incentives can result in inefficiencies, greater stock, and reduced profitability for the whole deliver chain. Supply chain metrics, or Key Performance Indicators (KPIs), are grouped through the functional area they degree.

xii. Worldwide Concerns

It considers the troubles past neighbourhood country specific working environments to embody troubles associated with move-border distribution and sourcing. As an instance, currency exchange rates, duties and taxes, freight forwarding, customs problems, government law and Nations's' comparisons are all protected

Recompenses of SCM in E-Commerce

SCM in e-commerce benefits companies via manner of reducing prices, improving purchaser delight thru faster and greater accurate deliveries, and growing performance. It additionally complements business enterprise's flexibility to evolve to marketplace modifications, affords higher danger manage, and improves stock management thru accurate forecasting. Certain factors are noted beneath;

- Minimisation of charges
- faster fulfilment of orders
- superior customer delight
- powerful hazard control
- accurate forecasting functionality
- stronger buy individuals of the family
- higher industrial organisation overall performance

Challenging environments in the E-Commerce Supply Chain

Inside the e-commerce supply chain, companies face hard conditions by means of and large associated with inventory control, closing-mile transport, and contrary logistics. Consumer expectations for speed and flexibility, coupled with marketplace volatility, similarly enlarge those complexities.

Inventory Control Challenges

Balancing stock tiers: corporations struggle to keep away from each overstocking and understocking. Overstocking ties up capital and could boom garage fees, whilst understocking consequences in out of place sales and disillusioned clients.

Faulty forecasting: Predicting purchaser name for is tough due to seasonal swings, flash income, and hastily converting tendencies. This will bring about stock outs for the duration of height call for or having dead inventory after a season ends.

Multi-channel visibility: keeping inventory synchronized across more than one profit structures (e.g., enterprise net site, marketplaces like Amazon, and social media) can be a logistical nightmare. Without real-time visibility, overselling can emerge as a not unusual problem.

SKU proliferation: The non-forestall growth of product online and versions to enchantment to a much wider target market create giant complexity in monitoring and coping with inventory.

Ultimate-mile delivery challenges

Immoderate prices: This very last leg of the delivery journey is the maximum costly, often accounting for extra than 1/2 of the entire transport fee. The fee is driven through inefficient routes with frequent stops, excessive online intake, and difficult work fees.

On line visitors and delays: city areas are afflicted by visitor's congestion, inefficient routes to faraway regions, and unpredictable activities like horrible weather, all of which reason transport delays.

Complex logistics: turning in to individual households is greater complex than to a vital keep. Issues encompass failed shipping attempts, package robbery, incorrect addresses, and the want for smaller, more agile delivery vehicles.

Developing consumer expectancies: clients now expect speedy, dependable, and reasonably-priced or free transport alternatives, including equal-day and -hour domestic home windows. This adds sizeable pressure on logistics networks to decorate pace and performance.

Contrary logistics (returns) worrying conditions

High move again volumes: E-commerce has substantially higher pass lower back fees than traditional retail, with a few classes like garb exceeding 30%. This surge can crush warehouses and processing centres.

Unpredictable and steeply-priced returns: now not like deliberate outgoing deliveries, returns arrive sporadically, requiring complicated routing and unpredictable useful resource allocation. Processing each back object can be more expensive than the initial shipping.

Product disposition: A brief and accurate selection must be made on each return to decide if it may be resold, repaired, refurbished, recycled, or disposed of. Any delay in this manner diminishes the product's cost and takes up warehouse region.

Fraud and waste: An enormous project is managing fraudulent returns, which account for tens of billions of greenbacks in losses yearly for shops. Lower back merchandise additionally makes a contribution intently to landfill waste, including a sustainability problem.

Epoch and information traumatic situations

Fragmented information: Many e-change organizations use separate structures for income, inventory, and logistics. Integrating information from a couple of resources is usually a complex enterprise, fundamental to fragmented records and lawful visibility.

Forfeiture of transparency: without seamless machine integration, companies and customers lack actual-time visibility into the recognition of stock, shipments, and returns. This lack of transparency undermines operational efficiency and customer has the same opinion with.

Truths excellent: inaccurate or inconsistent records from manual techniques can corrupt analytics and decision-making. Digital statistics are crucial for correct call for forecasting and stock optimization.

Expertise gaps: finding and retaining expert professionals with expertise in deliver chain management, data analytics, and current technology is a continual task.

Volatility and peril

International disruptions: the global nature of e-change supply chains makes them at risk of disruptions from herbal failures, geopolitical activities, and monetary crises.

Inconsistent supplier performance: Over-reliance on a confined type of suppliers can introduce big danger. Inconsistent provider reliability can motive production delays, higher prices, and stock outs.

Monetary pressures: high and unstable charges for labour, uncooked substances and transportation can squeeze income margins. Strategic planning is needed to navigate charge performance without compromising carrier fine.

Conclusion

Supply chain management is indeed a huge and growing online for each engineers and bosses. Nearly all principal production consulting organizations have evolved large practices within the supply chain problem and the sort of books and academic studies papers in the area is growing unexpectedly. In fact, each of the twelve areas blanketed in our treatment of deliver chains are crucial in themselves. Finally, the net keeps changing many fundamental assumptions approximately organization, pushing managers to preserve to conform their deliver chain practices or discover themselves pushed out of the market. E-Commerce supply chain management is a dynamic, information-powered ecosystem. From inbound sourcing to very last delivery, savvy entrepreneurs use automation, visibility, global systems, and sustainability to assemble resilient, inexperienced, and consumer centric supply chains. Within the E-Commerce generation, supply chain management is not definitely an operational necessity however a strategic advantage. The green drift of products from companies to clients is essential for organizations to thrive in a quick-paced and competitive environment. Businesses that encompass and leverage the electricity of SCM will discover themselves well-prepared to navigate the traumatic situations and seize the opportunities of this dynamic market. Then, leverage it to shape quicker deliveries, clever inventory, and more potent client relationships. That could end up a vital competitive benefit.

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