



STUDY OF EXPLORING THE IMPACT OF REVERSE LOGISTICS IN MANUFACTURING INDUSTRIES

UNDER THE GUIDANCE OF

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Abstract

The question, "What is Reverse Logistics?" requires a quick and general response as we kick off our multi-part series on the topic. Along with defining reverse logistics, this article will also cover its history, the benefits it provides, the reasons it is becoming more frequent in the aftermarket sectors, and the ways in which shippers and logistics providers put it to use.

In this competitive and increasing segment of the logistics market, having a services provider on your side might be invaluable. In the next weeks, you will gain a wealth of knowledge from this outstanding series.

Company profile



The New Delhi-based Cocobolo Industries Private Limited is a famous Indian corporate group. The board of directors has its hands in many different parts of the business. Their Professional Services are informed by their more than five years of experience in the supply chain and logistics business. When it comes to assisting modern organisations with their specific challenges, they combine the expertise of the world's greatest management consulting firms with first-rate customer service.

Cocobolo Industries Private Limited was incorporated as a limited liability company in the United Kingdom on December 27, 2017. According to the Registrar of Companies, it is a "Non-Government Company."

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1) Introduction

"Reverse logistics" refers to the steps used to recycle or repurpose an item. Planning, implementing, and controlling the efficient, cost-effective transportation of raw materials, in-process inventory, completed things, and related information from the point of consumption back to the place of origin is essential for recapturing value or disposing of trash effectively. The term "reverse logistics" refers to the process of diverting goods from their original destination in order to sell them at a profit or dispose of them in an eco-friendly way.

You may classify remanufacturing and refurbishing as part of "reverse logistics." The reverse logistics process includes the management and selling of unused or returned hardware leasing sector equipment and machinery. Logistics often centres on the activities that bring a product to the end user. The term "reverse logistics" refers to the practise of shifting the resource backwards in the supply chain. Merchandise, for instance, moves from consumer to retailer to wholesaler to manufacturer.

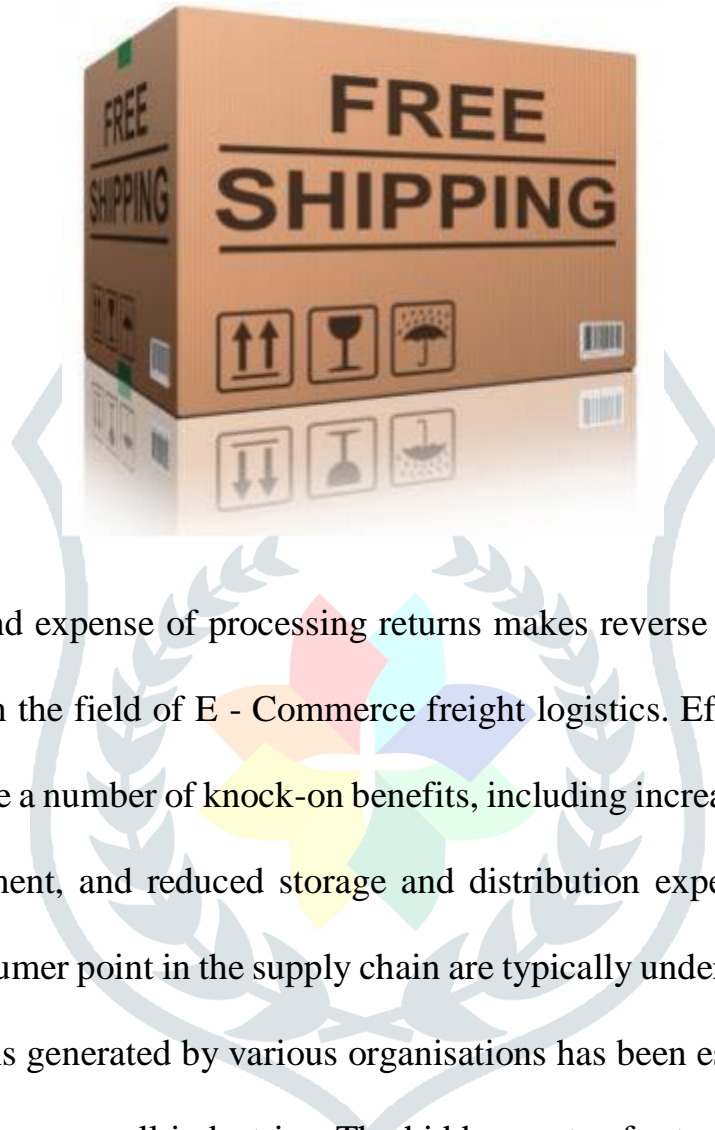
A retailer or end user is often the last stop on the path of a manufactured item. Processing equipment after sale is an application of reverse logistics. If a product turns out to be defective, the consumer is entitled to a refund. The defective product would then need to be shipped back to the factory for evaluation, disassembly, repair, recycling, and eventual destruction. The defective item would have to be routed back through production and distribution to be of any use again. Such occurrences fall under the purview of reverse logistics.

An Introduction to the Landscape of What is Reverse Logistics

Things that promote the reusing of products and resources, such as paper recycling, bottle deposit programmes, and metal scrap merchants, have been around for quite some time. However, research into the field of reverse logistics is just getting started. The field of reverse logistics has emerged in the past couple of decades, and a body of knowledge in this area is beginning to take shape. In particular, the last decade has seen a flourishing of interest in and use of the discipline of reverse logistics. Even while reverse logistics has become more mainstream in recent years, many companies are still missing the boat. In actuality, reverse logistics is often seen as a hassle, namely a pricey and persistent hassle. According to a survey conducted by two professors from the University of Nevada, over forty percent of firms surveyed said that returns processing was not a top concern. One survey found that 34.3% of supply chain executives felt they lacked the necessary foundation at their company due to internal policies. Why reverse logistics has been ignored for so long is baffling. Academic scholars have been interested in reverse logistics for longer than their business counterparts, as evidenced by the publication of articles featuring the term "reverse logistics" in the title as early as 1993. Since the publication of Rogers and Tibben- Lembke's work, there has been a greater interest in what precisely constitutes reverse logistics. Despite several studies showing positive effects of reverse logistics on shippers' efficiency and relationships with customers, effective reverse logistics are seldom put into operation.

The Rise of Reverse Logistics in the E Commerce Freight Shipping

World



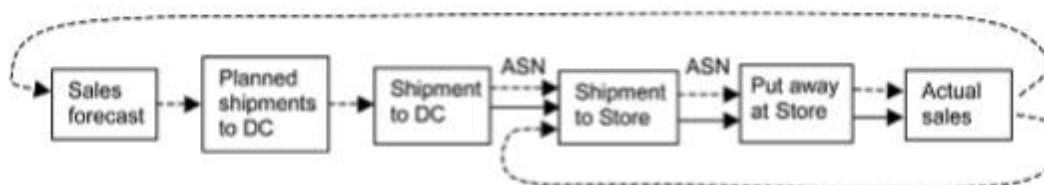
The enormous volume and expense of processing returns makes reverse logistics one of the major Operational difficulties in the field of E - Commerce freight logistics. Effective reverse logistics is widely believed to provide a number of knock-on benefits, including increased customer satisfaction, reduced resource investment, and reduced storage and distribution expenses. Backwards product returns from the last consumer point in the supply chain are typically underappreciated. For instance, the total amount of returns generated by various organisations has been estimated to account for 3–50% of overall shipments across all industries. The hidden costs of returns have been estimated to account for 3-5% of total income in several other studies. The cost of returns is three to four times greater for brick and mortar retailers than the cost of forward (outbound) shipments. In industries such as book publishing, catalogue selling, and greeting cards, returns account for almost 20% of total sales. Some sectors are expected to bring in 30% to 50% of investment, while others are projected to bring in 60%. Retailers are squandering a tremendous opportunity to build relationships with customers and boost loyalty due to the present state of reverse logistics.

What is Reverse Logistics Flow vs. Traditional Logistics Flow?

"the process of planning, implementing, and controlling the efficient, cost-effective flow of raw materials, in-process inventory, finished goods, and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements" is how the Council of Supply Chain Management Professionals defines the traditional logistics flow.

Definition of "reverse logistics" in the same glossary entry: "the process of planning, implementing, and controlling the efficient, cost-effective flow of raw materials, in-process inventory, finished goods, and related information from the point of consumption back to the point of origin for the purpose of recapturing value or proper disposal."

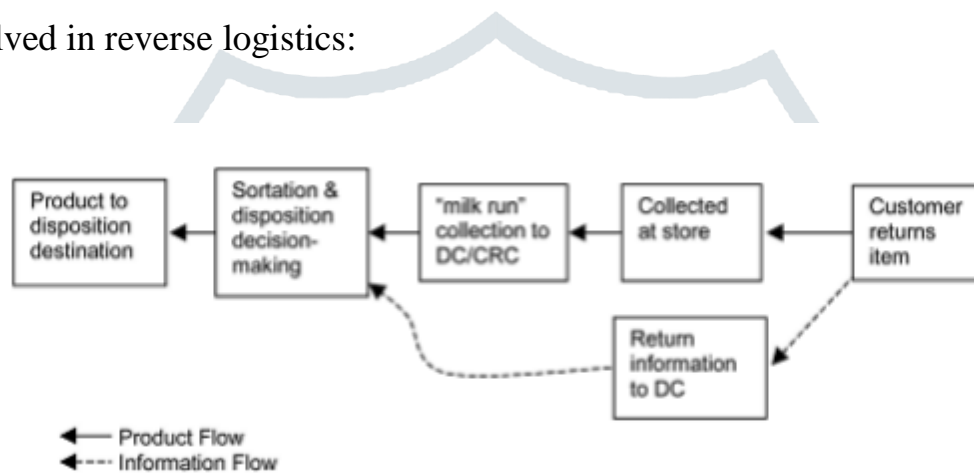
When compared to forward logistics, reverse logistics presents a marked departure. The flowchart below illustrates a typical logistical procedure.



Traditional Logistics Flow

When the forecast for product sales suggests a certain number is needed, the DC will receive the goods and distribute them to stores. Important data may be better tracked as goods move through the supply chain with the use of ASNs (Advanced Shipping Notices).

But when we consider the logistical movement in the opposite direction, everything changes. Shippers seldom initiate reverse logistics without first receiving a request from clients or other participants in the distribution chain (the "Downstream Channel"). Below is a visual representation of the steps involved in reverse logistics:



Reverse Logistics Flow

Items that have been returned will be picked up (through a number of different channels) and sent back to the warehouse. As things stand in reverse logistics today, information capture is infrequent or inaccurate, so the return processing centre is often left in the dark about things like the item's description, condition upon return, customer information, etc.

Do you have a strategy in place for logistics on the return end? How can we better answer your question, "What is Reverse Logistics?"? Do you have any thoughts? Leave a comment and let us know!

Let's discuss some of the groundwork for building a resilient supply chain for consumer products.

The first essential component is the supply chain. Where do you get your supplies? Let's regress to the Stone Age, when people's food demands were met mostly by hunting. They had to organise their hunt, acquire the proper weapons, go on the hunt, bring back the raw meat, cook it over an open fire, and then consume it, with part of the flesh being stored for later use. A Supply Chain is the network of interconnected systems that allowed this activity to run smoothly. Although the concept of a "Supply Chain" has been around for a while, the phrase itself is relatively new. The term "supply chain" refers to the series of linked activities that begins with the acquisition of raw materials and concludes with the distribution of finished goods to customers.

For instance, tomato sauce is the end result of a long chain of production that begins with the growing, picking, and selling of tomatoes by farmers to food processing companies; from there, the tomatoes are transformed into sauces, which are then transported to distribution centres, sold in stores, and consumed by consumers.

Here, primary producers and end consumers are all connected through a web of supply chain, informational, and financial networks. These interdependent structures are called supply chains.

We must then ask, "If this is supply chain, then what is supply chain management?"

To break it down, "Supply Chain Management" is made up of the words "Supply Chain" and "Management."

Supply chain management, in layman's terms, is the process of systematically planning, arranging, coordinating, and controlling the acquisition of raw materials, their transformation into a useable form, and the distribution of the final product to end users.

When we look at the contemporary climate, we see that most supply chains are global. Just what is a global supply chain, and why has it recently gained in popularity? Prior to the advent of globalisation and privatisation, but during the height of industrialization, companies often handled activities like material procurement, product manufacture, and long-distance shipping on their own. In 1913, Henry Ford built his own supply chain from the ground up, starting with his own iron ore mines and ending with his own distribution centres. With the advent of LPG (Liberalisation, Privatisation, and Globalisation), however, corporations gained a better understanding of the disparities in cost of labour and the quality of natural resources across different regions.

As a result of these changes, Michael Porter introduced his now-famous "Value Chain Analysis" model in 1985. Using this framework, businesses began analysing the value of their own and Thiers' competitors' business models, uncovering various activities they should be avoiding since they did not contribute to the production of value or the maximisation of value. Therefore, they decided to contract with an outside organisation to take care of these tasks.

More people from all over the world are able to exchange information and work together thanks to the development of the Internet and the IT sector. Businesses gained insight into the accessibility of resources including labour, supply power, and manufacturing capability and expertise in other countries. Therefore, they decided to combine forces with them to save costs and increase efficiency.

e.g.: - IBM formerly handled the whole supply chain, from manufacture to transportation. Everything from conceptualization and development of semiconductors through final product assembly and distribution was covered. However, IBM currently just provides services because it is their speciality. People have worked hard to identify and cultivate USPs, and as a consequence, they are partnering with many companies to produce a product that will appeal to and satisfy customers. The information, logistics, and financial needs of these firms, which are spread out throughout the globe, are met via a web of interconnected networks. In addition, there is no one entity acting as a governing body. All of us are connected through the aforementioned systems.

The supply chain is more vulnerable to a variety of threats as a result of greater interconnection and global connectivity.

Before moving further, let's take a moment to talk about the risks and vulnerabilities. To be clear, when we speak about risks, we mean anything that might impede the free flow of goods, information, and money along a supply chain. If you're wondering where these dangers come from, the answer is the Supply Chain, where they're constantly there but not necessarily obvious. Several products exist to help detect and measure exposure to these dangers, and this is well known.

For instance, we need to be aware of the numerous risk contingency characteristics of a country if we want to source the majority of our goods from that country and that country is located in a flood zone.

After laying the groundwork for "vulnerability," we can go on to discussing what it implies in the supply chain. Vulnerability, here, relates to how open the supply chain is to potential dangers. Therefore, "vulnerability" is defined as "an exposure to serious disturbance, arising from risks within the supply chain and risks external to the supply chain."

The many ways in which supply chain risks can be classified are discussed below. Very neat. The paradigm, developed by Mason-Jones and Towill, allows us to divide potential threats into the following categories: -

A Internal to the organization (focal firm) —

1) Process Risk

2) Control Risk

2) External to the organization but internal to the supply chain) —

1) Demand Risk

2) Supply Risk

3) External to Supply Chains —

1) Environmental risks

Now let's talk in detail one by one —

First, there is "process risk," which includes everything that may go wrong with an organization's capacity to do what it does best: run its day-to-day operations. The company's values, assets, and operational operations, as well as any non-value-added tasks, are all sources of process risks.

The second type of risk is called "control risks," and it results from the company's own set of guidelines and policies for the administration of processes like batch size and stocking procedures.

Third, difficulties with the flow of goods, information, and money between upstream businesses and their downstream partners pose a threat to the supply chain's ability to satisfy consumer demand on time.

4) Upstream material, knowledge, and capital flow uncertainty, especially between suppliers and the core company, constitute supply risks.

The Supply Chain also fails to account for a fifth kind of threat: environmental dangers. The political, economic, or technological climate of the country of origin, production, or consumption may have contributed to their emergence.

Examples of the unexpected that might constitute a hazard include natural disasters, tragedies, terrorist strikes, and so on. There are both domain hazards in the supply chain and business risks.

We spend so much time discussing these threats because awareness of them is the first and most crucial step in mitigating them and building a robust SC. It is hard to develop risk mitigation procedures if the risk is not understood and its impact is not analysed.

These strategies for dealing with danger form the basis of solid SCs.

Despite the fact that the meaning of the term "resilience" will be explored at length in this research report, certain questions remain.

Differentiating between the two phrases "robust" and "resilient" is essential when talking about this issue.

To be robust is to be able to withstand risk calamities up to a certain extent, while to be resilient is to be able to return to one's original or preferable shape after being struck by any risk catastrophes

or danger factors. A high degree of physical strength or power that assists in the reduction of variability in accordance with the lean idea is what is meant by "robust" here.

However, resilience stems from lean and agile practises, which combined include retrieving or taking on a previously intended shape to exhibit perseverance in the face of adversity.

According to this evidence, only robust processes can be said to be both resilient and robust.

Let's talk about the consumer goods industry now, which covers everything from food and clothing to technology and transportation.

Our research area, the design of dependable supply chains for consumer goods, benefits substantially from our familiarity with the aforementioned literature.

Let's talk about the findings of studies on robust supply chain architecture for consumer products.

2. Evaluate Preexisting Pieces

Let's have a look at the works that each scholar has contributed:

1) **BUILDING THE RESILIENT SUPPLY CHAIN** by Martin Christopher and Helen

Pages 1-13 of the 2004 issue of Volume 15 Issue 2 of the International Journal of Logistics Management. Peck Canfield is a business school.

According to their findings, the corporation faces systemic risks that might disrupt operations across the board. Current policies, like as outsourcing and globalisation, encourage the creation of

increasingly complex networks of interdependent firms, which increases the risk of some of these threats.

Despite this, it has become obvious that many businesses continue to prioritise 'lean' efficiency gains above addressing systemic supply chain risk. We've suggested that businesses now need to pay more attention to strategic planning.

A primary objective should be the creation of considerably more robust supply chain strategies. Being resilient calls for mental and physical flexibility.

The ramifications are much broader than just tweaking existing processes; they extend to fundamental sourcing choices and the development of information-sharing partnerships across the supply chain. These are urgent problems that need to be addressed right away by business leaders everywhere.

2) CREATING MORE RESELIENT SUPPLY CHAINS by Maria Jesus Saenz with Elena Revilla in MIT Sloan Management Review (June 2014)

They talked about the difficulties that come when businesses operate on a worldwide scale, and how Cisco changed its risk management strategy from reactive to proactive through the use of several different tactics. Because of their foresightful understanding and planning, Cisco was able to postpone the consequences of disasters like the 2005 Katrina storm in North America and the 2011 Japanese tsunami.

3) CREATING SUPPLY CHAIN RESELIENCE THROUGH AGILE SIX SIGMA by Professor Martin Christopher & Christine Rutherford, June — August, 2004.

Modern day supply chains span the globe and are incredibly complex webs. They are more prone to interruption, which might have serious consequences for their financial performance. It has recently come to light, according to research conducted at Cranfield School of Management, that the use of 'Six Sigma' procedures and concepts may aid in the mitigation and management of risk in supply chains. They talked about how agile is superior than lean six sigma in terms of bolstering supply chain resilience.

4) THE ROLE OF COLLABORATION IN SUPPLY CHAIN RESILIENCE by Monday, June 8, 2015, ISSN: 1359-8546 Sanne Schilder and Kirstin Scholten

They concluded that collaboration affected the robustness of the supply chain. The dynamics of collaborative endeavours are investigated in terms of openness, velocity, and flexibility.

The results demonstrate how information sharing, communication, collectively produced knowledge, and joint relationship activities all contribute to greater supply chain resilience through increased visibility, speed, and adaptability. The inner workings and interdependencies of the supply chain network are laid bare.

5) ACHIEVING SUPPLY CHAIN RESELIENCE: THE ROLE OF Article from PROCUREMENT magazine, published on September 2, 2014. collaboratively penned by Carla Roberta Pereira, Martin Christopher, and Andrea Lago Da Silva

One area of interest is on procurement's role in identifying and resolving the internal and external conflicts that damage supply networks. In today's uncertain economic climate, ensuring the resilience of the supply chain requires efforts from within the organisation and beyond.

The findings suggest that procurement procedures play a crucial role in strengthening supply chains. It became clear via the review of the relevant literature that there are both internal and external factors that might affect supply chain resilience. Measures connected to procurement that may improve the supply chain were also identified.

The majority of the work described in the aforementioned study Reports is classified as exploratory study since many facets of supply chain resilience have yet to be discovered. The majority of managers lack an understanding of the framework necessary to put their knowledge of risk factors and management procedures into practise, as found by MIT researchers. This is true even among the 40% of managers who are familiar with these concepts. Because of this, our research will centre around a simple matrix depicting the supply chain ecosystem, which will allow us to pinpoint the many risk factors present in the various industries that underpin the various supply chains.

By using this ecosystem to create a map of our supply chain, we can more easily identify possible weak places, fortify them, and adjust to new circumstances.

3) Industrial Overview

The concept of supply chain resilience differs throughout industries and, by extension, between different market niches. Different people have different perspectives, which results in a variety of approaches. Large corporate and public forums like McKinsey, the World Bank, Deloitte, etc., discuss and publish research on a wide variety of hazards and risk management methods because they recognise that diverse sectors require different approaches. A risk management idea or tool is not uncommon in firms, but it might be difficult for all employees to completely understand how it functions. Nearly half of all managers throughout the world are completely oblivious of the risk

management plan, and another 30% are aware but have no idea how to deal with the possible fallout from it.

To start, this emphasises the significance of having a solid foundational understanding of risk management, which includes knowing how to recognise and avoid trouble spots. There are a variety of ways to go about developing a map since various consulting companies have different ideologies and do different kinds of research. However, there is no one model that can be used to standardise all of these methods.

Therefore, we want to adopt this widely accepted paradigm as a basis for our risk assessment and management resources. Any supply chain, in any business, may have its whole mapped out and its risks mitigated with the help of this straightforward methodology. Next, we'll discuss the study report's methodology, which comprises solely of the following:

Supply Chain Ecosystem.

If you're wondering what exactly a Supply Chain Ecosystem is, the answer is a global interconnected structure of businesses, governments, and non-governmental organisations.

Resources, Natural, Financial, and Human and Industrial Clusters.

Logistics and information technology (IT) systems that facilitate delivery.

Economic and industrial climate, as well as the landscape's vertical dimension, interact with the industrial environment's connections and knowledge.

In that case, what does a simple ecology look like? Here we will discuss the four key components of a supply chain ecosystem.

Resources.

Institutions.

Mode of Service Delivery.

Here is a basic diagram that how a supply chain ecosystem will look like –

Here, Resources, Institutions and Delivery Service Infrastructures together are known as **Risk Sources**.

“Risk Sources” are uncertainties that arise from ecosystem elements and impacts the supply chain outcomes.

4) Methodologies: - We will follow step by step approach as to make

Resilient supply chain -Supply chain mapping skills should be your first priority. This is essential for a thorough comprehension of the procedure. This may also be accomplished by tracking the journey that products make from factory to store shelf. Here, "supplier" means the actual provider and "customer" means the actual buyer or user. A Process map, SCOR model, SIPOC, or Supply Chain Ecosystem might all be used to do this mapping thing. Any method you like is OK, but I recommend using numerous mapping techniques simultaneously to ensure nothing is missed.

Comprehensive Flowchart of Operations 1) A process map is a graphical depiction of a workflow, typically used in management and planning. The steps needed to complete an objective are graphically represented in process mapping software.

Flowchart, process flowchart, process chart, functional process chart, functional flowchart, process model, workflow diagram, business flow diagram, and process flow diagram are all terms for a

similar visual representation of a business process. It may be used by anybody to get insight into the people and resources involved in a process and to locate places where enhancements can be made.

SIPOC (Single Isolated Potential of Failure) diagram is used to identify all the potential points of failure before a process improvement project is initiated.

An improvement method known by its acronym SIPOC, which stands for "suppliers (the's'), inputs (the 'i'), process (the 'p'), outputs (the 'o'), and consumers (the 'c')," requires teams to consider all of these factors.

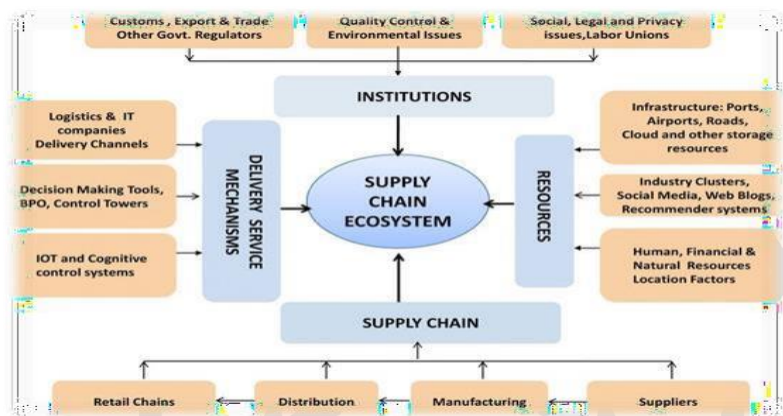
Common concepts such as business process engineering, benchmarking, process measurement, and organisational design are brought together under the umbrella of SCOR - Process reference models. Integrating business processes, performance indicators, best practises, and human resources, the Supply Chain Operations Reference (SCOR) model is novel. The organisation is hierarchical, adaptive, and dependent on its subparts.

The phrase "Supply Chain Ecosystem" is used to describe the larger network of organizations—including enterprises, governments, and NGOs—that make up a particular supply chain. Natural, industrial (clusters), financial, and human resources, delivery infrastructure (including logistics and IT), linkages, and knowledge of the industrial environment interact with the terrain (Vertical Space) and climate (Economic and Industrial).

Find the main factors that matter. After a supply chain is mapped, the most pressing security risks may be isolated and mitigated. The 5 Ws and 1 H method, a Fishbone diagram, a Trend chart based on past events and subsequent actions, a cost-benefit analysis, a lead-time analysis, a vulnerability assessment, a matrix, etc. can all be used for this purpose.

These are used in a process called hazard identification; once all potential risk sources have been identified, other analyses may be performed, such as root cause analysis (RCA) and dependency analysis. The Histogram is one useful instrument that may be used,

FMEA (Factor Mode Effect Analysis) and FMCEA (Factor Mode Criticality Analysis), Pareto principles and dependency can use Scatter Plot, Regression Analysis.



To learn more about a problem that a processor has taken on, you may use the 5W1H method (who, what, where, when, why, and how).

Information is gathered for specifics using the five W's (who, what, where, and when) and one H to assess conclusions and judgements concerning the key facts, and to make straightforward claims concerning the overall picture. It is usual habit to question "why" five times before getting to the root of a problem.

The second type of causal diagram is called a "fish-bone diagram," after its resemblance to a fish's skeleton.

Once a problem's underlying causes have been identified, management may shift their attention to devising a long-term solution. Making something is another practical use.

It's safe to assume that your invention will be warmly welcomed if people care about the problem you're trying to solve with it.

The fishbone diagram's goal is to assist you pinpoint and fix all the places where your product falls short.

Finally, the fishbone diagram is a powerful tool for preventing quality concerns from ever occurring in the first place. Many of the difficulties that come with introducing anything new may be avoided with its use to foresee potential issues.

3) Trend Chart - Shows how data has changed over time; also known as a run chart. Because no two processes are identical, it's possible that a single reading might be misleading.

When data is shown over time, its real performance, especially in respect to a preset purpose or goal, becomes more clear. Using visual graphs, a variety of patterns may be exhibited for potential risk problems.

The FMEA group will perform an RPN risk analysis to prioritise the risks based on severity, as part of step d), which is the Failure Mode and Effects Analysis. An RPN (risk priority number) can be used to estimate not only the likelihood of failure but also the severity of failure and the success of remedial efforts. All three of these are multiplied together to reach the final tally.

It all comes down to three factors: severity, frequency, and detectability.

This method can be used to calculate an approximate loss should a product or procedure fail. Experts in FMEA also give each failure mode a score based on how likely it is to occur and how devastating the failure would be if it did. Companies may use this data to reimagine their products with a focus on improved aesthetics and key features.

FMECA (Failure Mode and Effects and Criticality Analysis) is an additional step beyond the previous four. Each possible failure scenario is ranked in terms of how severe it would be.

The FMECA team won't only make a list of potential problems; they'll also investigate their root causes.

This method is more thorough than FMEA in its examination of potential problems and so yields more trustworthy conclusions. If executed properly, it has the potential to help home in on the most serious and likely error scenarios.

In-depth data on each product or process is provided by FMEA, taking into account safety, health risks, environmental impact, and other variables. A catastrophic failure, for example, might cause serious injury or even death to all involved. A marginal risk is one that has a small chance of becoming a major problem.

A critical incident is one that threatens severe damage to a system or human life.

Once the FMECA team has discovered and found the potential failure, they will follow a series of measures to eliminate any other probable causes. Therefore, FMEA is required before this method can be implemented. These processes complement and enhance one another, making it possible to probe more deeply.

6) The Pareto Chart - This popular diagram shows us how 20% of causes can account for 80% of effects.

In order to visualise the relationship between risk factors and outcomes, we will first compile relevant data, then rank risk variables according to the number of defects they cause, and then add up the

impacts on a marginal basis and display the results. Then, we'll learn about the fundamental problems that underlie 80% of risk occurrences.

After doing a thorough risk assessment, we can begin to formulate potential solutions by defining a number of potential avenues of action.

1) Lateral Thinking: - Lateral thinking is a strategy for addressing problems that sidesteps the obvious in favour of a more roundabout and creative strategy. It involves ideas that may be challenging to grasp with the use of only traditional, linear reasoning:-

1) Techniques for coming up with novel thoughts that may be utilised to question conventional wisdom

2) Methods and tools made to expand the range of thought

(3) Tools made to enhance the profit from original ideas

4) Approaches to care that promote thinking about things like availability of resources and social networks as part of the treatment plan.

Brainstorming is a problem-solving technique that combines a relaxed, open mindset with innovative, unconventional ideas. It motivates people to come up with ideas and schemes that, at first glance, seem completely crazy. Some of these ideas may be expanded into fresh strategies for tackling the problem, while others might serve as jumping-off points for more thought. In doing so, it "jolts" people out of their ruts and into a fresh perspective from which they might break free.

As a result, feedback of any kind, including praise, should be avoided during these sessions. You think you can solve the problem if you challenge existing assumptions and consider other

approaches. At this early stage, critical thinking may inhibit creativity and the creation of new ideas. After everyone has had a chance to contribute, it's time to evaluate the merits of the ideas and determine whether or not to pursue them via more traditional means.

c) **Benchmarking:** Using this technique, you can compare your company's performance to that of similar companies to see if there is a performance gap that can be closed by improving your company's performance.

Your company's growth and success may be aided by studying the experiences of similar enterprises.

The Value of Using Benchmarks

a. **Competitive Analysis:** - Examining your competitors' successes and failures and contrasting them with your own can help you and your business find areas for growth. Organisations' strategic use of benchmarking has improved their competitive standing and raised benchmarks across industries.

b. Utilise benchmarking to examine data and anticipate future outcomes in order to keep tabs on progress. In order to track your development over time, periodic benchmarking is essential. The capacity to monitor efficiency is built right in.

Constant Improvements (C) - In addition to monitoring progress, benchmarking also facilitates continuous improvement. This makes sense given that the goal of benchmarking is to identify areas for improvement within an organisation. This adjustment must be done gradually and continuously throughout time, rather than all at once and then forgotten.

Planning and goal-setting: - After benchmarking is finished, goals and metrics for better performance can be set.

These are ambitious new goals with the potential to make the company more competitive, but they must be realistic. If a team sets objectives that are impossible to achieve, they will lose motivation and the chance of success.

In order to get all the information they need, firms should e. Encourage Ownership. ask difficult questions about their procedures and analytics.

It's impossible to get a sense of people's roles in the organisation without talking to them. Asking such questions might help team members feel more accountable for their work and more satisfied with the end product. Employees will feel good about themselves and their contributions to the business. As a result of this pride, production has grown and the quality of the final product has improved.

f. Admit the Good Points About Your Company: - Through benchmarking, your company's existing status is compared to an ideal state. By documenting the steps needed to enhance any process in your company, you can use Benchmarking to take a hard look at how you can grow and succeed.

d) The KJ Methodology (Affinity Schematic). Affinity diagrams are a visual representation of the relationships between different types of data, such as words, phrases, and concepts. Brainstorming sessions often employ the Affinity method to categorise the ideas that are created. To what extent do the

The affinity process? The Affinity approach is a useful technique for dealing with difficult issues. This method can be helpful when a diverse team of people is trying to solve an issue, or when each member of the team has only a partial grasp of the topic at hand.

Steps for KJ Method:-

Step 1 - Generate ideas.

Step 2 - Display ideas.

Step 3 - Sort ideas into groups.

Step 4 - Create header cards.

Step 5 - Draw finished diagram

5) Best solution selection and also check for agility: - After considering many alternatives, one must evaluate the viability and malleability of the selected course of action. One way to find out is to examine the adaptability of the proposed solutions. a. The term "agile supply chain" is commonly used to refer to the use of responsiveness, competence, flexibility, and speed in the management of a supply chain entity's day-to-day operations. The agile supply chain compares actual demand with ongoing operations and real-time data to maximise efficiency and output, as detailed in a paper by Martin Christopher for Industrial Marketing Magazine. The lean supply chain, on the other hand, uses knowledge and data from the past.

The elimination of surplus inventory and the avoidance of shortages are two significant benefits of a flexible supply chain. An unexpected response to the lean mindset was to increase stock levels. Since the lean strategy emphasises streamlining processes, several supply chain companies found themselves with excessive stockpiles. Inability to satisfy demand or underutilised stockpiles have resulted in wasted expenses due to economic changes, shifting customer tastes, and the growing trend of mass customization.

It is now necessary to compare the various expenses that arise from agility in the supply chain to the best possible solutions that take into account the agile factor utilising the lean methodology for resilient supply chains.

Sixth, rules to uphold the most effective solutions: Once the best solutions have been implemented, their efficacy should be assessed by —

1) Conducting FMEA and CCP analyses on the high-Risk Priority Factors again to see if they are having the desired effects.

To 2) assess how effectively the best solution works and to learn about any unforeseen repercussions, we need to put it to the test.

Several types of Control Charts may be used to keep track of performance in real time.

Fourth, we need to always remember that flexibility is key to continuing to see success.

7) To maintain Operational Excellence, keep employing this technique. You should now make it a priority to incorporate this strategy into your company's overarching philosophy. Create a standardised method for handling risks, make sure everyone involved in the supply chain understands how it will work, and enforce it at every level of management. Also, make sure everyone involved in the supply chain can talk to one another about their concerns and how they can help

Conclusion

The benefits of Reverse Logistics are attracting more and more attention from businesses as the movement towards greener supply chain management gathers steam. Some of this is due to legislation, such as requirements to collect used goods for recycling, but much of it is beneficial because it is based on a "source reduction" strategy for materials and packaging, which results in substantial up-front cost savings in exchange for greater investment in the returns and recycling process. Brand value is used by larger, more well-known enterprises all around the world, and these brands benefit from supply chain "greening" as much as any others.

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