Big Data Analytics for Optimising Supply Chains

Get Ready for Industry 4.0's Supply Chain 4.0.

Introduction

The supply chain and logistics will continue to be the backbone of Industry 4.0, and obstructions and disruptions in the flow have the potential to sap its vitality and lessen the advantages of the sector's advancement. In order to transport all the items and information that the industry is producing and to make it possible for the finished product to reach the clients, Supply Chain and Logistics 4.0 is required.

For instance, organisations and corporations will still need to move the identical 3D printers to the location where they will carry out the printing, even if we regard the technology as a new method of production.

There is a chance to transition from the forecasting methods that were previously in use to Big Data and Artificial Intelligence (AI) as data availability increases. Planning, data analysis, and quick response to supply chain changes become "must haves." We can now see into the future and make decisions based on the dynamic simulation of agent and process behaviour by utilising the Big Data analysis and dynamic simulation technologies.

This online course on Big Data Analytics for Supply Chain Optimisation is designed to assist organisations, businesses, and people in transforming their current supply chains into Supply Chain 4.0s so they can remain competitive in the fourth industry revolution.

The following will be covered in this Course N Carry training session on Big Data Analytics for Optimising Supply Chains:

- Which sources of big data are there in logistics and supply chains?
- Techniques for analysing big data and using it to make predictions
- Based on the findings of a big data analysis for a dynamic simulation
- Put equal emphasis on cutting costs and growing market share and profit.
- Enhancing real-time decision-making by predicting occurrences based on intricate behaviour

Objectives

Upon completion of this training programme on Big Data Analytics for Optimising Supply Chains, participants will get the ability to:

- Utilise big data analysis methods and technologies to spot trends in the behaviour of the supply chain.
- Build virtual supply chain models and select the options that will yield the greatest profitability.
- Locate the Big Data sources in their logistics and supply chain, then optimise their use.
- Make a list of the typical behaviours of your customers and look for any potential deviations.
- Make a plan to enhance their supply chain using the personnel and facilities they already have.
- Get ready for the arrival of Industry 4.0's Supply Chain 4.0.

Training Methodology

Using a guided training method, the participants in this Big Data Analytics for Optimising Supply Chains course will be taken through actual instances of Big Data's application in supply chain optimisation. The AnyLogic and AnyLogistix Personal Learning Edition software will be given to the delegates, who will also learn how to utilise it to create models on their own.

Through hands-on exercises, delegates will learn how to locate the Big Data sources within their supply chain, connect the data from these sources with simulation models to obtain the outputs from a supply chain, gain insightful knowledge from these outputs, and apply it to make decisions in real time. There will also be a presentation on the potential benefits of eliminating human judgement from certain aspects of supply chain planning and implementation.

Organizational impacts

The decisions made in the supply chain are becoming more frequent and time-sensitive as big data becomes ingrained in daily life. The companies that are able to shift decision-making from their personnel to artificial intelligence (AI) and empower them to make decisions based on precise forecasts will not only thrive in the competitive world, but also generate significant returns on investment for their stakeholders.

With the help of this training course on Big Data Analytics for Optimising Supply Chains, entities, and organisations may gain:

- Sources of big data inside their own supply chain
- Compatibility with other supply networks
- Dynamic simulation based on real-time cost/benefit analysis and Big Data analytics findings
- Simple and quick short-term forecasting to enable quick decision-making
- Shifting the laborious decision-making process to the realm of artificial intelligence (AI)
- Empowering individuals to make long-term judgements and delegating short-term decision-making to technological means

Personal Imapct

Delegates will comprehend the possibilities of Supply Chain 4.0, gain expertise in Big Data analysis, and learn about the tools and programmes that will enable them to carry out their daily tasks with ease and effectiveness. More precisely, delegates will study:

- The familiarity with Big Data sources in the logistics and supply chain
- An understanding of big data analysis methods
- Programmes available for dynamic modelling and Big Data analysis
- How to choose which judgements should be made by humans and which should be delegated to computers and other systems
- Understand how to use the applications AnyLogic and AnyLogistix.
- How can they integrate their current ERP software with simulation software?

Who should attend?

The supply chain and logistics will continue to be the backbone of Industry 4.0, and obstructions and disruptions in the flow have the potential to sap its vitality and lessen the advantages of the sector's advancement. In order to transport all the items and information that the industry is producing and to make it possible for the finished product to reach the clients, Supply Chain and Logistics 4.0 is required.

For instance, organisations and corporations will still need to move the identical 3D printers to the location where they will carry out the printing, even if we regard the technology as a new method of production.

There is a chance to transition from the forecasting methods that were previously in use to Big Data and Artificial Intelligence (AI) as data availability increases. Planning, data analysis, and quick response to supply chain changes become "must haves." We can now see into the future and make decisions based on the dynamic simulation of agent and process behaviour by utilising the Big Data analysis and dynamic simulation technologies.

This online course on Big Data Analytics for Supply Chain Optimisation is designed to assist organisations, businesses, and people in transforming their current supply chains into Supply Chain 4.0s so they can remain competitive in the fourth industry revolution.

The following will be covered in this Course N Carry training session on Big Data Analytics for Optimising Supply Chains:

- Which sources of big data are there in logistics and supply chains?
- Techniques for analysing big data and using it to make predictions
- Based on the findings of a big data analysis for a dynamic simulation
- Put equal emphasis on cutting costs and growing market share and profit.
- Enhancing real-time decision-making by predicting occurrences based on intricate behaviour

Course Outline

Day 1

The Effects of Industry 4.0 on Supply Chains

- Introduction of Industry 4.0
- Drivers and effects of Industry 4.0
- Logistics and supply chains in Industry 4.0
- Supply Chain 4.0: A Vision for the Future of Logistics

Day 2

Big Data in Logistics & Supply Chain.

- Big Data Logistics and Supply Chain 5Vs
- Volume
- Velocity
- Variety
- Value
- Veracity
- Big Data sources in the logistics and supply chain
- Using data to optimise the supply chain (K-means, Apriori, Aykin, and Babu algorithms)

Day 3

Optimisation of the Supply Chain

- Framework focused on the needs of the client
- Streamlining the sales process
- Distribution optimisation
- Inventory management optimisation

Day 4

Process Optimisation for Manufacturing

- Maximising innovation and product design
- Streamlining the manufacturing process

- Big Data examination of transportation-related operations
- Using developed models as prototypes for the development of new models

Day 5

Combining Current Software with Legacy ERP Software

- The AnyLogic cloud
- AnyLogic and AnyLogistics' compatibility with ERP software systems
- RFID and connection between car tracking systems
- Data extrapolation to expedite calculation and analysis