Big Data Analytics for Supply Chain Optimization

INTRODUCTION

- As the Industry 4.0 appears the lifeblood of it will continue to be the supply chain and logistics, the clogs and interruptions in the flow can choke the life out of it and can reduce the benefits from the industries' improvement. Therefore, the Supply Chain and Logistics 4.0 is needed to carry all the goods and information that the industry is creating and enable the final product to reach the customers.
- For example, even if we consider the 3D printing technology as a new way of manufacturing, entities and companies will still need to transport the same 3D printers to the place where they will perform the printing.
- As the availability of the data grows there is an opportunity to move away from the previously used techniques of forecasting and transfer into the realm of Big Data and Artificial Intelligence (AI). Data analysis, planning and real time reaction to the changes in supply chain become the “must haves”. With the use of the tools available for the Big Data analysis and dynamic simulation we are now able to have a glimpse into the future and make a decision based on the dynamic simulation of agent and process behavior.
- This Big Data Analytics for Supply Chain Optimization training course is there to help institutions, companies and individuals transform their existing supply chain to a Supply Chain 4.0 and be competitive within the fourth industry revolution.

This training course on Big Data Analytics for Supply Chain Optimization will highlight:

- What are the Big Data sources in supply chain and logistics?
- Methods for Big Data analysis and its use for forecasting
- Using a Big Data analysis results for a dynamic simulation basis
- Focus on both increasing of market share and profit as well as cost reduction
- Improving the decision making in real time, by forecasting the events based on complex behavior

OBJECTIVES

At the end of this training course, attendees will learn to:

- Use Big Data analysis tools and techniques to identify patterns in supply chain behavior
- Identify the sources of Big Data in their supply chain and logistics and streamline their use
- Create a customer behavior patterns and recognize possible changes in these patterns
- Plan for the improvement in their supply chain with existing facilities and workforce
- Prepare for the incoming Supply Chain 4.0 as integral part of Industry 4.0

ORGANISATIONAL IMPACT

- As the Big Data becomes the part of our everyday life the decisions within the supply chain become more frequent and time constrained, the organizations that manage to transfer decisions which can be made by the Artificial Intelligence (AI) away from their personnel and enable their people to make the decisions based on the accurate predictions will be the ones that will not only survive in the competitive world but also thrive and create large returns on investment to their stakeholders.

This training course enables organizations and entities to benefit from:

- Big Data sources within their own supply chain
- Interoperability with other supply chains
- Dynamic simulation based on the Big Data analytics results and real time cost / benefit analysis
- Easy and fast short term forecasting for immediate decision making
- Moving the cumbersome decision making to Artificial Intelligence (AI) field
- Enabling people to make long terms decisions while leaving short term decisions to technology

PERSONAL IMPACT

Delegates will realize the potential of Supply Chain 4.0, learn Big Data analysis and acquire the knowledge on the software and solutions that can help them perform their regular jobs easily and efficiently; specifically, delegates will acquire:

- The knowledge of Big Data sources within the supply chain and logistics
- Insight into the Big Data analysis techniques
- Available software for Big Data analysis and dynamic simulation
- The way how to decide which decisions should be made and which left to the machines and systems
- Know how on using AnyLogic and AnyLogistix software
- How to incorporate simulation software with their existing ERP software?

WHO SHOULD ATTEND?

- This training course on Big Data Analytics for Supply Chain Optimization designed for any professionals within industries and entities which are heavily dependent on supply chain and logistics as well as production, mass services, etc.

This training course is suitable to a wide range of professionals within many industries but will greatly benefit:

- Business improvement specialists
- Industry 4.0 pioneers and practitioners
- Supply chain managers
- Operation managers
- Project managers
- Finance managers
- IT managers
- Consultants

Course Outline

Industry 4.0 and Its Impact on Supply Chain

- Industry 4.0 introduction
- Industry 4.0 drivers and impacts
- Supply chain and logistics within the Industry 4.0
- Vision of the Supply Chain 4.0 and the future of logistics

Big Data in Supply Chain and Logistics

- Big Data 5V's in supply chain and logistics
- Volume
- Velocity
- Variety
- Value
- Veracity
- Sources of Big Data within the supply chain and logistics
- Data driven supply chain optimization (K-means, Apriori, Aykin and Babu algorithms)

Supply Chain Optimization

- Framework oriented on customer requirements
- Optimizing the sell operations
- Optimization of distribution
- Optimization of inventory management

Optimization of Manufacturing Process

- Optimizing product design and innovation
- Optimizing the production process
- Big Data analysis of logistics activities
- Using created models as agents for future models creation

Integration of Modern Software with Existing ERP Software

- The AnyLogic cloud
- Interoperability of AnyLogic and AnyLogistics with ERP software platforms
- RFID and vehicle tracking systems connectivity
- Data extrapolation for faster analysis and computation