**Role of Artifical Intelligence in Logistics and Supply Chain**

Artificial Intelligence plays a pivotal role in global logistics and supply chain management. It creates opportunities of cost reduction in demand forecasting, purchase requirement planning, production planning, inventory, packaging, transportation, warehousing, distribution planning, customer services, information services, finance, and marketing/sales and provides competitive advantages over the other competitors. Artificial Intelligence displays huge possibility in the area of making better decisions and in the enhancement of efficiency through its exceptional abilities. There is a significant need for forecasting the sales data with respective to the pattern of sales. Suppose there is a festival season like Diwali, Christmas and Ramzan there will be an increase in the sales due to different seasonal offers, producing a variety of sales patterns, then we must forecast the result accordingly. In the same way for growing trend products, sparsely products there will be a different pattern of sales. To forecast sales of pattern, different algorithms or techniques are needed. But to implement different algorithms for every different pattern is time consuming. So, here we developed a single model which can pass all these different patterns of SKUs data through the system and gives the best forecast accuracy

**EXISTING SYSTEM:**

In the existing system every business need an effective supply chain management system in place for a good number of reasons. For one the software helps to make sure that there is a continuous flow of stock into the business without unnecessary interruptions in the deliveries. This is necessary for ensuring that the production processes do not stop indefinitely, which may affect customer service. The software is also essential for maintaining good relations with your business suppliers, this good faith goes a long in ensuring that they are dedicated to providing you the best service they can. This software could not forecast.

**DISADVANTAGES OF EXISTING SYSTEM:**

* There is a high risk for the companies to run into the risk of turning obsolete in long run as the other companies.
* Implementation of AI solutions is not easy as they are esoteric and difficult to comprehend.
* Displays incorrect decisions as it completely depends on the software.

**Algorithm**: Pattern Matching Procedure

**PROPOSED SYSTEM:**

In the proposed system Supply Chain Management (SCM) which helps demand planners to predict the future forecasts. In this analysis the dataset used is of a USA lighting manufacturing company. These datasets are provided by Analytic Labs Research group of India. In this the most important is the pattern of the sales which is needed to check how actually the sales comes out in the future taking into the sense of the validation and history of the sales over three years. Here the SKUs (Stock Keeping Units) that are used have different patterns, like NPI (New product introduction), which is a new item being introduced into the market which has a less amount of sales history. Their quantity is high as a new product and due to immense marketing strategies involved in the beginning, the sales is high. There are also seasonal products, growing trends products, declining trends products, sparse data product etc. which adds to the variety of the sales pattern of the data.

**ADVANTAGES OF PROPOSED SYSTEM:**

* The Artificial Intelligence helps in digitalizing the logistics companies and their supply chain by bringing about a digital transformation.
* The integration of artificial intelligence with the information system helps in keeping the informational flow rich.
* Systems based on rules could help in outsourcing of logistics and in the decisions involved in making of contracts.

**Algorithm**: Auto Regressive Moving average (ARMA)

**SYSTEM REQUIREMENTS:**

**HARDWARE REQUIREMENTS:**

* System : Intel Core i5.
* Hard Disk : 1 TB.
* Monitor : 15’’ LED
* Input Devices : Keyboard, Mouse
* Ram : 16 GB.

**SOFTWARE REQUIREMENTS:**

* Operating system : Windows 10.
* Coding Language : Python
* Tool : PyCharm, Visual Studio Code
* Database : SQLite

**REFERENCE:**

Dr. K.Niranjan, Dr. K.Surya Narayana, Mr. M.V.A.L. Narasimha Rao, Marri Laxman Reddy Institute of Technology and Management Hyderabad, India, " **Role of Artifical Intelligence in Logistics and Supply Chain**" 2021 International Conference on Computer Communication and Informatics. DOI: 10.1109/ICCCI50826.2021.9402625, INSPEC Accession Number: 20632068, Date Added to IEEE Xplore: 21 April 2021,Electronic ISBN:978-1-7281-5875-4