Using AI in Demand forecasting

For Auto Aftermarket

RevUP leverages the AI capabilities to provide improved granular visibility, better channel promotion and increased engagement with influencers.

Introduction

Demand Forecasting has received considerable attention in the Auto Component Industry for many component manufacturers. Many spare parts manufacturers carry spare part stocks in the form of inventory to minimize downtime risks and ensure availability. Demand forecasting through predictive analytics helps in optimizing decisions regarding the supply chain by forecasting customer demand. There are two types of demand forecasting: Qualitative and Quantitative demand forecasting. While the former is based on the opinion of a Subject matter expert, the latter is basedon the use of data that the company has collected. Companies are generally using historical data with traditional demand forecasting techniques.

According to McKinsey, with the introduction of AI/ML techniques advances in forecasting have been seen and organizations which have implemented AI/ML in their forecasting techniques have seen an improvement in forecasting accuracy by 10-20% which translated into 5% reduction in inventory costs and 2-3% increase in revenue.

We see that traditional demand forecasting is being used by many Auto Component Manufacturers and many companies are slowly adapting to AI/ML-based forecasting toimprove their business. However, we see that both of them have their own challenges Here we highlight the challenges of both and how Digilytics can address the same.

Challenges in Traditional Demand Forecasting

Traditional Demand Forecasting is riddled with its own challenges. Some of these are given below:

- **Variability:** The spare parts mostly tend to exhibit variability with erratic, lumpy and intermittent patterns of zero-demands for long periods which makes Traditional Forecasting a challenge for many Auto Component Manufacturers due to limitations in the visibility of a pattern in demand.

- **Methods:** Traditional methods such as time-series, exponential smoothing or moving averages face challenges in providing accurate estimates for such demand patterns since they place high reliance on the most recent data points. Also, a lot of these methods are rule-based and reach their limits when the number of variables influencing demand increases.

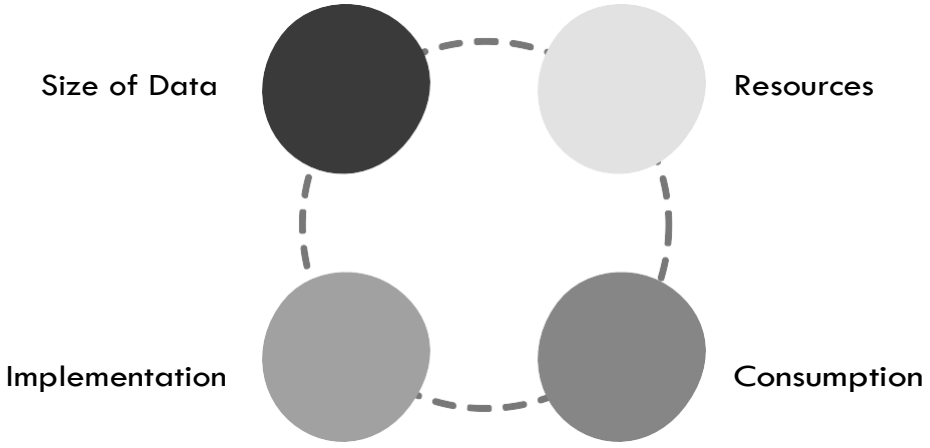
- **External Data:** A lot of traditional methods don't consider external data sources which could be important for forecasting of spares. These companies are solely relying on their historical data for forecasting which becomes a challenge. For example, external factors like monsoon, harvesting and also the vehicle parc of the country are very important in determining the correct forecast of spares. The company has ideas on these factors but is unable to take any quantitative action on the same.

- **Data Format:** Apart from structured data, some companies are acquiring the data in an unstructured format and from internal and external resources which makes it hard for traditional forecasting methods to consider. Also, the companies find it hard to integrate external data with their internal systems thus limiting their Forecasting ability.

  The traditional demand forecasts tend to drop to their lowest level right before a demand occurs and shoot up to their highest level immediately after.

These challenges in traditional demand forecasting result in the company facing the challenge of maintaining the right balance between inventory holding cost and equipment downtime cost and making the right product available at the right place.

Challenges to adopting AI/ML-based Demand Forecasting



Many companies find it hard to adapt to AI/ML-based Forecasting even if they have shown interest in the same. This is because companies face challenges at many levelswhile implementing AI/ML-based Demand Forecasting. These are highlighted as follows:

Size of Data: The first challenge which arises for the Auto component companies is that they may not have enough data for doing AI/ML-based forecasting. This could be because they started late with their data capturing by the late implementation of the ERP system. Many organizations in the Auto Component are starting to implement SAPs or custom ERP in their organizations which would delay the adoption of AI.

Resources: Many organizations don't have data science resources and the cost of building a data science team which would build data pipelines and build in-house models to give recurring Forecasting results will be very high for the organizations. Dueto this companies generally delay implementing AI models.

Implementing AI/ML-based system: Some organizations may lack the requisite IT skills to implement an AI/ML-based system. This increases the cost, as well as effort for thesecompanies as the vendors, charge the cost of implementing AI/ML-based systems separately from the Model building. Our interaction with industry experts leads us tothe conclusion that IT skills generally tend to drastically dip as we move from Tier 1 companies to Tier 2 and Tier 3's.

Consumption of AI/ML model-based insights into decision making: The other challenge for the companies is the consumption of the business data, as well as AI/ML-based, forecasted data by the stakeholders of the organization. This arises in the form of a gapbetween the business and the data scientists in terms of the interpretation of the insights by the AI/ML model and making decisions out of the same.

Addressing the challenges of demand forecasting through RevUP

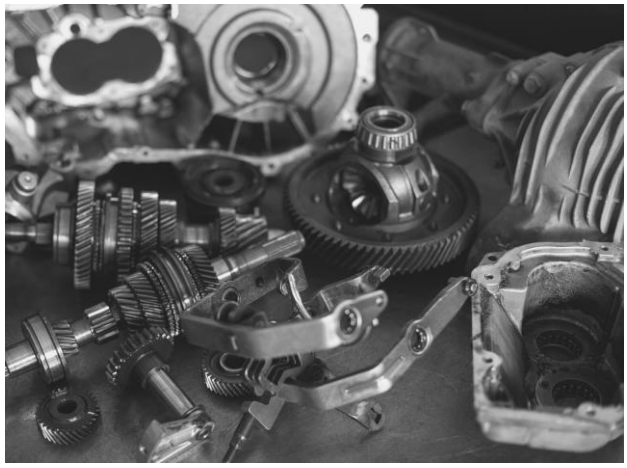
RevUP by Digilytics provides easy-to-use AI/ML-based forecasting models for Revenue Growth Management in the Auto Aftermarket Industry.

Digilytics RevUP provides the following:

Model management: Digilytics RevUP provides an AI/ML-based model and its management through the setting up of a robust data pipeline with a team of data science experts with faster implementation time and recurring Forecasting results forthe client.

Easy consumption of model: Digilytics RevUP provides an easy-to-consume AI/ML- based demand forecasting model for various stakeholders of the client through visualizations via dashboards, robust reporting through client systems as well asinstant messaging platforms.

Auto Aftermarket specific Focus: Digilytics product RevUP has built-in knowledge of the Auto Industry as a lot of inputs from Auto Industry Experts have gone into it. Combined with data science and our experience implementing solutions for the use cases specific to the Auto Aftermarket client for Revenue Growth Management, this takes RevUP to a sweet spot regarding demand forecasting for Auto clients. Also, the insights provided by RevUP in the AI/ML models are specific to Revenue Growth in the Auto industry which makes it easy for the Auto Industry Stakeholders to understand.



Right Data Strategy: RevUP by Digilyticshas a well-architected solution where data follows through a well-defined pattern of creation, ingestion, and storage in the right format and consumption layer. Also, RevUP ingests external data like Vehicle Parc and climate from various sources which may want to be used by Auto Component manufacturers for theirdemand forecasting exercise.

SCAN to know more on REVUP

Accuracy: RevUP by Digilytics uses deep neural networks and traditional statistical methods for Forecasting. It takes into account Historical as well as External data to provide recurring and efficient Forecasts to the client through its algorithms.

About Digilytics AI

At Digilytics™, we aim to drive business value by leveraging our platform. In an ever- crowded world of clever technology solutions looking for a problem to solve, our solutions start with a keen understanding of what creates and what destroys value in your business. Founded in 2014, by Arindom Basu, the leadership of Digilytics™ is deeply rooted in leveraging disruptive technology to drive profitable business growth. With over 50 years of combined experience in technology-enabled change, the Digilytics™ leadership is focused on building a values-first firm that will stand the test of time. The leadership strongly believes in the ethos of enabling intelligence across the organization. Digilytics™ is headquartered in London, with a presence across India.

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