*“Machine intelligence is the last invention that humanity will ever need to make.” – Nick Bostrom*

Data analysis can be challenging sometime, knowing that it involves complex information and larger data sets which may be difficult to manage manually. This is where machine learning comes into play.

It is changing the way consumer-based companies are dealing with the larger data that they generate

It is based on Artificial Intelligence (AI) on the idea that systems can automatically learn from given data, identify patterns and make decisions with some human interference involve in it, and is useful for automate analytical model building.

Machine learning reduces efforts, reduces time and is a cost-effective tool which replaces time of group of people in a team working on analysing, processing and performing regression testing on the data. It gives accurate results most of the time and helps organisations build statistical models based on real-time data.

**Forms of Data Analysis**

Organisations collect a large set of data for fulfilling their business goals. According to the Data Dilemma Report, 12.5% of staff time is lost in data collection. That’s five hours a week in a 40-hour workweek.

There are different ways of how data could be analysed, used and implemented in the form to make effective business models that would help in scaling the organisation.

There are broadly three different ways of how data can be analysed and used by an enterprise:

**Descriptive analytics – Insight into the past**

It is the most primary stage of data processing that records a summary of past data to yield useful information that might be useful for future insight. It informs organisations about “What has happened earlier” and how they can learn from their past actions to make better decisions in the future.

**Predictive analytics – Understanding the future**

Predictive analytics is a trending strategy that helps companies scale, increase lead generation, enhance sales, boost engagement and drive higher ROI (Return on Investment). It uses different statistical modelling and machine learning algorithms to analyse past data and predict future.

**Prescriptive analytics – Solutions on Possible Outcomes**

[Prescriptive analytics is a relatively new form of data analysis which uses a combination of machine learning, computational modelling and business rules to recommend the best course of action for any possible pre-defined outcome](https://www.martechvibe.com/insights/staff-articles/implementing-machine-learning-for-data-analysis/). It uses algorithms as optimisation and simulation to guide organisations towards a safer path by suggesting useful solutions.

**Companies Transforming How Machine Learning is Used**

Analytics has been changing the way business models work; it is transforming marketing strategies, sales plans, customer acquisition methods and revenue models as well. With companies turn up in deeper in large data sets to increase efficiency, be more competitive and boost sales, modifying data analysis to their benefit.

That’s why companies are focusing on Machine learning algorithms through which they can enhance a comprehensive analytics strategy to achieve more of business goals. It is essential to learn how ML can affect your business and can improve it in ways conventional methods could not do more easily.

According to [Forbes](https://www.forbes.com/sites/louiscolumbus/2017/07/09/mckinseys-state-of-machine-learning-and-ai-2017/#1bb8b6ae75b6), Amazon uses machine learning for its same-day shipping processes, and their current ML algorithm has reduced the ‘click-to-ship’ time by 225%.

Here are some examples of smart implementation, insights from experts, and business use cases to give you a fair idea of how you can use machine learning to benefit your organisation:

* In its inner content management system, HubSpot utilises Kemvi’s DeepGraph machine learning and natural language processing technology to define trigger events, pitch prospective clients better and serve current customers.
* Pinterest acquired a machine learning company, Kosei, which specialises in commercial applications of machine learning. It now uses the technology in almost all its business operations, including content delivery, advertising monetisation, churn reduction and spam moderation.
* Twitter utilises machine learning technology and AI to assess and rank tweets in real-time using different metrics to show tweets that have the potential to drive the most engagement.
* Machine learning with software such as IBM Streams and DataTorrent enables companies to uncover anomalies so that they can take immediate action to analyse fraud or obtain greater understanding into online behaviour.
* According to [Business Insider](https://www.businessinsider.com/googles-automl-replicates-itself-artificial-intelligence-2017-10?IR=T), Google’s AI, AutoML, which helps the company build other AIs for new projects learnt to replicate itself in October 2017.

**Benefits of Using Machine Learning for Data Analysis**

Some of the major benefits of using ML for data analysis are:

* **Reducing Customer Churn**
* **Detects Fraudulent Transactions**
* **Customer Acquisition**
* **Customer Experience**