# What fields is Data Analytics applied to?

If we were to write down all of the industries in which data analytics is applied to, we would not have enough paper to do it. Almost every industry nowadays uses it. Many businesses use it to make informed decisions, manufacturers use it to look at sales data to analyse which designs to retire and which to keep, administrators may use it to look at inventory data to check what they need to order.

All of these applications improve the efficiency of workers and the accuracy of what they produce, as well as saving money and other resources. These can give a huge advantage in the market for small companies. (*Data Analytics*, no date)

# How is it applied?

There are four main types of data analysis techniques, which are descriptive, diagnostic, predictive and prescriptive. (*Data Analytics: What It Is, How It’s Used, and 4 Basic Techniques*, no date)

Descriptive analysis is used to understand what has happened in the past and why it happened. Some examples of this would be sale performance, fraud detection and product demand forecasts.

Diagnostic analysis ask why things happened, investigates what events lead to an event and answers why that event occurred. This is very useful when we want to prevent something from happening again.

Predictive analysis is used to predict what will happen in the future, and it uses existing data to achieve just this. This is very wise and past behaviour can be used to generate a good guess regarding what would happen under different circumstances. Some examples include customer pricing or retail sales forecasting.

Prescriptive analysis is predictive analysis taken further, made to design actions to take in the future based on past data and trends. It is very useful when we are tyring to optimise resources or look for new business opportunities. Some examples include launching a new product line or send a targeted ad to particular customers.

These four ways to apply data analytics are very useful in a lot of industries and purposes and is used by many companies nowadays. It is a critical part of business success. It also helps tremendously in improving efficiency by identifying weaknesses in their business models. Making better decisions is one of the most popular uses, understanding what has happened in the past and what can happen in the future can give a huge advantage to businesses. (‘Data Analytics in Business: A Complete Overview - Caltech’, 2024)

In the area of business management it is also crucial to perform data analytics. Some examples are to gain customer insights. gain competitive advantage and make informed decisions. The following are some examples of how it is used (*Data Analytics: What It Is, How It’s Used, and 4 Basic Techniques*, no date; *Data Analytics*, no date)

In customer service it follows some critical tasks :

* Providing customers with personalised content and precisely customised recommendations
* Identifying common complaints from customers about certain items or services
* Provide self-service options to reduce support costs.
* Improve issue resolution by understanding customer history and needs.
* Predicting future client purchases - Automating payment and fraud detection processes.

For marketing and sales the following are used:

* Evaluating advertising and marketing campaigns
* Choosing the best product combination for a customer
* Obtaining the best price for a product or bundle
* Identifying customers who are most likely to respond to an offer
* Discovering new markets for existing goods and services

For healthcare the following are used:

* Forecasting patient admissions to ensure optimum resource allocation.
* Predicting disease outbreaks using demographic and environmental data.
* Helping physicians make diagnosis and treatment decisions by assessing patient data and recommending best practices.
* Alerting to probable hazardous medication interactions or allergies.
* Identifying high-risk patient populations and initiating preventive interventions.
* Tracking health patterns and outcomes across communities to help shape public health strategies.
* Improving hospital operations and resource utilisation by analysing patient flows and anticipating demand

# Sources

*Data Analytics* (no date) *Corporate Finance Institute*. Available at: https://corporatefinanceinstitute.com/resources/data-science/data-analytics/ (Accessed: 4 March 2024).

‘Data Analytics in Business: A Complete Overview - Caltech’ (2024), 27 February. Available at: https://pg-p.ctme.caltech.edu/blog/data-analytics/data-analytics-in-business (Accessed: 4 March 2024).

*Data Analytics: What It Is, How It’s Used, and 4 Basic Techniques* (no date) *Investopedia*. Available at: https://www.investopedia.com/terms/d/data-analytics.asp (Accessed: 4 March 2024).