

Data analytics and the changing face of industries

By [Jacobus Eksteen](#)

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The days of being transported in self-driving cars and having our phones suggest what we ought to eat for lunch are upon us: this is the age of big data, artificial intelligence and machine learning. Never before have industries had the power to use information to enhance their products and services as they do today.

Since the rise of big data, analytics has become a powerful tool which is used by companies across industries to understand what to do, when to do it, and how to do it in order to enhance efficiency, minimise cost, and maximise profitability.



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Recent years have seen greater availability of highly sophisticated software packages and algorithms, an increase in processing power, as well as a decrease in processing cost. As a result, analysts, businesses, and industries, on the whole, have become ever-more empowered given that more data can be processed and stronger models can be built in shorter periods of time.

Statistical modelling – a facet of data analytics which is rooted in mathematics and deals with finding relationships between variables to predict an outcome – is commonly used in financial services companies and consumer-facing businesses as they are required to make a high number of decisions within limited time periods, and these are relatively easy to standardise.

Within the credit industry, analytics has enabled credit providers to make informed decisions on the creditworthiness of prospective borrowers within split seconds. Calculations and decisions are increasingly being made in the ‘cloud’ and analytics aren't only being used to predict repayment and response behaviour but also to understand customer behaviour, fraud and brand affiliation; to do benchmarking, profit and provision modelling and to optimise call centres.

The power of machine learning

Given the evolution of data generation, storage and analysis coupled with the introduction of cloud computing, the realm of data analysis has expanded and machine learning is now equipping a variety of industries where a great amount of data is generated to make quicker and better decisions. Machine learning is an evolutionary by-product of artificial intelligence and computer science which has enabled computers to “learn” without being explicitly programmed to perform certain

tasks.

A number of articles describing how the implementation of machine learning is shaping industries have been published in the past few months. One, in particular, indicates how disease assessment, diagnostics and treatment plans are being enhanced via machine learning. This technology also allows the monitoring and prediction of epidemic outbreaks based on satellite data, web information and social media updates, among other sources.¹

Another focusses on machine learning in the aerospace industry and how this may become be applied in the form of “data-driven adaptive training” to optimise the time taken for each trainee to become a proficient, thus meeting the need to increase the global training capacity of pilots without jeopardising flight safety.²

Need to equip

In essence, machine learning automates repetitive tasks thus allowing employees the leeway to challenge themselves to a larger extent. Of course, it's not likely that machines will “take over the world” as some may fear, but a focus on equipping oneself and growing one's skillsets may be necessary in the near future to avoid the risk of unemployment or redundancy in the workplace.

Indeed, some job roles won't exist in ten years' time, but there are also jobs now that didn't exist ten years ago. In fact, technologies such as machine learning have opened up new doors for employment opportunities and have drastically changed the way business is done.

Merely a tool

It must further be said that machine learning is merely a tool: one of many that needs to be understood and used properly.

Nonetheless, the powerful combination of machine learning and human learning, the rapidly changing world of analytics and the resultant opportunities and efficiencies within various industries is tremendously exciting.

[1] [Techemergence](#)

[2] [Cognitionx](#)

ABOUT THE AUTHOR

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