

Adding AI to retail boosts personalised offerings

 By [Bradley Elliott](#)

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The retail space is changing drastically through the evolution of technology, such as artificial intelligence (AI), which can offer retailers better control over stock flows and better customer service. This technology, and in particular machine learning, can step in to help retailers cater to the needs of their customers in smarter ways.



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Retail goods, even the most niche products, are becoming more and more commoditised and price parity means retailers have to look continuously for more innovative ways to keep customers loyal.

A high-end jewellery retailer, a sporting goods store and a grocer all have very different target markets and their customer's behaviour patterns are very different, but the beauty of machine learning, an emerging technology, is that it quickly adapts to any type of environment.

What is machine learning?

Machine learning is a form of AI that allows computers to learn without being programmed. Machine learning is still a relatively new technology that has only started gaining practical implementation over the past two years.

Historically, it was difficult to get value out of such huge data sets at scale due to its complexity and the isolated way in which the data was stored. One data set could not be extensively analysed or processed with another.

The amount of data that retailers have on their clients is vast, however, they are only currently using this data in a very basic way. By applying machine learning in a retail environment, it will allow computers to seek patterns in data and learn from it using supervised algorithms (or mathematical formulas used in computer processes and procedures).

The use of algorithms allows this data to be analysed on a vast scale and helps retailers identify and learn from it on an ongoing basis, while providing analytical insights too. This is critical in sectors with high stock turnover such as food and clothing, something that would have been an almost impossible task to do without algorithms and AI.

Machine learning allows retailers to implement highly targeted and personalised customer strategies, such as tailoring offers based on previous purchases, or implementing loyalty and rewards based on customer preference.

Data dictates operation size

It is easier for a smaller retailer to get a good idea of stock movements; hence, the need for a sophisticated AI solution might not be necessary. However, machine learning comes into its own in enterprise level clients with large and complex data sets.

With machine learning, there is no such thing as too much data, but it is easy to have poor quality data. Without good quality data, machine learning will produce biased and incorrect analytics. In addition, data needs to be current. The risk with old data is that it does not consider people's behaviour in real-time.

Data storage and computing power required to analyse data is expensive. The more data stored, the more expensive it becomes to manage manually.

Human touch still needed

Automation is useful for some 'soft' interactions, but human intervention is necessary for hard interactions, such as the implementation of making offers to customers.

Humans are still human, and computers lack a level of deeper emotional reference and socialisation. Therefore, while computers might make advanced recommendations, the actual communication should have a level of human intervention.

Reducing food wastage

According to [UN statistics](#), 1.3 billion tonnes of fresh food is lost or wasted worldwide every year. This amounts to a third of all food produced for human consumption. In many cases, the food is still within the suggested 'sell-by' and 'best-by' dates, but is thrown away by retailers under competitive pressure to keep shelves stocked and continuously offer the freshest or newest products.

In addition, food wastage is directly linked to water, land, energy, capital and labour waste. The amount of food [wasted in the developed world](#) amounts to the total amount of food produced in sub-Saharan Africa.

While it is yet to be seen how machine learning can reduce food and energy wastage, it is able to provide valuable insights into consumer (and employee) behaviour patterns that will lead to better management of valuable resources through improved data analysis.

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