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DATA SCIENCE USE CASES: RETAIL

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The retail industry has long recognised the value of data when it comes to understanding their customer base, and the use of business intelligence tools to report on activity is common in most retail companies.

Data science helps take this business intelligence approach one step further. It provides retailers with actionable insights that not only help drive sales but also help reduce waste, improve buying accuracy and enhance the customer experience both in-store and online.

Below we take a look at five use cases where data science can be applied in the retail sector.

1. Recommendation engines

Unlike in-store purchases where a sales assistant can help drive additional purchases, in order to maximise the revenue opportunity from online consumers, retailers need to find a way to sell to these remote shoppers. This is where recommendation engines come in.

A recommendation engine is a system that uses AI & machine learning to recognise, learn and filter information from a user's online purchases. By identifying trends, retailers are able to provide recommendations and increase their sales and hence their revenues.

Recommendation engines can be based on user preferences, individual products or a hybrid of both options.

2. Single source of truth

Retailers collect information on their customers from numerous different sources. However, if these sources of information are not accurately merged then the view of a company's customer base will not be accurate which can lead to over stocking, poor marketing accuracy, customer disappointment and ultimately loss of revenue.

By creating a centralised single source of truth of their customers, retailers can deploy predictive analytics to identify purchasing trends and personalise their marketing campaigns to reflect customer requirements.

This in turn enhances the perception of the company and if linked to their warehouse management systems (WMS), can greatly improve decisions in the areas of purchasing and logistics.

3. Customer sentiment analysis

Traditionally, if retailers wanted to gain insight into a particular product or event they would use focus groups and customer polls to analyse the customer experience.

This method could be costly and time consuming to set up but not so with data science. By using sentiment analysis, retailers can now quickly decipher information provided by their customers either from social media or at point of online purchase.

These sources are readily available, free of cost and dramatically reduce the amount of time required to gain insights to a product's performance. This in turn allows retailers to provide a better service to their customer which again, enhances the customer experience.

4. Inventory management and demand forecasting

Inventory management and demand forecasting is critical to the success of a retail operation because if they get it wrong, they face loss of revenue, brand erosion, disappointed customers and reputational damage. Retailers need to predict how much of a specific product or service customers want to purchase during a certain time period.

This forecasting helps them to purchase and stock goods in advance and sell them when required. Retailers can utilise various data analysis platforms and machine learning algorithms to identify and detect patterns from sales trends and use them in correlation with their supply chains in order to create the optimal stock and logistic strategies.

5. Customer lifetime value prediction

Customer Lifetime Value (CLV) is the total profit that a customer can bring to a company over the entire customer-business relationship.

This is calculated by taking the customer's previous purchases, gaps between purchases and the number of repeat orders and extrapolating this information over the expected period of the relationship. Data science provides statistical methodologies and machine learning algorithms to help retailers understand their customers spending potential and maximise this by providing additional services and products.

In conclusion...

Data science is a rapidly growing function that is becoming more and more in demand as organisations start to realise and reap the rewards it brings.

Retail data collection is growing in volume, variety, and value every year. The smart retailers are using data science to turn insights into profitable margins by developing data-driven plans and strategies that straddle the length and breadth of their businesses.

By improving the customer experience both in-store and online, retailers can predictably increase their sales, reduce waste and increase their revenue. Data science is without doubt, here to stay in the retail world!

We have the expertise and knowledge to guide businesses on this new data journey to help make better sense of their data. Digital data transformation is now at the forefront of making critical business decisions easier for retailers.



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NEXT STEPS

If you want to find out how we can help you harness the power of data science contact us on:

 **0344 863 3000**

Or if you're an existing customer, get in touch with your account manager directly.