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# DATA SCIENCE USE CASES: FINANCE

Delivering innovative  
solutions to exploit the  
power of data science.

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## For decades, financial institutions have long understood the value of data and use this information to deliver critical insight into the running of their businesses.

In recent years, the advance of data science techniques such as machine learning and Artificial Intelligence (AI) means that companies can now deploy solutions that greatly enhance the value of their data.

Turning data into knowledge drives strategies that can improve the speed and accuracy of the core day to day functionality and deliver key analytical insights which help to predict the future nature of the business.

**There are numerous use cases for data science in finance; below we have highlighted five that we believe will be pertinent to many businesses in the finance sector.**

### 1. Automating risk management

Risk management is an enormously important area for financial institutions as it covers responsibility for a company's security, trustworthiness, and strategic decisions.

Risks come in many shapes and sizes – from investors to customers, however, all of them can lead to potential losses on the bottom line. The main steps in risk management are identifying, prioritising, and monitoring risks, which are the perfect tasks for machine learning.

Utilising the huge amount of customer data, financial lending, and insurance results, machine learning can not only improve the risk scoring models but also enhance cost efficiency.

AI is one of the most important techniques in risk management. AI provides the ability to identify the creditworthiness of potential customers and to set the appropriate credit amount for a particular customer.

This is particularly useful when dealing with new customers and those with a brief or affected credit history.

### 2. Managing customer data

Financial firms generate huge amounts of customer information – from mobile interactions and social media activity to online transaction details. Working with these diverse data sources provides a unique challenge when processing this information as most of it will be semi or unstructured data. Efficient management of the data is therefore key to accuracy and KPI reporting.

Data science techniques such as neuro-linguistic programming (NLP), data mining, sentiment analysis and text analytics help structure the data that ultimately leads to better governance, improved processes, near real-time accuracy and automated report generation.

### 3. Predictive analysis

Predictive analytics is now at the core of financial services. Predictive analytics reveals patterns in data that foresee future trends and allows companies to act on them straight away.

Ultimately this helps a finance company accurately forecast events such as stock market fluctuations and customer churn, but also helps them when setting prices and understanding customer lifetime value.

### 4. Fraud detection

Security is top of the list for most financial companies – both for themselves and for their customers. Anomaly detection is key to identifying unusual patterns of behaviour, whether it is unusual spending patterns from customers or unusual trading patterns on the stock market.

Anomaly detection will automatically identify these patterns and alert staff so they can investigate alerts and contact the parties involved for further investigation.

The great thing about anomaly detection is its ability to self-learn, which means it becomes more effective over time and therefore can keep pace with the new tricks the would-be fraudsters introduce.

### 5. Personalisation and customisation

Most companies realise that their customers are key to their success and this is no different in the financial sector.

The ability to understand your customers' requirements and offer the appropriate product and advice at the right time is invaluable and greatly enhances the relationship with them.

Predictive analytics and sentiment analysis can help to understand a customer's behaviour and will allow you to respond accurately to your customers' preferences.

#### In conclusion...

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

Data science provides a huge opportunity for financial institutions to stand out from the competition and reinvent their business.

The vast amounts of continuously changing financial data creates an ideal platform for engaging machine learning and AI tools into all areas of their respective business.

At Daisy, we have the expertise and knowledge to guide businesses on this new data journey to help make better sense of your data.

Digital data transformation is now at the forefront of making critical business decisions easier for finance companies.



## **NEXT STEPS**

If you want to find out how Daisy 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.**