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5 STEPS TO HARNESSING THE POWER OF DATA SCIENCE:
MANUFACTURING

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The manufacturing industry is undergoing a huge transformation largely being driven by digital transformation and Internet of Things (IoT).

Leading manufacturers can now ingest and integrate vast volumes of data that allow them to improve their production output, reduce costs, improve safety and optimise their supply chain operations.

Below we take a look at key data science use cases that can be implemented by the manufacturing industry.

1. Preventive maintenance and fault prediction

The introduction of IoT in manufacturing systems has amalgamated hardware and software with the internet and can deliver vast amounts of data that manufacturing companies can utilise via analytical platforms to predict when machinery will require maintenance and repairs.

In order to get at the data, companies will need to ingest the IoT data and engineer it into a structured format that can be accessed to provide alerting and reporting on various elements within their manufacturing process.

This then provides obvious benefits of being able to monitor machinery and schedule maintenance before the equipment fails thus preventing hours of outage time and saving the company thousands of pounds in equipment downtime.

2. Price optimisation

Due to the complex nature of most manufacturing processes, numerous factors have to be taken into account when determining the cost of a product.

The ability for data science applications to be able to aggregate multiple data sources into a single platform allows companies to use predictive analytics to understand the end-to-end costs of a product and set the price accordingly.

The predictive element is critical to the success of price

optimisation as it can be used to look at market trends that will help set the price based on current conditions but can also help keep the price competitive and profitable in the future.

3. Supply chain optimisation

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4. Product design and development

Product design, development and customer validation are areas where data science can be deployed to help define the final deliverable product.

By analysing previous products, deploying sentiment analysis tools on customer reviews of existing products and understanding the future requirements of their customers, companies can shorten the design process and ultimately go to market quicker.

The above techniques can also be used to improve existing products thus enhancing the relationship with their customer base.

5. Inventory management and demand forecasting

Inventory management and demand forecasting go hand in hand, get one wrong and you get both wrong. Demand forecasting utilises data insights from the inventory management platform to predict future stock and supply

and cost factors. Using centralised data platforms and predictive analytics, companies can streamline their buying processes and maximise the efficiency of their stock holding which will ultimately result in higher profits for the business.

Accurate inventory management and demand forecasting also helps maintain a better supplier-manufacturer relationship as both parties can regulate their activities more efficiently.

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.

Although we have highlighted five data science use cases for manufacturing, there are numerous scenarios where it can be applied that will benefit all different types of manufacturing businesses.

With costs and availability being core to the successful delivery of product, companies that utilise data science techniques at the heart of their production and supply chains will ultimately become more efficient and more cost effective, driving up revenues, streamlining their processes and enhancing their standing with both their employees and customers alike.

At Daisy 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 more easily business.

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.