

E-BOOK

Advanced Sales Forecasting with Artificial Intelligence

**Do with AI what your human sales can't do
with their classic tools: look into the future!**

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AI versus BI: Differences and Similarities

	BI	AI
Concept	Collecting and presenting data in a simple, readable way.	Mimicking human intelligence and behaviour to support organizations with data-driven decision-making.
Focus	Answering questions about past performance.	Making predictions about the future based on data from the past.
Techniques used	Traditional statistical approaches and large amounts of spreadsheet-based data.	Advanced Machine Learning and Deep Learning algorithms.
How it helps businesses	Data visualization and comprehensive overviews of historical data.	Predictions about customers, competitive positions and market changes, in addition to added intelligence in machines (e.g. for image recognition).
Key terms	Reporting, data warehousing, matrices, dashboards.	Predictive analysis, forecasting, natural language processing (NLP), image recognition.

The terms AI and BI are often used interchangeably, but they actually represent two different approaches to data analysis.

Business Intelligence (BI) is a process that collects, analyses and presents data to support business decisions. BI systems operate on structured data and use traditional analytical methods to provide answers to specific questions. BI focuses mainly on the past and present, using historical data to identify trends and make predictions.

Artificial Intelligence (AI) on the other hand, aims to create systems that can learn on their own and perform tasks without human intervention. AI covers a wide range of technologies, including machine learning, deep learning and natural language processing. The goal of AI is to make machines intelligent and enable them to solve complex problems.

The main similarity between AI and BI is that **both focus on data analysis and decision-making**. However, the difference lies in how the analysis is carried out. BI is mainly focused on answering specific questions and identifying trends in historical data. AI, on the other hand, focuses on **learning from data** to make predictions and perform tasks.

Another difference between AI and BI is **the degree of human intervention**. BI usually requires human intervention to ask questions and interpret the analysis. AI, on the other hand, can autonomously perform tasks and make decisions without human intervention.

In conclusion, AI and BI have different approaches to data analysis. BI focuses on answering specific questions and identifying trends in historical data, while AI aims to create machines that can learn on their own and solve complex problems. However, both approaches can be complementary and used together to support better decision-making.

Definition of Sales Forecasting

Sales Forecasting is the process by which companies forecast **future sales volumes, revenue and customer demand** based on historical data, market trends, seasonal influences and other relevant factors. It is an essential part of any business as it helps them plan and manage their business operations efficiently.

By creating accurate sales forecasts, companies can also better manage their cash flow and predict their financial performance. Sales forecasting involves various methods and techniques, including statistical modelling, trend analysis and machine learning algorithms.

The importance of Sales Forecasting

Sales forecasting is a crucial process for **any company that wants to remain competitive and profitable**. This is because it enables companies to understand their future performance, allowing them to take concrete actions proactively. Sales forecasting therefore allows them to plan and manage their business activities more efficiently, such as planning production activities, managing inventory and adjusting marketing strategies to boost sales.

Thus, by creating accurate sales forecasts, companies can also better manage their cash flow and predict their financial performance. This allows them to anticipate future revenues and expenses and, with this knowledge in mind, adjust their budgets and investment decisions.

Accuracy of Forecasting Methods



Lowest

Gut-Feel

Bottoms-up, reps essentially guess how future performance "feels."



Low

Almanac

Using historical sales data to predict future growth.



Medium

Funnel

Analyzing your win-rate, cycle, and pipeline coverage to project numbers.



**Medium
-High**

Portfolio

Combines bottoms-up with leadership's expertise as input.



High

Multivariate Regression

Statistical method of forecasting.



Very High

AI/ML

Combine Almanac, Funnel, Portfolio, and Multivariate within an AI/ML model.

The evolution of Sales Forecasting: from traditional methods to AI

Traditional sales forecasting methods, such as statistical modelling and trend analysis in programmes like Excel and BI tools, are often based on historical data. This does not take changes in market conditions or customer demand into account. The result is a forecast that is not always accurate and does not take the current situation into account.

However, recent developments in AI (Artificial Intelligence) and machine learning have made **new and advanced methods available for sales forecasting**. These include predictive modelling and deep learning algorithms, which can analyse large amounts of data and detect patterns that are difficult to detect with traditional methods. With AI-powered sales forecasting, companies can improve their predictions and make them more accurate. This helps them better anticipate future changes in the market and evolving customer needs.

In short, by using AI-powered sales forecasting, companies can differentiate themselves from traditional methods and gain a competitive advantage.

2. AI in Sales Forecasting

What is Artificial Intelligence?

Artificial Intelligence (AI) refers to machines and computer systems capable of mimicking human-like intelligence. It includes several technologies, including machine learning, deep learning, natural language processing and computer vision.

But AI systems are also capable of learning and improving themselves by recognising patterns in large amounts of data. AI systems are used in various applications, including self-driving cars, medical diagnosis, fraud prevention and many more.



Machine Learning: Supervised and Unsupervised Learning

Machine learning is a subset of AI in which computer systems are **programmed to learn from data and make predictions**, without being explicitly programmed.

An example of Machine learning is Supervised learning, where the computer system is taught to make predictions based on labelled data. There is also Unsupervised learning, where the computer system has to discover patterns in unlabelled data on its own.

Machine learning algorithms are used in various applications, including **speech recognition, image recognition and predictive modelling**.

Deep Learning: neural networks and their applications

Deep learning is a subset of machine learning that uses neural networks to learn from large amounts of data. Inspired by how the brain works, these neural networks are made up of several layers of artificial neurons.

These Deep learning algorithms have since proved effective in various applications, including image and speech recognition, natural language processing and even in playing complex board games such as chess.

The use of AI in Sales Forecasting

AI is increasingly used in sales forecasting to make more accurate predictions and help companies better plan their business operations. AI-powered sales forecasting involves the use of machine learning and deep learning algorithms with the aim of analysing large amounts of historical data and predicting future trends. This enables companies to make better decisions on their manufacturing operations, inventory management and marketing strategies, among others.

AI-powered sales forecasting can also help predict changes in market conditions and customer demand, allowing companies to anticipate and adjust their business operations accordingly.

In short, AI-powered sales forecasting is a valuable tool for companies that want to stay competitive and remain profitable in an ever-changing market environment.

3. Preparing for Sales Forecasting with AI

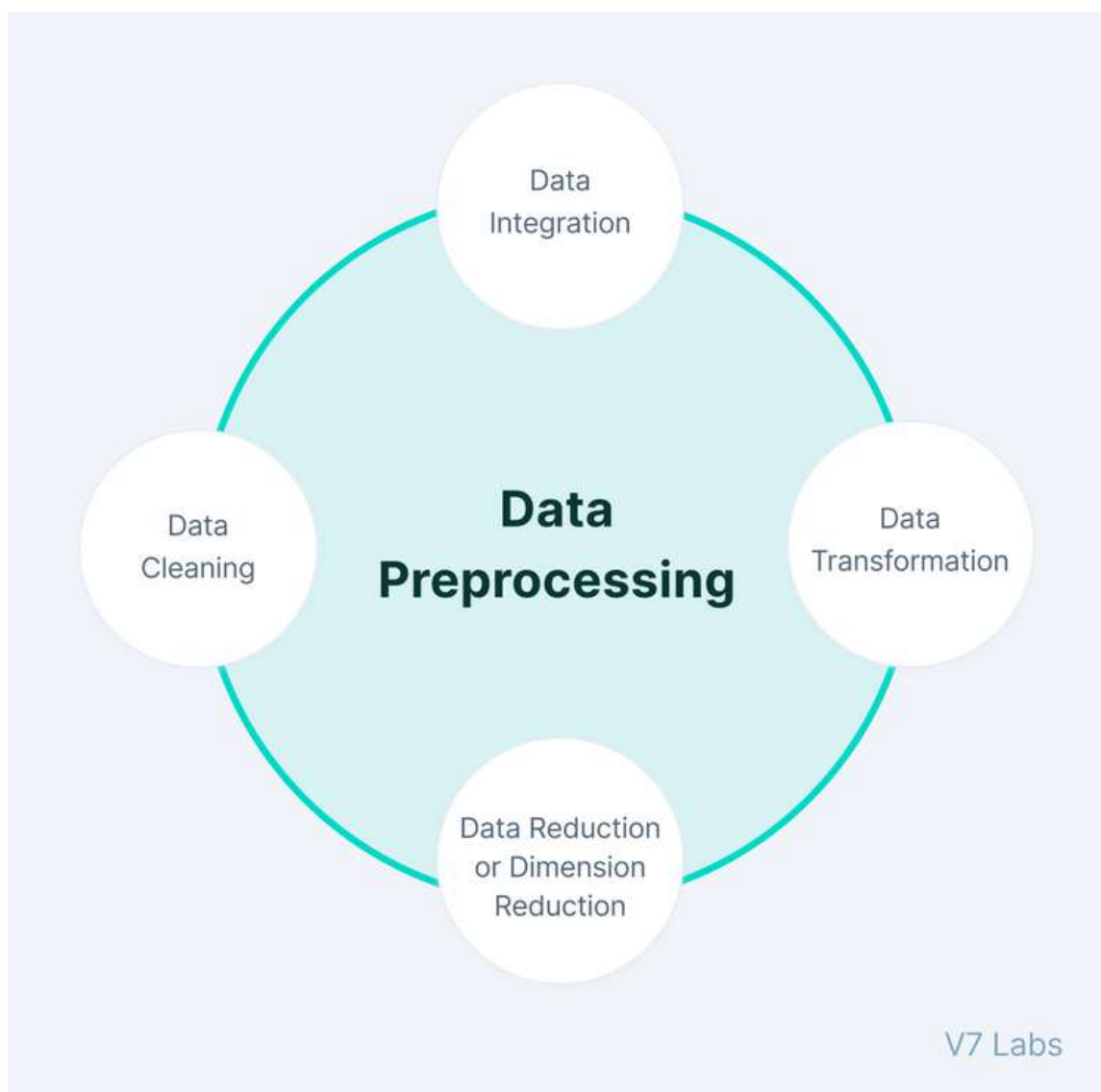
Data collection and storage

An important step in preparing for sales forecasting with AI is **collecting and storing the right data**. This can include both internal and external data, such as customer data, sales figures and market trends. It is essential to always collect and store high-quality data in an easily accessible and secure database. It is also necessary to ensure that the data collected and stored complies with data protection and privacy laws and regulations.



Data cleaning and preprocessing

The next important step is the cleaning and preprocessing of the relevant data. Specifically, this involves detecting and correcting errors, duplicates and missing data. In addition, the data must be standardised and formatted to enable compatibility with AI tools. An important aspect of data cleaning and preprocessing is the ability to reduce noise and identify relevant features.



Feature Engineering

Feature engineering is the process of identifying and extracting the most relevant features of the data that will be used in the AI model, such as identifying key indicators related to sales forecasting (historical sales figures, seasonal influences, market trends...) The goal of feature engineering is to feed the AI model with the most relevant data and enable it to make accurate predictions.

Preparing for sales forecasting with AI is therefore an important step in **developing accurate and reliable sales forecasts**. Companies can be better prepared to use AI for sales forecasting by carefully collecting and storing data, cleaning and preprocessing the data and identifying the most relevant features. Based on this information, they can ultimately make better decisions about their manufacturing operations, inventory management and marketing strategies, allowing companies to improve their competitive position and increase their profit margin.

4. Methods of Sales Forecasting with AI

1. Time Series Forecasting

Time Series Forecasting is a widely used method in sales forecasting with AI. It is based on **analysing historical sales data** to make future sales forecasts. To do so, AI tools use complex algorithms to identify patterns and predict trends. This method is especially suitable for predicting seasonal trends and provides companies with important insight into their future sales performance.



2. Regression Analysis

Another form of sales forecasting with AI is Regression Analysis. This method uses statistical models to determine **the relationship between sales data and other variables**, such as demographics, prices, promotions and weather conditions. This can help companies make better decisions about their marketing and production activities by providing insight into the factors affecting their sales performance.

3. Ensemble Learning

Ensemble Learning is a method that **combines the results of different AI models** to generate a more accurate and reliable forecast. This method is especially suitable for complex and variable datasets and can help companies improve their sales forecasts and reduce risk.

4. Clustering

Clustering is a method used to identify customer or product groups based on similar characteristics. In this case, AI algorithms are used to analyse data and identify similar groups. This method allows companies to better tailor their sales strategies to specific customer groups, improve their sales performance efficiently and strengthen their competitive position.

In short, companies are able to make accurate and reliable sales forecasts by using various methods such as Time Series Forecasting, Regression Analysis, Ensemble Learning and Clustering. By using these forecasts to optimise their production operations, inventory management and marketing strategies, they can increase profitability and better serve their customers.



5. Implementing Sales Forecasting with AI

Sales forecasting is an important part of business planning and strategy and helps predict future sales and revenue. Thanks to AI (Artificial Intelligence), accurate forecasts can be generated based on historical data and other relevant information.

To implement AI for sales forecasting, integration with existing systems is crucial. Specifically, this involves integrating data warehouses, CRM systems, ERP systems and other sales-oriented software. By integrating AI into the sales workflow, this information is made accessible to all parties involved.



When selecting the right AI tool for sales forecasting, it is important to consider several factors:

- First, the tool should be **suitable for the company size, type and industry.**
- In addition, the **accuracy of the tool and its ability to be trained and implemented quickly** is also important
- Finally, the **accessibility and user-friendliness** of the tool for non-technical users is important.

Another important aspect is the validation and evaluation of the predictions. Regularly checking the accuracy of the forecasts and updating or adjusting the AI models if necessary is therefore the message. This can be done by evaluating historical forecasts and comparing them with actual sales figures.

Finally, it is crucial to keep feeding the AI models with up-to-date data and trends so that they can continuously perform and improve. This can be ensured by regularly adding new data and continuing to train and update the AI models.

6. Applications of Sales Forecasting with AI



Sales forecasts

Sales forecasting with AI can help with sales forecasting by using advanced algorithms and machine learning techniques that identify patterns and trends in sales data. Here are some examples;

Prediction of future sales figures

AI can be used to predict future sales based on historical data, seasonality, market changes and other factors. The model can be trained to make accurate predictions based on these variables.

Segmentation of customers

In addition, AI can also be used to automate customer segmentation and provide insights into customer behaviour and purchase history. This allows your company to create targeted marketing and sales campaigns that target specific customer groups.

Identifying key drivers

AI also plays an important role in identifying key factors affecting sales and business performance. Indeed, by providing insight into these factors, your company can take targeted measures to boost sales and improve performance.



Risk analysis

Artificial intelligence can also help identify potential risks and opportunities. By identifying risks, your company can take proactive measures to protect itself and adjust sales forecasts.

In short, using AI for sales forecasting is a valuable tool for sales forecasting and performance improvements. But of course, it is still important to monitor and adjust the model regularly. This way, you ensure that everything remains accurate and reflects changes in the market.

Demand forecasts

In addition, AI and sales forecasting can be used to make better demand forecasts using advanced algorithms and machine learning techniques. Below are some examples of situations where you can use AI and sales forecasting.

Using machine learning models

Machine learning models such as regression analysis or neural networks can be used to make predictions based on the data collected. In this case, the models are trained to identify patterns and trends that affect your demand.

Mapping of different questions

By using customer segmentation to understand the different needs of customers, you can create targeted marketing and sales campaigns that promote demand for specific products or services.

Predicting the impact of marketing campaigns

AI and sales forecasting can be used to predict the impact of marketing campaigns. This allows you to launch targeted campaigns to drive demand for specific products or services.

Inventory management

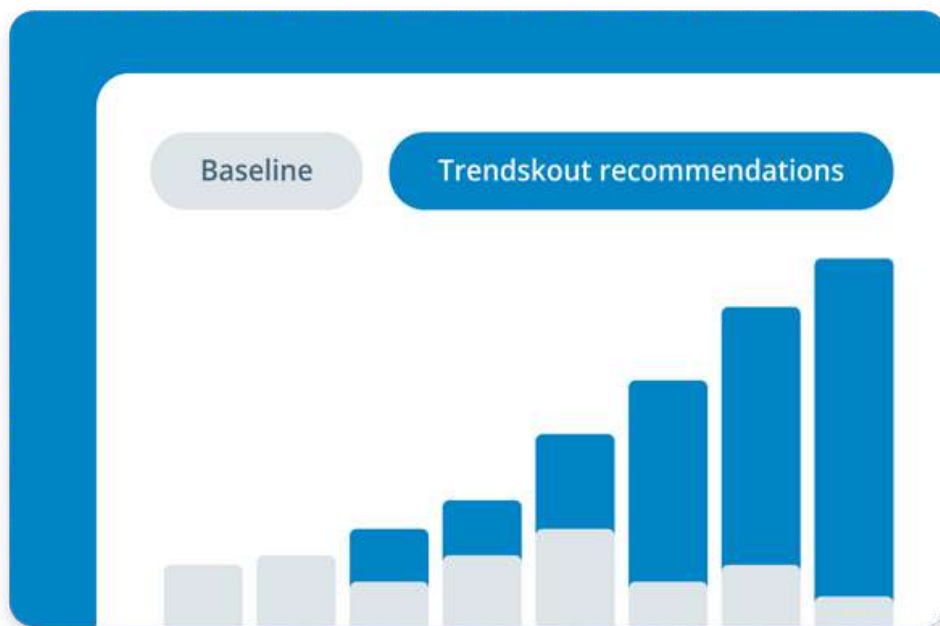
AI-based sales forecasting contributes to better inventory management in several ways:

More accurate forecasts

An AI model analyses large amounts of data and discovers complex connections that human salespeople might overlook. This makes for more accurate predictions of future sales patterns and trends, allowing your company to better anticipate customer demand and optimise your stock accordingly.

Reduction of excess stock

Thanks to the accuracy of AI-driven sales forecasting, a company can better manage its inventory levels and reduce the likelihood of overstock. This can free up more space for popular and profitable products.




Improving customer satisfaction

AI helps a company predict customer demand, which allows you to optimise product availability. This can lead to improved customer satisfaction and repeat purchases.

Cost savings

The accuracy of AI-driven sales forecasting allows a company to better manage its inventory levels and reduce the likelihood of shortages and surpluses. The logical consequence is substantial cost savings, thanks to the reduction of storage and disposal costs and the prevention of losses due to excess or obsolete stock.



In short, AI-driven sales forecasting can help a company make better inventory management decisions and improve overall efficiency and profits.

Price forecasts

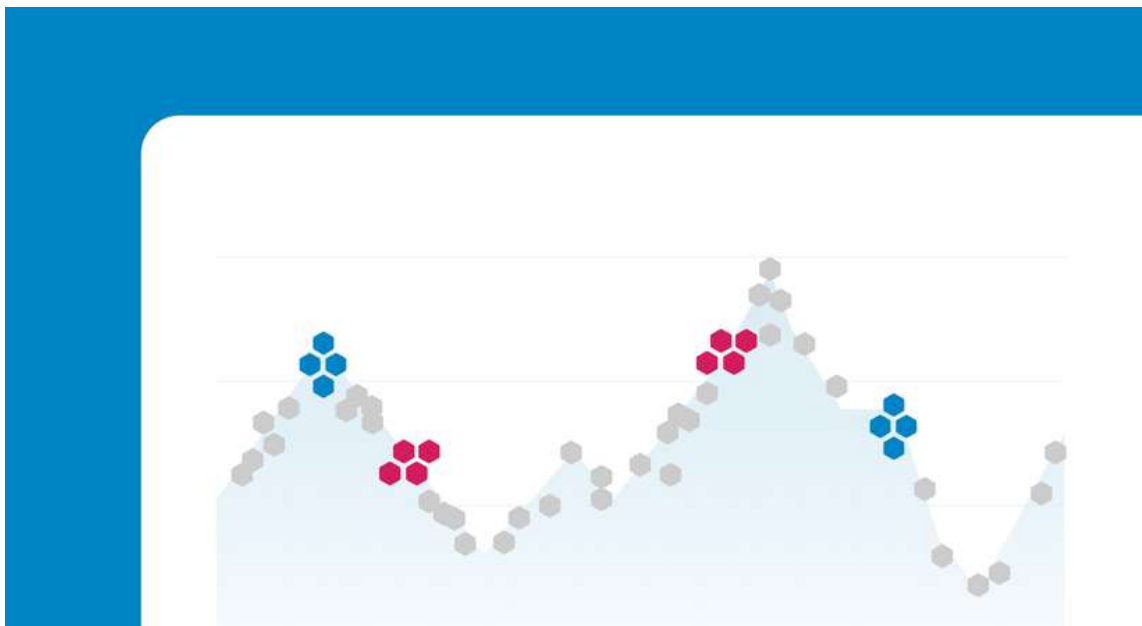
A sales forecasting model based on AI is also interesting for making better price forecasts.

Analysis of historical sales data

The AI model can analyse large amounts of historical sales data and identify patterns and trends. Based on this, the model can make price predictions for future sales periods. This allows a company to better anticipate customer demand and adjust their pricing strategies.

Analysis of market trends and competition

Market trends and competitive data can also be analysed in the same way, giving companies insight into their competitors' pricing strategies and changing market conditions. This can help determine the optimal price for a product or service.




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Improving accuracy

An AI model can also improve the accuracy of price forecasts by analysing complex data and taking into account various factors affecting supply and demand. This can lead to better pricing strategy and higher profit margins.



In short, sales forecasting based on AI provides better price predictions through historical data analysis, market trend analysis, customer segmentation and improved accuracy. The result is an efficient pricing strategy and higher profit margins.

Competitive analysis

Sales forecasting with AI also provides deep insights into competitive analysis:

Price analysis

AI allows companies to analyse their competitors' prices and compare them with their own. This helps determine the optimal price for products or services and develop a competitive pricing strategy.

Identification of opportunities and threats


AI-driven sales forecasting allows quick identification of threats, such as increased competition or new products that could disrupt the market. In other words, it allows quick identification of sales and growth opportunities.

Customer segmentation at your competitor

An AI model segments customers based on their preferences, demographics and buying behaviour. These insights help identify target groups at competitors and determine an optimal marketing strategy to attract these customers.

Forecasting market trends

In addition, AI can also analyse and predict market trends. This allows companies to understand how competitors react to changes in the market and how these changes affect demand and sales. In this way, they can determine optimal pricing strategies and develop new products and services.



In short, an AI-driven sales forecasting model helps companies analyse the competition, identify opportunities and threats, segment customers and predict market trends. This gives the company all the tools to set an understated competitive pricing strategy and strengthen their overall competitive position.

7. Future of Sales Forecasting with AI

It is clear, sales forecasting with AI is a rapidly evolving field where numerous trends and developments will determine the further future. Here are some key examples:

Growing acceptance: AI for sales forecasting is increasingly on the radar of companies of different sizes and sectors.

Integration with other systems: There is increasing integration with other systems, such as CRM and ERP, to offer a more integrated and holistic approach to sales forecasting.

Using big data: Companies are collecting and analysing more and more data to improve their sales forecasting. AI helps optimise data processing to generate accurate forecasts.

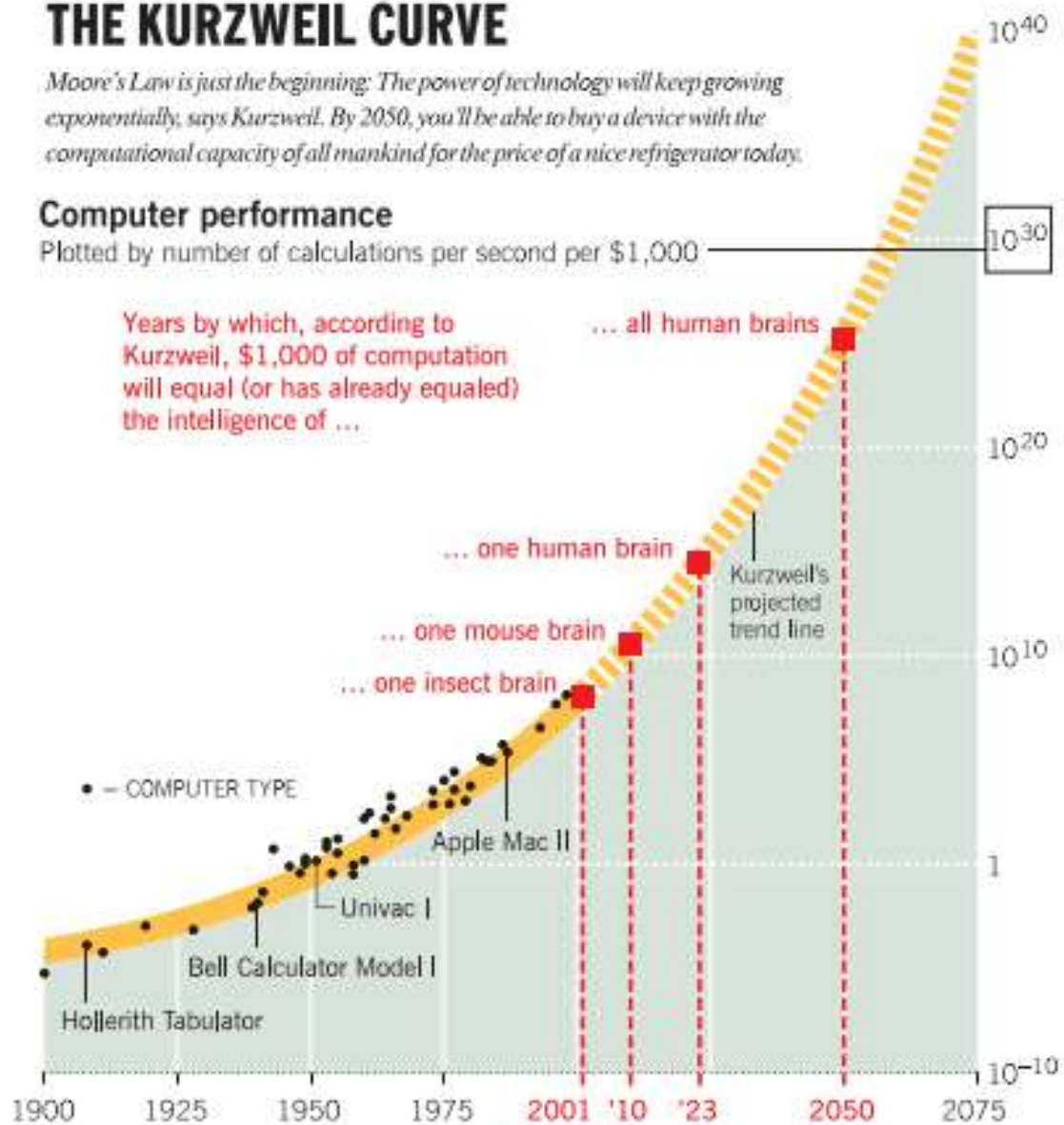
Increase in cloud-based solutions: Cloud-based solutions make AI more accessible to any type of business and simplify the implementation and management of AI models

THE KURZWEIL CURVE

Moore's Law is just the beginning: The power of technology will keep growing exponentially, says Kurzweil. By 2050, you'll be able to buy a device with the computational capacity of all mankind for the price of a nice refrigerator today.

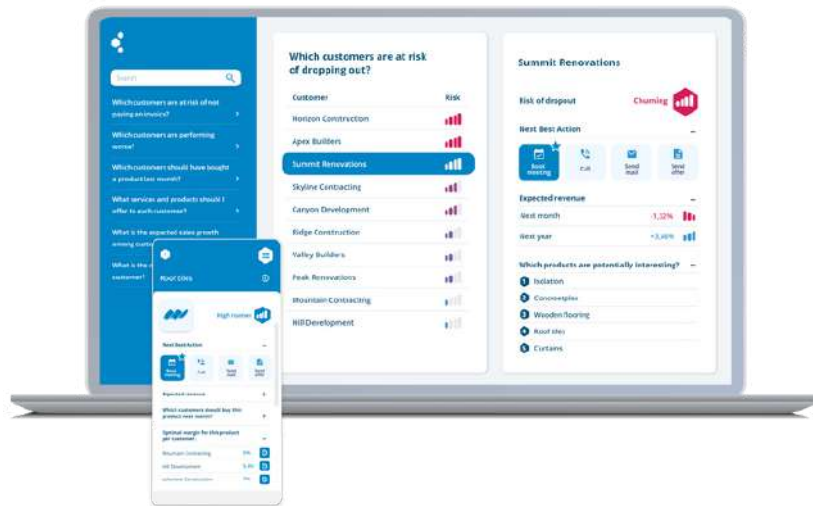
Computer performance

Plotted by number of calculations per second per \$1,000



SOURCE: DATA FROM RAY KURZWEIL

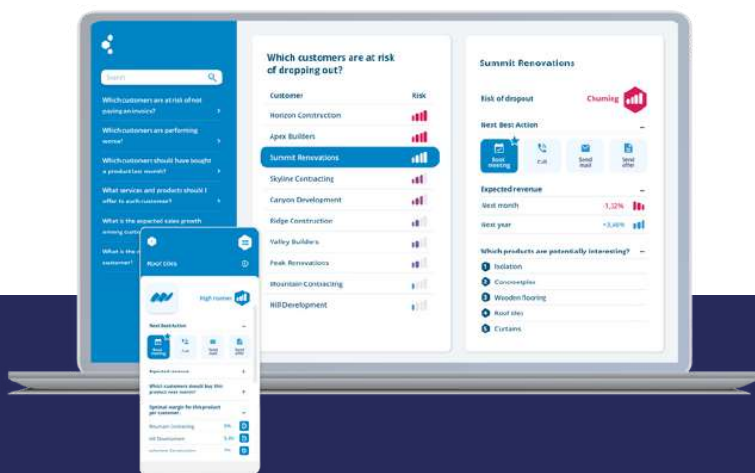
From classic sales forecasting to advanced sales forecasting



As already cited: traditional sales forecasting methods are usually based on historical data and human expertise. Sales managers collect data on past sales of products or services and use this data to forecast future trends and sales expectations. While these methods can be useful, they are often limited in their accuracy and relevance because they do not take into account changes in the market environment or other factors that may affect sales.

AI platforms such as Trendskout offer a more sophisticated approach to sales forecasting by using machine learning and advanced algorithms to analyse data. AI allows sales managers to collect, process and analyse huge amounts of data, giving them greater insight into customer behaviour, trends and patterns. By combining this data with data on the market environment and other factors, AI can provide a much more accurate prediction of future sales and a deeper understanding of the factors affecting sales.

The biggest difference between traditional sales forecasting and sales forecasting using AI is the amount and quality of data used in forecasting. Traditional methods use historical data and human expertise, while AI platforms use big data and advanced algorithms to analyse this data and generate insights. This allows AI platforms to make much more accurate predictions and provide greater insight into the factors that influence sales. Moreover, AI platforms can continuously update and improve these predictions as more data becomes available, making them much more flexible than traditional methods.



Want to know more about advanced sales forecasting? Book a personalised demo!

During this demo, we show how we can add value for you. To the point and with actionable insights for sales teams.

[Boek a demo!](#)



Trendskout

READY TO USE AI PLATFORM