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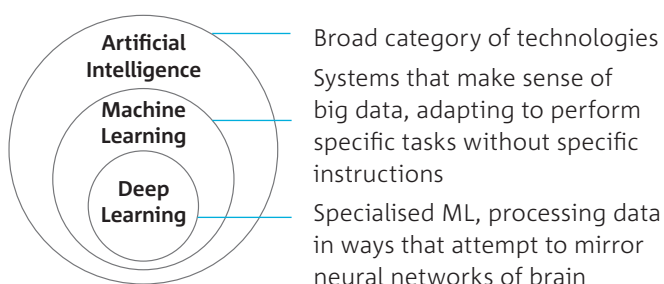# Why AI? An introduction to artificial intelligence for businesses

Artificial intelligence (AI) is a powerful technology that can empower Australian businesses to grow and compete on the global stage. AI has the potential to enhance operational efficiency, improve customer engagement, create new product and service opportunities, and open up new markets. But what exactly is AI?

Defining AI

AI is a technology that can be trained to perform specific tasks such as reasoning, planning, natural language processing, computer vision, audio processing, interaction, prediction, and more. This capability can be harnessed to enhance business performance and outcomes by automating tasks, interactions, decision-making, and data analytics.

From a technological perspective, AI encompasses a broad range of technologies that rely on elements like computing power, scalability, networking, connected devices, interfaces, and data. AI models and solutions can be either pre-trained to perform particular tasks or custom-developed to meet specific business needs. With the help of Machine Learning, AI systems can continually improve in line with human-defined objectives and operate with varying degrees of autonomy.

You may have come across terms like Artificial Intelligence (AI), Machine Learning (ML), and Deep Learning. Let's clarify their relationships:

Artificial Intelligence — Broad category of technologies

Machine Learning — Systems that make sense of big data, adapting to perform specific tasks without specific instructions

Deep Learning — Specialised ML, processing data in ways that attempt to mirror neural networks of brain

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The AI in the movies

We've all watched those sci-fi movies featuring AI, which often sparks our imagination. AI is not just a technological field; it's equally creative, theoretical, and philosophical. To differentiate fact from fiction, consider the following theoretical stages of AI:

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Narrow AI: Today's technology comprises AI models trained to perform specific tasks, typically repetitive or pattern-based ones.

General AI: A theoretical concept where AI matches human intelligence, though this level of AI is not achievable at present.

Super AI: A theoretical concept portraying AI as more intelligent than humans, a concept popularised in movies but currently beyond our reach.

How can AI support your business?

AI can significantly enhance decision-making, operations, and customer service. For instance, by employing machine learning to analyse data, businesses can gain insights into customer behaviour and enhance demand forecasting accuracy. Recent research from the National AI Centre reveals that businesses save an average of 30% in time and gain $300,000 in value per AI project.

AI presents remarkable opportunities for small-to-medium-sized enterprises (SMEs), enabling them to navigate complexity, operate at scale, and explore new markets. With AI language capabilities, businesses can reach customers in different languages and regions. Additionally, digital assistants or chatbots enable businesses to provide customer service at a scale previously unattainable.

Common AI use cases

While the potential applications of AI are diverse, here's a glimpse of common use cases that can help you engage customers, empower employees, optimize operations, and innovate products or services:

Engage customers: Utilise digital assistants like chatbots and voice bots, offer personalized product recommendations, and tailor user experiences.

Empower employees: Implement Intelligent Process Automation to automate manual processes and document flows, facilitating document searches.

Optimise operations: Leverage AI for IT network and application monitoring, identify anomalies on production lines, deploy robotics for picking and packing, and improve demand forecasting.

Innovate products and services: Enhance accessibility through speech-to-text and text-to-speech features, introduce new experiences and functionalities, and bolster security.

If you want to know where to start with AI, look for the high volume activities in your business, look for the things which may be repetitive. There could be a high number of customer calls, a high number of transactions, or a repetitive process.
Stela Solar, Director, National AI Centre

Next up: How to get started with AI?

For many businesses, adopting AI technologies can be achieved through off-the-shelf tools that incorporate AI in a low-code or no-code manner, eliminating the need for specialised AI skills like Data Scientists or Machine Learning Engineers. Others may choose to create their own custom AI models and solutions, necessitating the establishment of their own developer and data science teams.

To determine the right path for your business, you can refer to 'Brief Exploring AI for Small and Medium Enterprises: Build, Buy, or Partner?' available at the National AI Centre: **csiro.au/naic**

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