



**Canterbury
Christ Church
University**

Harnessing the Power of AI in Business

Welcome to our Masterclass.

We will be starting shortly, feel free to introduce yourself in the chat

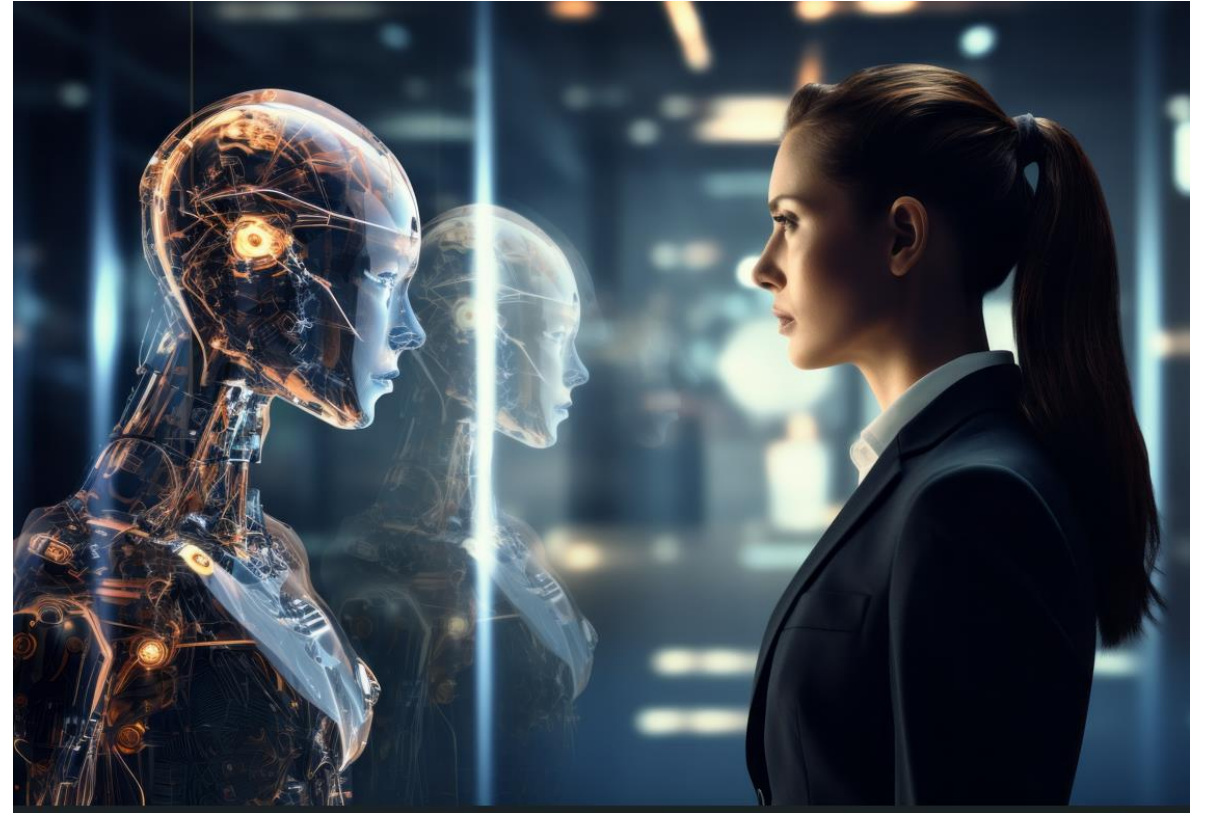


Harnessing the Power of AI in Business

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Christ Church Business School

*Artificial intelligence (AI) is unstoppable,
but human intervention in shaping it is
indispensable.*



Session overview

- Introduction to Artificial Intelligence (AI)
- Types of AI and its possible applications in business
- Benefits and ethical risks
- Challenges of integrating AI in enterprise
- Application of AI in small business



Future impact of AI

Within the **next five years** every job, every function and every industry **will be transformed** by the power of AI

Do you agree/disagree? Why?

Put your thoughts in the chat.



Fastest growing vs. fastest declining jobs



Top 10 fastest growing jobs

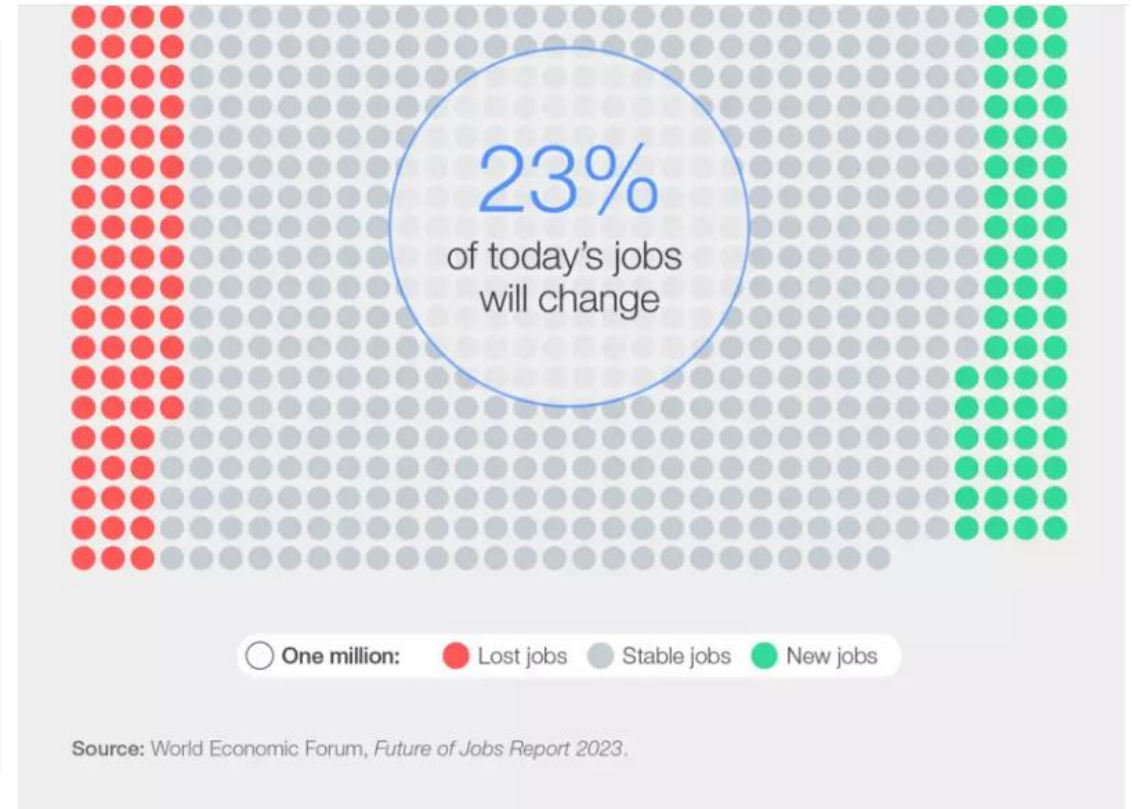
1.	AI and Machine Learning Specialists
2.	Sustainability Specialists
3.	Business Intelligence Analysts
4.	Information Security Analysts
5.	Fintech Engineers
6.	Data Analysts and Scientists
7.	Robotics Engineers
8.	Big Data Specialists
9.	Agricultural Equipment Operators
10.	Digital Transformation Specialists

Top 10 fastest declining jobs

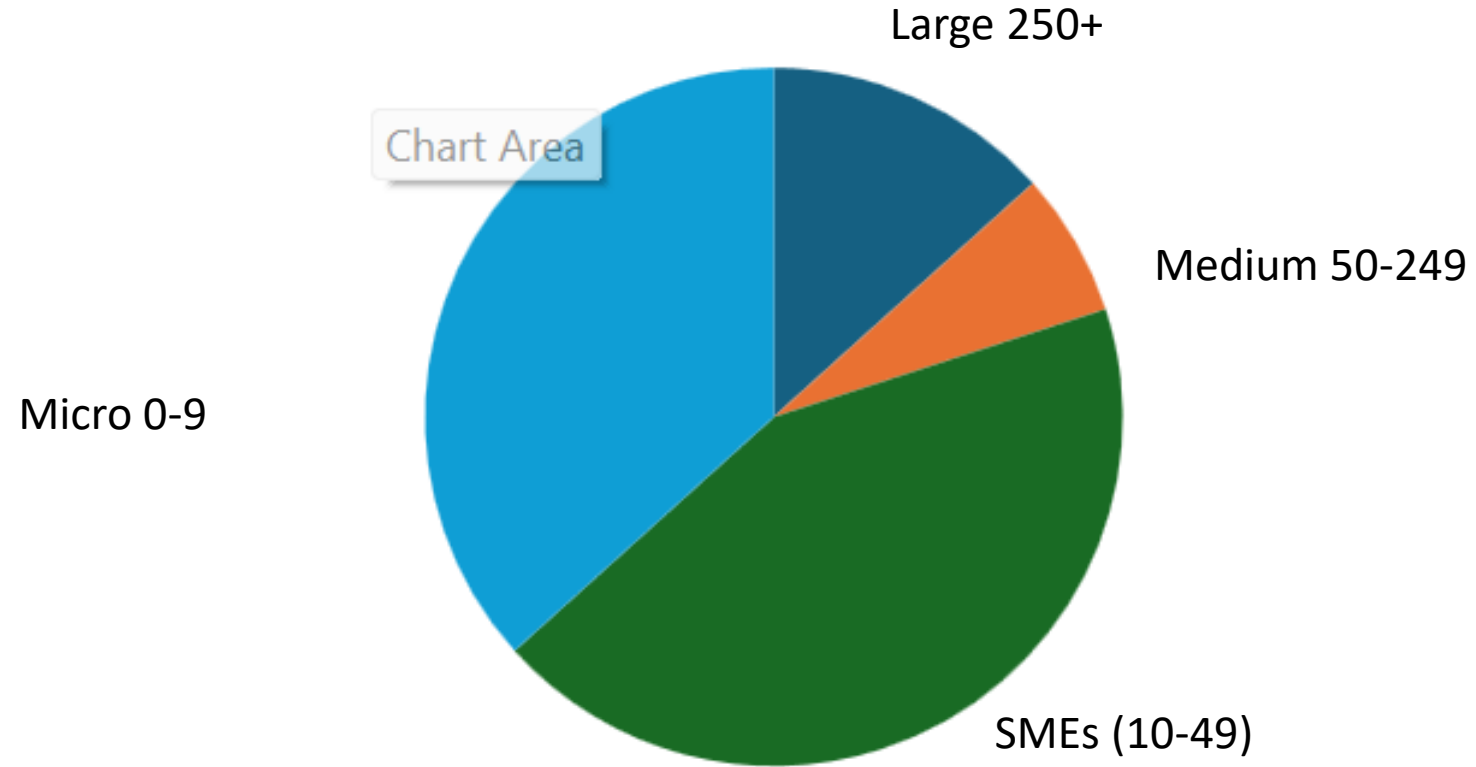
1.	Bank Tellers and Related Clerks
2.	Postal Service Clerks
3.	Cashiers and ticket Clerks
4.	Data Entry Clerks
5.	Administrative and Executive Secretaries
6.	Material-Recording and Stock-Keeping Clerks
7.	Accounting, Bookkeeping and Payroll Clerks
8.	Legislators and Officials
9.	Statistical, Finance and Insurance Clerks
10.	Door-To-Door Sales Workers, News and Street Vendors, and Related Workers

Source
World Economic Forum, Future of Jobs Report 2023.

Note
The jobs which survey respondents expect to grow most quickly from 2023 to 2027 as a fraction of present employment figures



Who is in the room?



What do you expect to learn from this masterclass?

MENTI CODE: **7597 7221**

www.mentimeter.com



Have you used AI in the last 48 hours? (chat)



When AI goes wrong... (BBC, Scotland, 02/03/24)



Parents felt the event did not quite live up to the website marketing

Reality: "little more than an abandoned, empty warehouse"

Importance of AI in today's world

The application of artificial intelligence (AI) is radically changing the way businesses work.

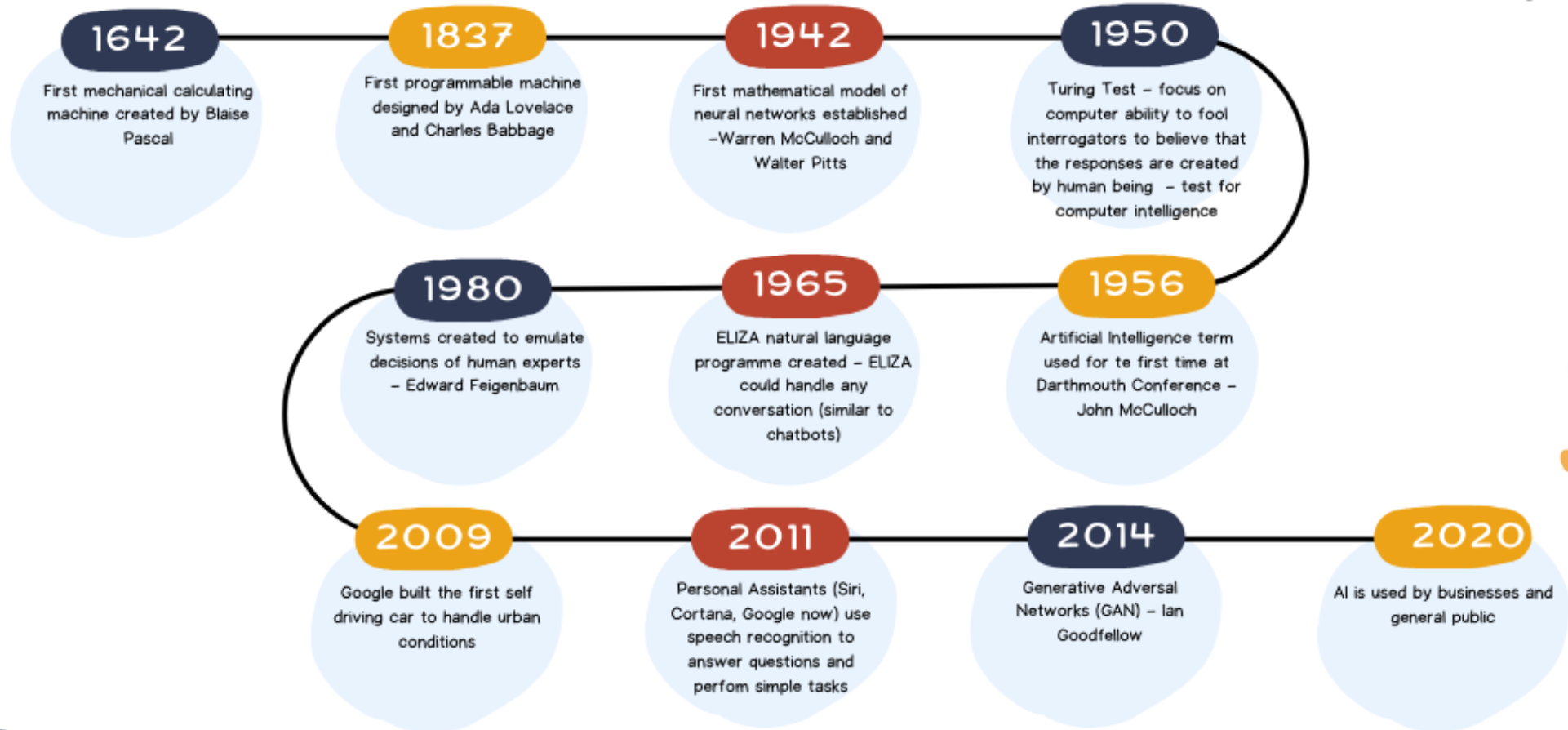
Many benefits for AI in enterprise:

- Increased efficiency
- Creating new markets
- Generating insights
- Saving money

AI applications:

- Enhance customer service
- Maximise sales
- Improve cybersecurity
- Optimise supply chains
- Perform mundane tasks
- Improve existing products or attracts customers to new products

BRIEF HISTORY OF AI



What is AI?

What is natural intelligence (Human Intelligence)?

- **Intelligence** is an ability to understand complex ideas, to adapt effectively to environment, to learn from experience and to engage in various forms of reasoning (American Psychological Association)
- Getting machine to work in this way is what *artificial intelligence* means.
- No single definition of AI

Computerised system exhibiting behaviour commonly thought to require intelligence (NSTC)

System capable of solving complex problems or taking appropriate actions to achieve its goals in a certain real-world scenario (NSTC)

The theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages (English Oxford Living Dictionary)

The ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings (Encyclopaedia Britannica)

How does AI work?

AI programming focuses on **three cognitive skills**:

- Learning
- Reasoning
- Self-correction



Types of AI

Reactive AI

Reacts and responds to different prompts. It does this without the use of memory or a broader understanding of the context – e.g. Deep Blue supercomputer, spam filters.

Limited memory

Able to learn from a limited amount of data or feedback. However, it doesn't "bank" any memories for extended periods of time i.e. ChatGPT; limit of 4000 tokens, cannot recall anything from a current conversation after that limit.

Theory of mind

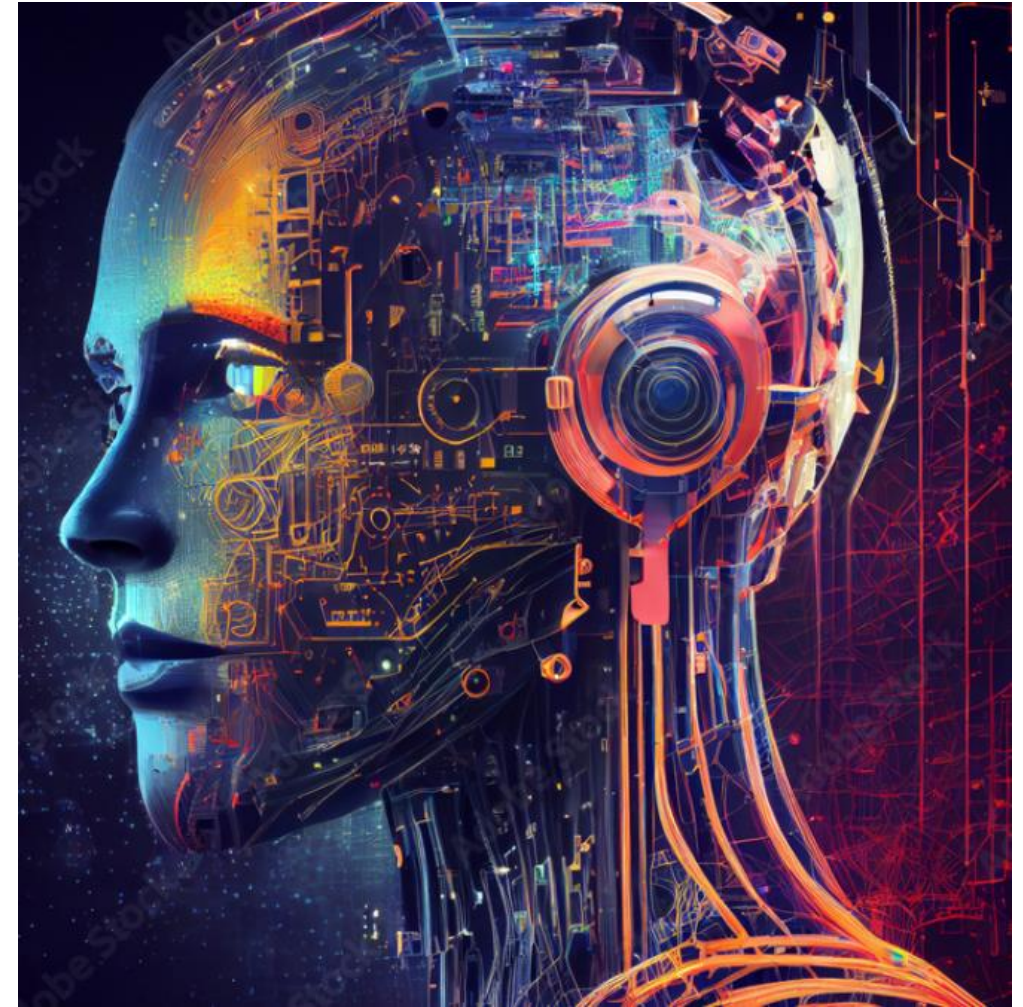
Currently a concept; an advanced class of technology that can understand human mental states and create machines that can interact with humans more effectively because they understand their needs, goals, and motivations.

Self-aware AI

Seen as the next phase in the evolution of theory of mind, where machines can understand human emotions *and* have their own emotions, needs, and beliefs. Currently, this type of AI only exists hypothetically.

Types of AI

- AI is domain specific - **narrow AI**
- In comparison, human intelligence is **multifaceted** – the same brain can read, write, speak, calculate, interpret emotions and carry out many other cognitive tasks effortlessly
- Human level intelligence (**artificial superintelligence**) is still **WORK IN PROGRESS**



Components of AI

Applications

- Chatbots
- Speech recognition
- Image recognition
- Natural language generation

Types of models

- Deep learning
- Machine learning
- Neural networks

Software and hardware for training and running models

- Cloud data storage
- Parallel processing
- GPUs

Programming languages

- Java
- C
- Python

Why is AI important in the enterprise?

Large data volumes – **175 billion terabytes (zetta bytes)** of data produced by 2025 (IDC research); **430% increase over 33 billion terabytes** produced in 2018.

How big is 175ZB?

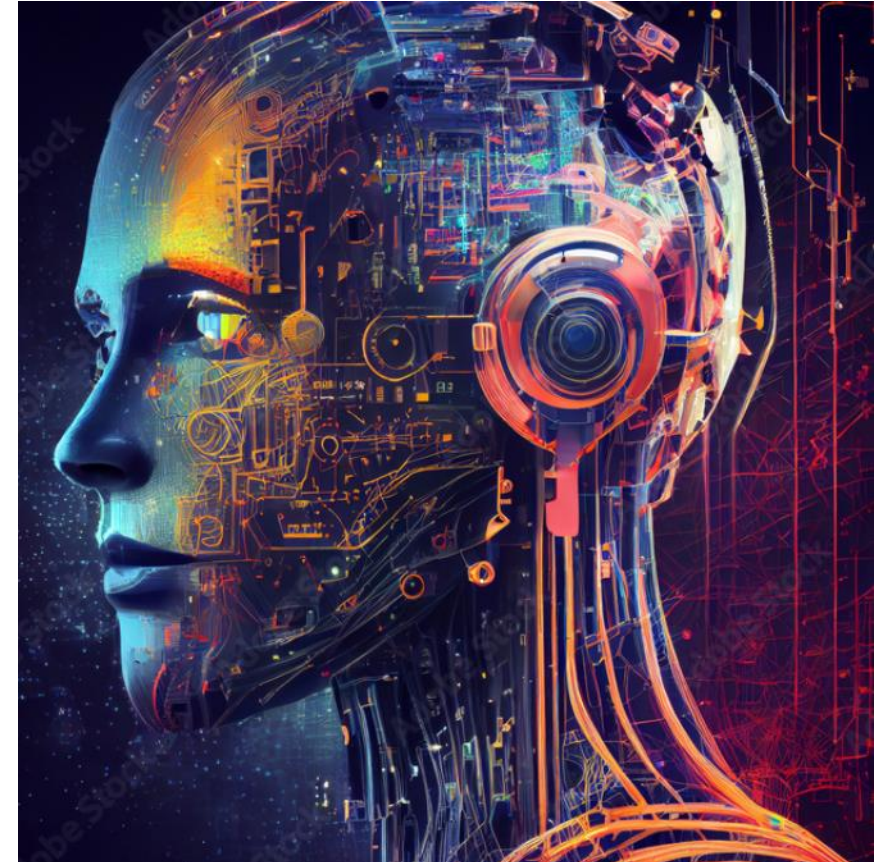
Sometimes it can be difficult to get our minds around such a large number. Here are some illustrations of just how large 175ZB is.

- One zettabyte is equivalent to a trillion gigabytes
- If you were able to store the entire Global Datasphere on DVDs, then you would have a stack of DVDs that could get you to the moon 23 times or circle Earth 222 times.
- If you could download the entire 2025 Global Datasphere at an average of 25 Mb/s, today's average connection speed across the United States, then it would take one person 1.8 billion years to do it, or if every person in the world could help and never rest, then you could get it done in 81 days.

Why is AI important in the enterprise?

Big data yields **in-depth business intelligence** leading to **improvement** in existing business and leads to new business – AI can analyse data fast and efficiently!

- ❑ **Deep learning** (a subset of machine learning and AI) – processes big data to find correlations, analyse patterns and give companies competitive advantage
- ❑ **Ability to make meaningful predictions** without human bias using high quality data (cloud computing provides computational power to process and manage big data within a scalable and flexible architecture accessible to enterprise users)
- ❑ **AI has strategic value compared to electricity** in early 20th century – transforming industries and creating new ones

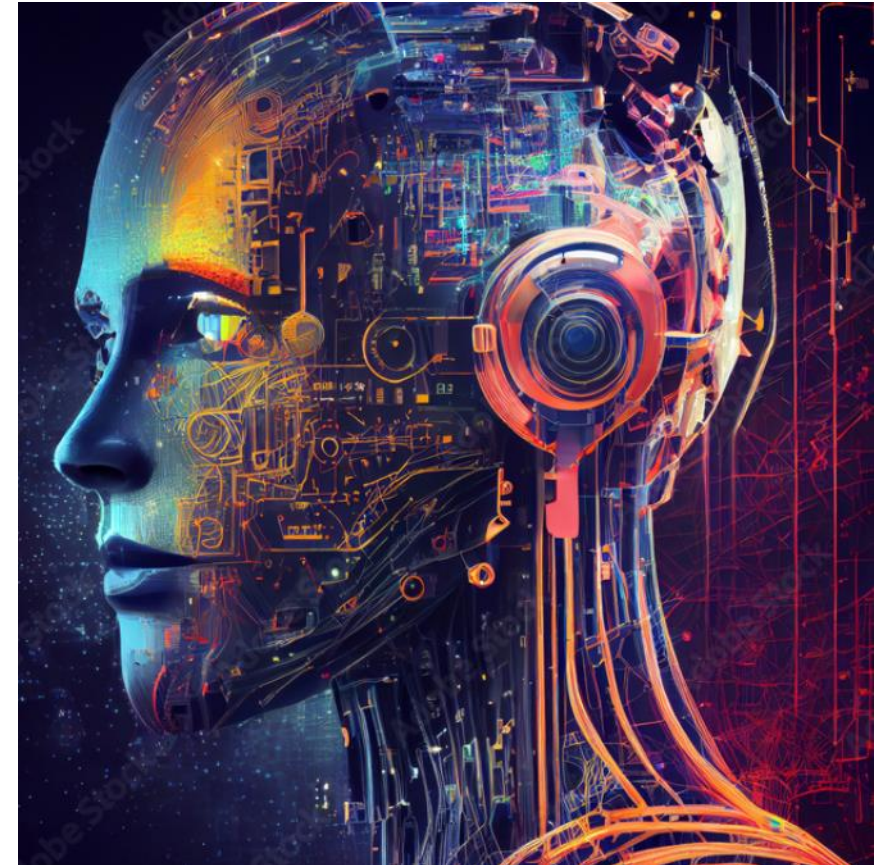


Impact of the AI on the enterprise

AI is strategic due to the complexities of today's VUCA world - we cannot manage without AI in business anymore!

Huge impact stems from AI's **ability to automate and augment existing jobs done by humans.**

- ❑ Surpassing gains from automation
- ❑ Generating most efficient way to analyse and apply data



How to start

- Most companies – **optimisation rather than radical transformation** of their business model.
- Make **AI adoption part of your strategy** but start with determining **which aspects** of your operations will benefit from integrating AI.

For example:

- ❖ **Customised marketing** – fast analysis of customer preference allows you adapt and individualise for your customers
- ❖ **Customer service** - top benefit (MIT Sloan) – speed up and personalise - chatbots



Benefits of AI for enterprise

- **Improved customer service** – quicker and personalised
- **Improved monitoring** – near instantaneous monitoring, enabling real time quality control processes
- **Faster product development** – AI enables shorter development cycles and reduces the time between design and commercialisation (quicker ROI)
- **Better quality-** reduction of errors and better compliance reducing time and cost
- **Better talent management** – AI software to streamline hiring process, remove bias, boost productivity (screening top candidates); using chatbots to personalise hiring services
- **Business model innovation and expansion** – improving business models (Amazon, Airbnb, Uber)

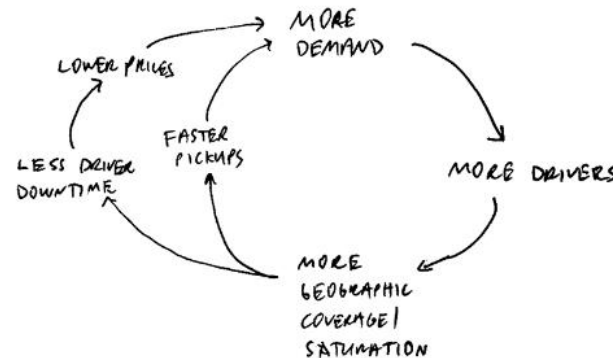
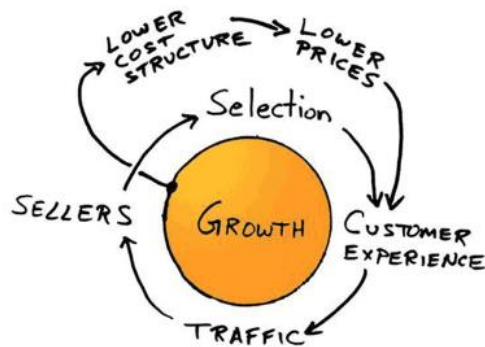
Amazon

Amazon has been an **early adopter of Artificial Intelligence (AI) and Machine Learning (ML)**. It is a company that has reorganized and restructured itself to benefit from these technologies in multiple areas.

Digital Transformation means using modern digital tools and technologies to transform traditional and non-digital methods or create more efficient ones to match the evolving market and customer expectations.

Constructing flywheels

The virtuous circles designed by Amazon (left) and Uber (right) have allowed them to thrive in this age of higher clock speed.



Note: Original Amazon sketch: Jeff Bezos (2001). Original Uber sketch: David Sacks (2014).
Source: Ashish Khandelwal post, Medium, July 27, 2016

Amazon uses flywheel to leverage AI momentum throughout all business functions.

For example:

Chatbots - AI model controls the chatbot's vocabulary by choosing among hand-authored response templates.- general forms of sentences with variables for product names, delivery, timelines, dates, prices etc.

Amazon also uses AI for:

- Product recommendations
- Product forecasting
- Warehouse and delivery optimization
- Alexa based voice shopping

Some AI uses in specific technical applications

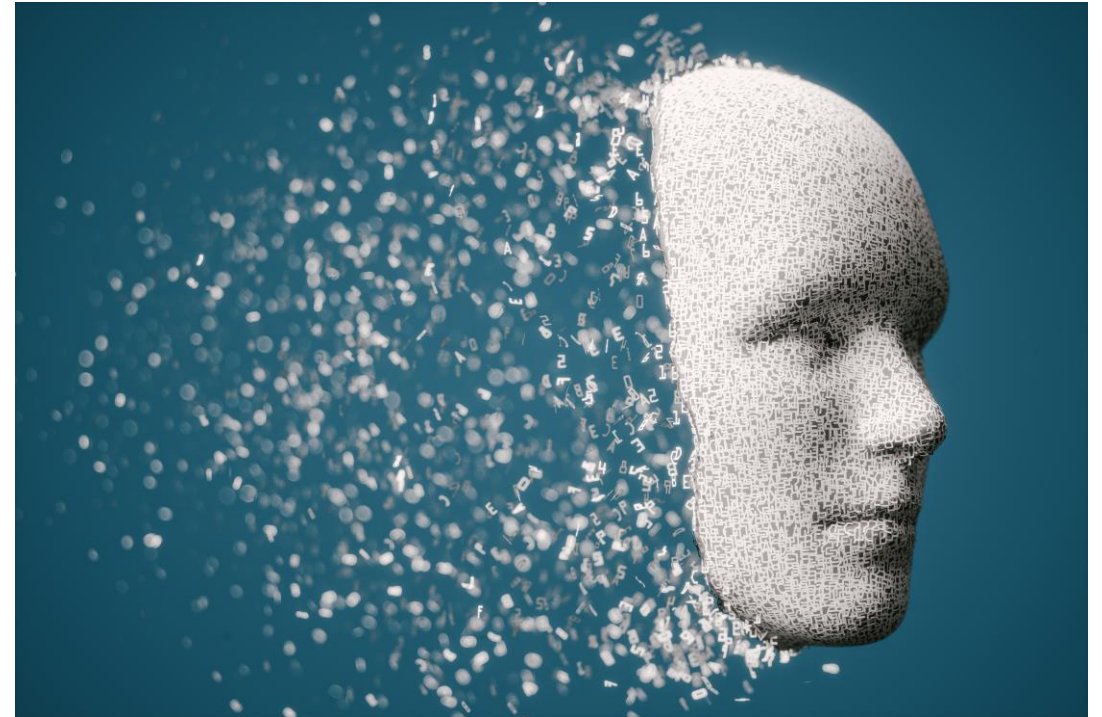
- Assisting doctors in medical diagnosis – MRI images for detecting cancer
- Automatic response to cybersecurity threats
- Banks use AI to speed loan processes and ensure compliance
- A small start-up developed AI model to analyse X-rays for tooth decay
- Content creation – strategies, business plans, social media campaigns and posts
- Use of AI to optimize travel and logistic scheduling – train/bus timetables, airline schedules

AI: Specific Risks and Ethical Challenges

Bias and Discrimination – Biases in algorithms perpetuate inequality and can lead to discriminatory activity.

AI Hallucinations - When the AI states something as a fact and attributes this to a source which is then proved to be untrue or imaginary.

Misuse of Personal Data – the LLM may have been trained using data which personal and required protection.



AI: Adoption Challenges in Practice

Lack of AI strategy – understanding what the problem is that AI integration will solve.

Organisational data – incomplete or siloed data sets will not facilitate the adoption of AI to support routine processes

Human/AI team skills – the adoption of AI into business processes and operations is a transformative activity, your people will need training.



AI is transformational

- Needs to be considered as a shift in organizational design as any transformational project would be
- Start with asking the following questions:
 - How will AI disrupt your target market?
 - What problem do you plan to solve through application of AI?
 - Have we considered the social and ethics challenges?
 - How will AI integrate with our organizational structure and current roles?



Source: [Henrik Kniberg](#)

Barriers to AI adoption for UK Business

Table 2.1: Key internal and external barriers

Internal barriers <i>These are barriers that are within a firm's control.</i>	External barriers <i>These barriers are outside a firm's direct control.</i>
Cost of AI adoption <i>High procurement and operation costs of AI as well as an uncertain return on AI investments impact on a firm's demand for AI solutions.</i>	Labour supply <i>Lack of sufficient skilled personnel within the firm and in the overall labour market constrain the supply of AI solutions.</i>
Data <i>Legacy infrastructure and insufficient data sophistication to leverage data's potential reduce a firm's demand for AI solutions.</i>	Regulation <i>Regulatory costs, restrictive privacy laws, and uncertainties around the liability for damages caused by AI limit demand for AI solutions and supply of AI technologies.</i>
The human factor <i>An incomplete understanding of the benefits of AI technologies and a lack of desire to move off the well-trodden path limit a firm's demand for AI solutions.</i>	Ethics <i>Opacity and lack of explicability and accountability inhibit the creation of trust in AI technologies, slowing demand for AI solutions.</i>

Notes: Based on quantitative evidence from the European enterprise survey on the use of technologies and additional qualitative evidence. Classification of internal and external barrier may differ from European Commission study.

Limitations and risks

Accuracy

- Needs to be checked and reviewed manually
- Content might be outdated
- Facts might be false or biased
- GPTs lie convincingly and make up facts (references, claims etc) – CHECK!

Sensitive and confidential information

- Anything you use can be used to train AI models
- No system is 100% secure

AI is not a human so lacks emotional intelligence

- The content might be toxic/harmful (depends how the GPT was trained)
- The content might be discriminatory

Intellectual property

- Answers might not reference work, present copyrighted content, or competitor content so check or paraphrase
- If in doubt consult a legal professional

Examples:

- Two judges in New York used fictitious past court cases suggested by ChatGPT in a lawsuit against an airline.
- Gemini AI produced biased results including portrayals of German second war world soldiers or Vikings as people of colour

[Lawyers blame ChatGPT for tricking them into citing bogus case law | AP News](#)

[Google chief admits 'biased' AI tool's photo diversity offended users | Google | The Guardian](#)



Photo: AI Gemini

AI Risk Management Resources



AI GDPR and Data Analysis – [ICO](#)
([Information Commissioners Office](#))

- Toolkit for AI Data Risk Assessment

National Cyber Security Centre –
[Secure AI system development](#)
[Guidelines](#)

What AI tools do you use in your business?

MENTI CODE: **7597 7221**

www.mentimeter.com



AI applications useful for a small business

- **Chat GPT** – generative AI - ELIZA (1960s) early chatbot; 2010 (deep learning) analysing text and generating - GPT3 and GPT4, Chat GPT Enterprise : [Introducing ChatGPT Enterprise \(openai.com\)](https://openai.com)
- **Dall-E/Dall-E**– generating images and art from text and identify connections between vision, text and audio
- **Gemini AI**
- **Copilot**
- **SORA AI, LUMEN 5** – video creation
- **CANVA** – images, animations, text, converting text to presentation
- **Click Up** - [ClickUp™ | One app to replace them all](https://clickup.com)

ChatGPT – examples of use

CUSTOMER SUPPORT

Prompt: Act as a well-trained customer support representative. You work for a <business>. Craft a considerate and solution-oriented response to a customer who has left a negative review about <topic>. Show your understanding and regret for their dissatisfaction, assure them their concern is heard, and offer a suitable remedy to the problem. Demonstrate empathy and professionalism.

<https://tinyurl.com/2bt7na3s>

SOCIAL MEDIA

Prompt: Adopt the mindset of a creative digital marketer and propose 5 unique and engaging topics for social media posts aimed at a <industry> business targeting <target audience>. Your ideas should be both innovative and relevant, crafted with the intention to capture attention and generate interest.

<https://tinyurl.com/mrx5rddy>

CONTENT MARKETING

Prompt: Act as a content marketing expert. Brainstorm content ideas for <business> in the <industry> industry. Ideas should appeal to <target audience>. Ideas should work towards these business goals: "<goals>". Use these ideas to create a content calendar for the next <number of months> months, broken down by week. Include the content, when and where to publish it. Be creative, strategic, and audience-focused.



ChatGPT – examples of use

BUSINESS PLAN

Act as a successful entrepreneur and business coach. You are advising me on starting my first small business, in the industry. Write a detailed business plan for "" in . This plan should cover all essential elements such as executive summary, company description, market analysis, organization and management, service or product line, marketing and sales, funding request, financial projections, and an appendix. Also include any other topics you believe should be included in a business plan to ensure success for this type of business.

BUSINESS OPERATIONS

Prompt: As a successful business consultant specializing in <industry>, identify and elaborate the most critical metrics to track and the most crucial Key Performance Indicators (KPIs) for a business in this sector. Your selection should cover financial metrics, customer-centric metrics, operational efficiency metrics, and employee performance metrics, where relevant. Also, provide a brief explanation of how each KPI contributes to business success, how to interpret it, and actionable strategies for improvement, should the need arise.



Example – content for your website/blog

- 1. Write a white paper on the **benefits of hiring professional accountant for your business.** 2. Then turn it into a blog post
- Or you could pick any of the suggestions generated in Task 2 and ask GPT to write your blog posts.
- Give me quotes from **famous people about entrepreneurship** (CHECK whether the answer is factual)



Example: AI for Recruitment

Crafting job descriptions. Try this one for yourself using ChatGPT or Perplexity.

A generic prompt might go something like: create a job description for a [marketing project manager] at a {mid-sized sportswear} company in {UK}

****Job Title: Marketing Project Manager****

****Company:** Mid-sized Sportswear Company in the UK**

****Location:** London, UK**

****Job Description:****

We are seeking a dynamic and experienced Marketing Project Manager to join our mid-sized sportswear company based in the vibrant city of London, UK. As a Marketing Project Manager, you will play a pivotal role in driving marketing initiatives and managing projects to promote our brand and products effectively.

****Responsibilities:****

1. Develop and implement comprehensive marketing strategies to enhance brand visibility and drive sales growth.
2. Plan, execute, and oversee marketing campaigns across various channels including digital, social media, and traditional marketing.

How to generate good prompts

- Be **specific** and detailed – the more specific/detailed, the better
- Provide **clear instruction** and the **goal** of the task
- Request the **format** – bullet points, spreadsheet, code, diagram
- Ask to provide examples or clarify
- Assign a **role** i.e. ‘you are an entrepreneur’
- Grammar and sentence structure is less important
- Give information about the **audience/target market**
- Fine tune – assess the first content and adjust to your specification – give more details, adjust instruction
- Each conversation will remember the previous one so no need to repeat
- I often just put my thoughts in and ask the bot to summarise or write concisely etc.

Prompt Engineering/Design

Bad prompt

You
Give me an agenda for a workshop

Good prompt

You
Give me an agenda for a workshop. *task context*

I'm meeting a leadership team at an aurospace consulting firm.
The goal of the workshop is figure out how they can use AI.
They are new to this. We have 8 people for 4 hours.

Good prompt

You
Give me an agenda for a workshop. *questions*
Feel free to ask me any clarifying questions first.

Iterate!

prompt → ~~response~~ → update prompt → response

prompt → response

followup prompt → response

Better prompt engineering skills = Better results

Study, Practice, Learn

Video creation

SORA (OpenAI)

cdn.openai.com/sora/videos/tokyo-walk.mp4



Prompt: A stylish woman walks down a Tokyo street filled with warm glowing neon and animated city signage. She wears a black leather jacket, a long red dress, and black boots, and carries a black purse. She wears sunglasses and red lipstick. She walks confidently and casually. The street is damp and reflective, creating a mirror effect of the colorful lights. Many pedestrians walk about.

Canva – AI tools – IMAGEN (photo generator)



A dog eating ice cream at the seaside



A company event to celebrate diversity of the business community



Frog dancing with caterpillar

Clickup free version



Which solution would you like to start with?

Operations Marketing Finance & Accounting Support Personal Use HR & Recruiting

Engineering & Product Creative & Design Sales & CRM PMO Professional Services IT

Other

This will help us customize your onboarding experience.

Clickup free version

The screenshot displays the Clickup free version interface. At the top, there is a dark navigation bar with a search bar, keyboard shortcuts (Ctrl+K), and buttons for AI, Upgrade, and New. Below this, the main workspace is divided into a left sidebar and a central task view.

Left Sidebar:

- Organization: CCCU
- Team: PMO Team
- Home
- Inbox
- Docs
- Dashboards
- Whiteboards
- More
- Favorites
- Spaces
- Everything
- PMO Team (selected)
- Supplementary school... (4 tasks)
- PMO Docs
- View all Spaces

Central Task View:

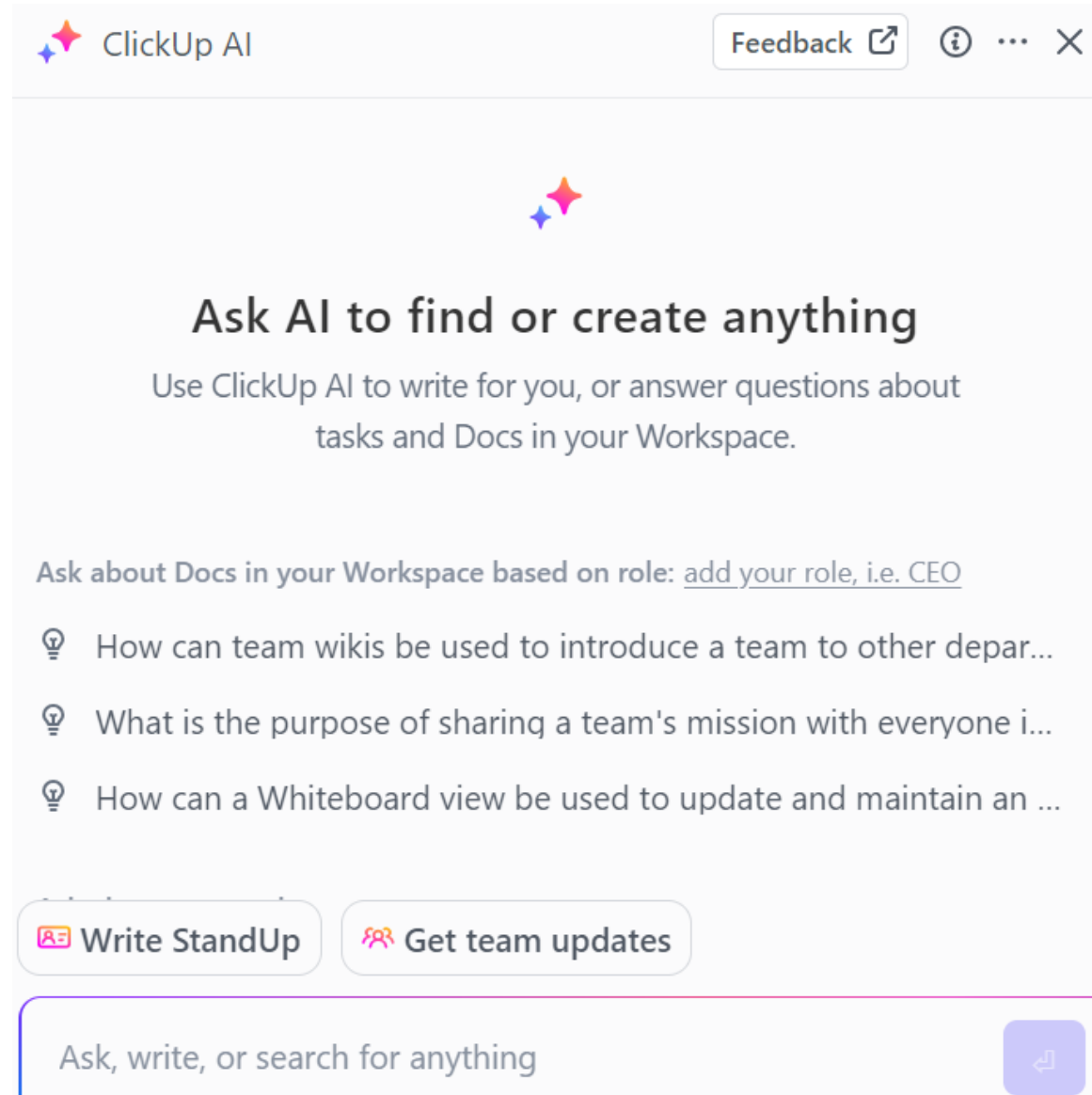
Supplementary school research

Supplementary school research

TO DO 4 Add Task


Name	Due date	Priority	Comments
Interviews	Mar 31	High	Q
Transcripts	Mar 31	Normal	Q
Data Analysis	Apr 20	Normal	Q
Write up	May 31	Normal	Q
+ Add Task			

Clickup free version



ClickUp AI

Feedback ↗ ⓘ ⋮ ✕





Ask AI to find or create anything


Use ClickUp AI to write for you, or answer questions about tasks and Docs in your Workspace.

Ask about Docs in your Workspace based on role: add your role, i.e. CEO

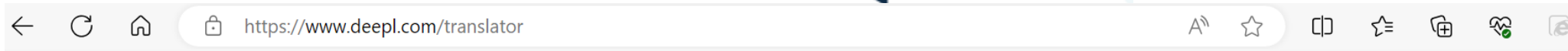
- 💡 How can team wikis be used to introduce a team to other depar...
- 💡 What is the purpose of sharing a team's mission with everyone i...
- 💡 How can a Whiteboard view be used to update and maintain an ...

 Write StandUp

 Get team updates

Ask, write, or search for anything 

Translation tools



Translator

DeepL Pro

For Business

Why DeepL?

Start free trial



Login



Translate text
32 languages



Translate files
.pdf, .docx, .pptx



DeepL Write **BETA**
AI-powered edits

Detect language



English (US)

Glossary

Type to translate.

Drag and drop to translate PDF, Word (.docx), and PowerPoint (.pptx) files with our document translator.

Click the microphone to translate speech.

**DEMO: Write a text in Chat GPT in Polish; Prompt:
Napisz mi tekst marketingowy promujacy kurs online z rozwoju marki**

Translate in DeepL



Canterbury
Christ Church
University


Translation tools



Login 

Perfect your writing in seconds

Write clearly, precisely, and with ease

English (British) 



Mode: Rewrite 

Style 



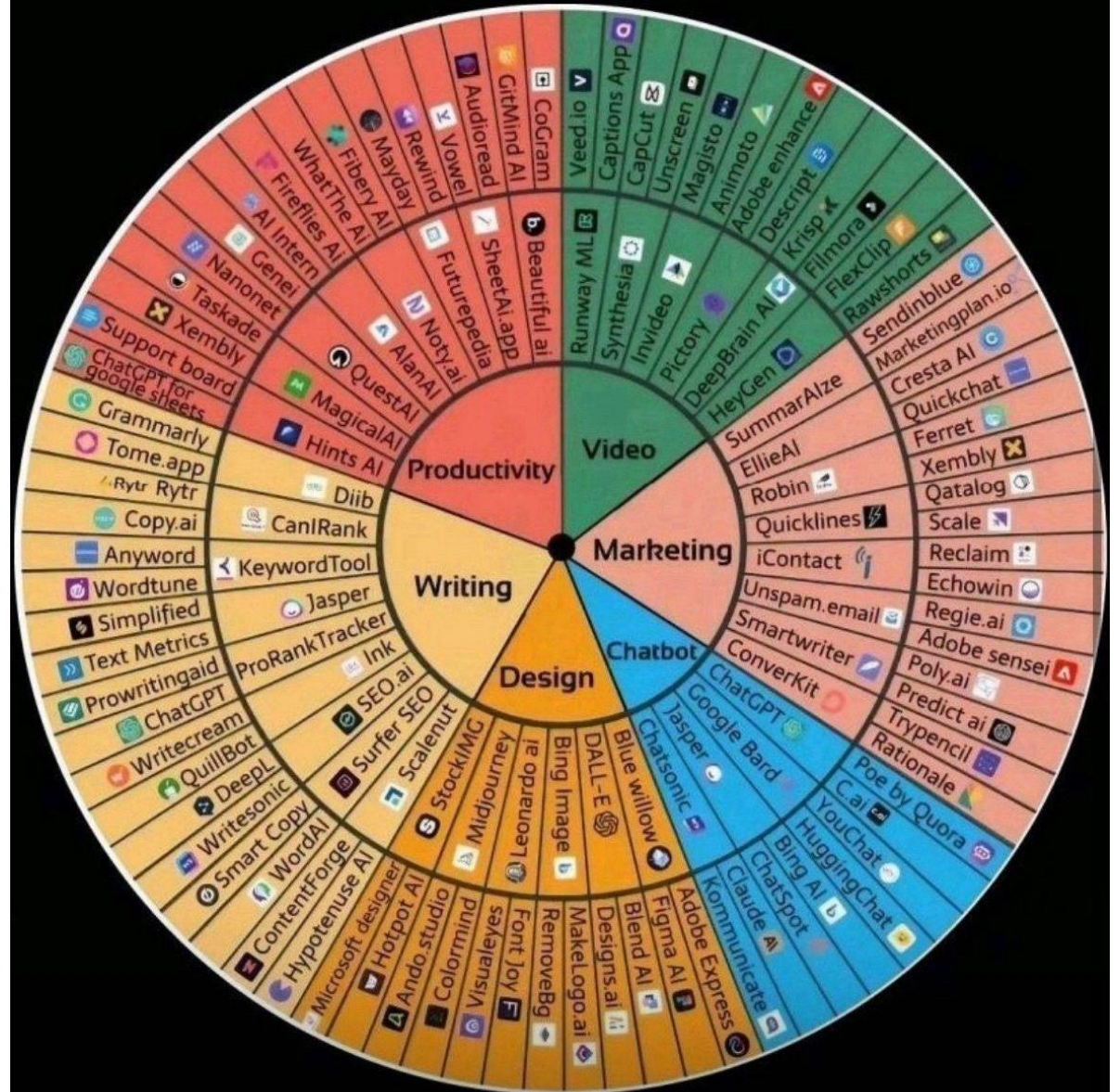
Type or paste text to see ideas for improvement.

Click any word for alternatives or to rephrase a sentence.

1000s of AI tools to use in your enterprise

- Which one have you used already?
- Any other you can recommend?

120 MIND-BLOWING AI TOOLS



Feedback from the session

MENTI CODE: **7597 7221**

www.menti.com

www.mentimeter.com





Our next workshop

Creative Strategies for Implementing Digital Tools IN PERSON

You will apply creative problem-solving techniques to create a strategy/plan for implementing digital tools/AI into your business.

Date: 21/03/2024

 1:00 PM GMT - 3:00 PM GMT
 Verena Holmes Building, **VH 1.14b**,
N Holmes Rd,
Canterbury,
Kent,
CT11QU

Sign up here → <https://lnkd.in/gVQHmxxv>



Upcoming Help to Grow Management Course

Are you a senior business leader/owner/founder of a small or medium sized enterprise (>5 employees, < 250)?

Are you looking for an opportunity to develop a growth action plan for the business?

[Register here](#) for a place on our next course starting 24 April for 12 sessions on topics such as **strategy and innovation, digital implementation, building a brand and winning new markets** - 90% funded by central government.

On completion you will join the alumni network with thousands of other business leader peers here in Kent and across the UK.

If you want to have a chat regarding the course prior to registration, please email via htgmanagement@canterbury.ac.uk



HELP TO GROW
MANAGEMENT COURSE

thank you