

# Implications of Generative AI on the Australian Workforce

Research and Development  
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△ 2535  
878

△ 58768

GMB

MODEL:428

△ 7239  
572

# Key finding: Generative AI will replace tasks, not jobs, allowing people to focus on higher-value activities that will help boost productivity

## Key findings of the report

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- 1 The potential implications of AI for our economy and our society are substantial. A data-led, nuanced understanding the impact is essential.
- 2 We estimate that about half a million Australians are currently working in the 10 occupations most exposed to large-language models like ChatGPT, Bing or Bard. This is a diverse group and includes telemarketers and tertiary educators, policy and management consultants, psychologists and counsellors, as well as judges and lawyers.
- 3 AI advancements aren't just having consequences for jobs further down the skill or income ladder, as we might typically expect from developments in automation. Our analysis shows that seven out of the top 10 most exposed occupations have above average weekly earnings, and most employees have tertiary qualifications.
- 4 The jobs most impacted by generative AI are disproportionately held by women, meaning that AI will have implications for gender inequality, either good or bad depending on whether it replaces jobs or merely replaces tasks.
- 5 We find that, for the top 10 occupations most exposed to generative AI, generative AI impacts only about one-third of the tasks associated with each job on average. This will allow workers to focus on their other tasks, lifting productivity and making people's jobs more engaging.

# Mandala followed the methodology of Felten et al. to identify occupation exposure to AI

Felten identified an occupation's exposure to generative AI by constructing a measure of how well AI can accomplish skills that make up the occupation.

This was done by linking 10 AI applications like abstract strategy games and reading comprehension to 52 human abilities like inductive reasoning and written communication. For example, an AI application like language modelling, i.e. Chat-GPT, is associated with skills like written expression and information ordering.

A higher exposure score does not mean that the occupation will disappear. Instead that it is most likely to see upheaval as AI is implemented.

Mandala repeated this analysis for Australian occupations, then used ABS data to determine the characteristics of the occupations that are most exposed. The exposed occupations fell into 3 categories: informers, carers and coordinators.

Sources: Felten et al. (2023) How will language modelers like ChatGPT Affect Occupations and Industries?

Occupations with the highest AI exposure fell into 3 categories, informers, carers and coordinators



Sources: Foundation of Young Australians (2016) The New Work Mindset; Mandala analysis

# There are 493,700 people in Australia who are employed in the professions that will be most affected by AI

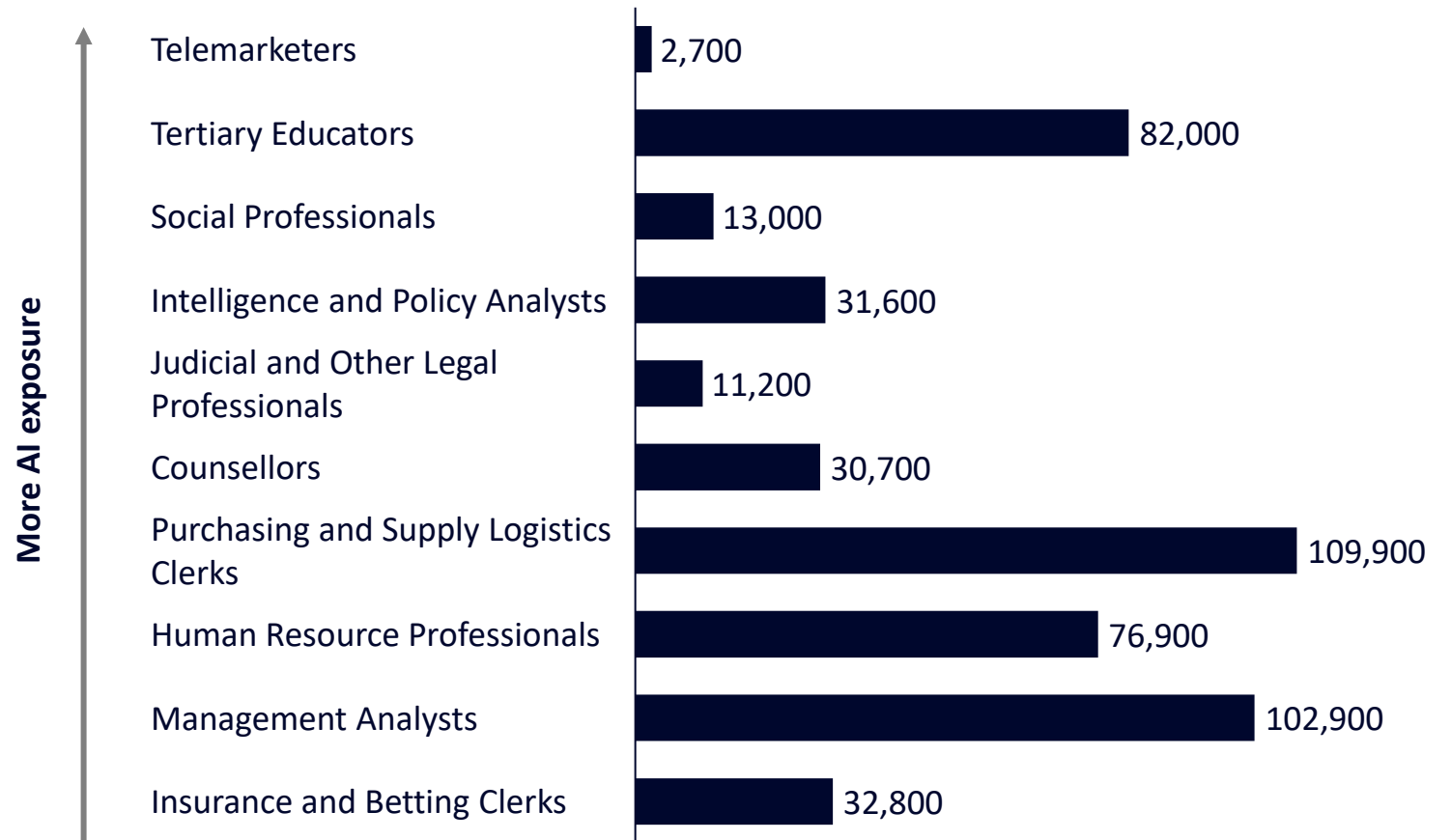
The occupations with the highest AI occupational exposure employed 493,700 people across Australia.

The largest of these occupations were purchasing and supply logistics clerks and management analysts, more commonly referred to as consultants.

Even smaller occupations, like social professionals and judicial and legal professionals play a critical role in the economy. Social professionals include occupations like interpreters and translators, while judicial and other legal professionals include judges and their clerks.

## Number of employees by occupation

*Number of employees, occupations with the highest AI Occupational Exposure*



# These highly exposed occupations are more likely to pay better than average

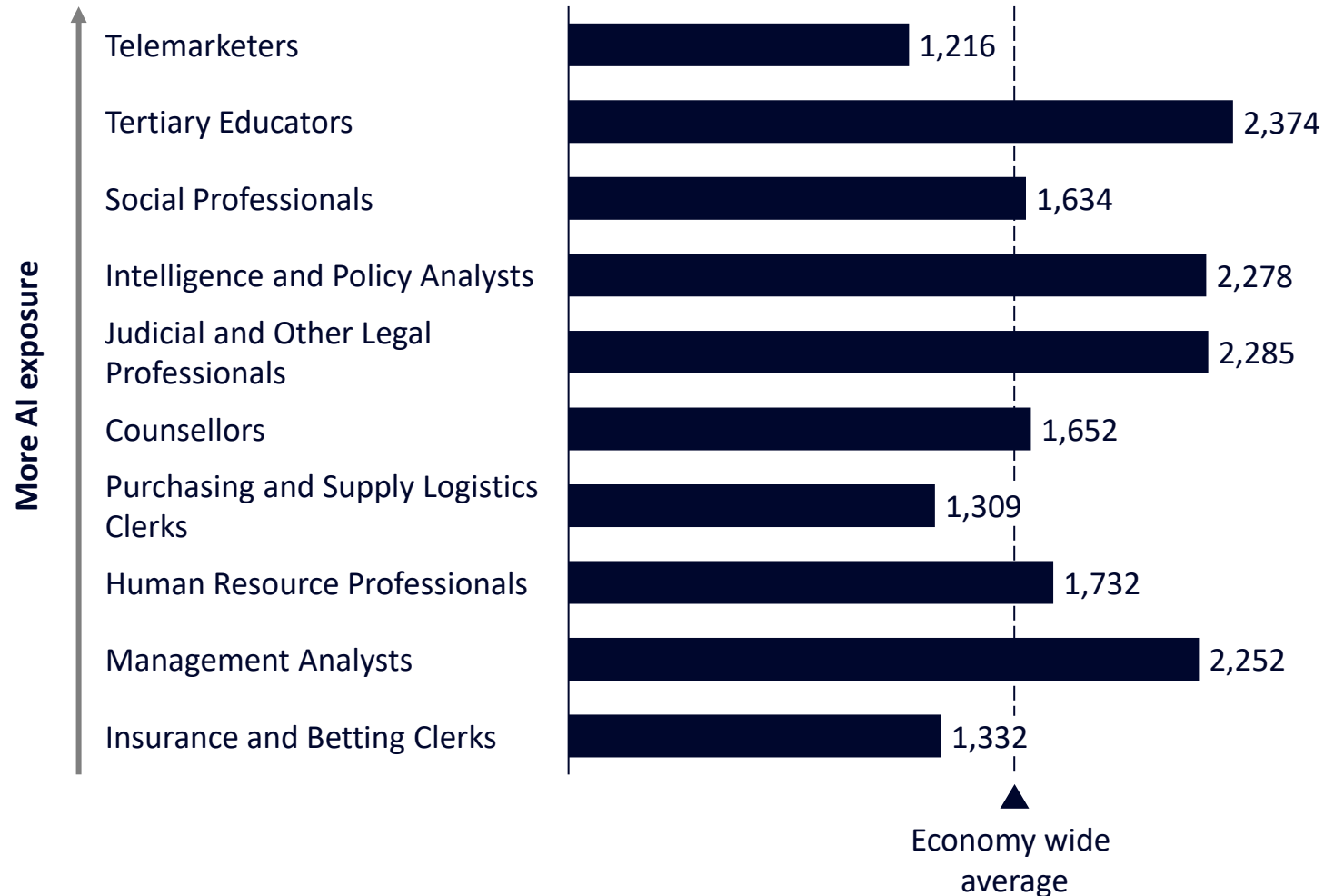
Mandala found that the most exposed occupations had a broad range of average earnings with a skew towards higher-than-average wages.

The most highly paid exposed occupations were 'informer' roles like policy analysts and consultants. These roles required skills like written expression and information processing, these are tasks that the latest generation of large language models (LLMs) are well suited for.

These roles are already working to incorporate LLMs into their business, by using them to summarise documents and draft reports with prompts and ideas generated by the professional.

## Average weekly earnings by occupation

*SAUD average weekly earnings, occupations with the highest AI Occupational Exposure*



# The highly exposed occupations are more likely to have a higher share of female employees

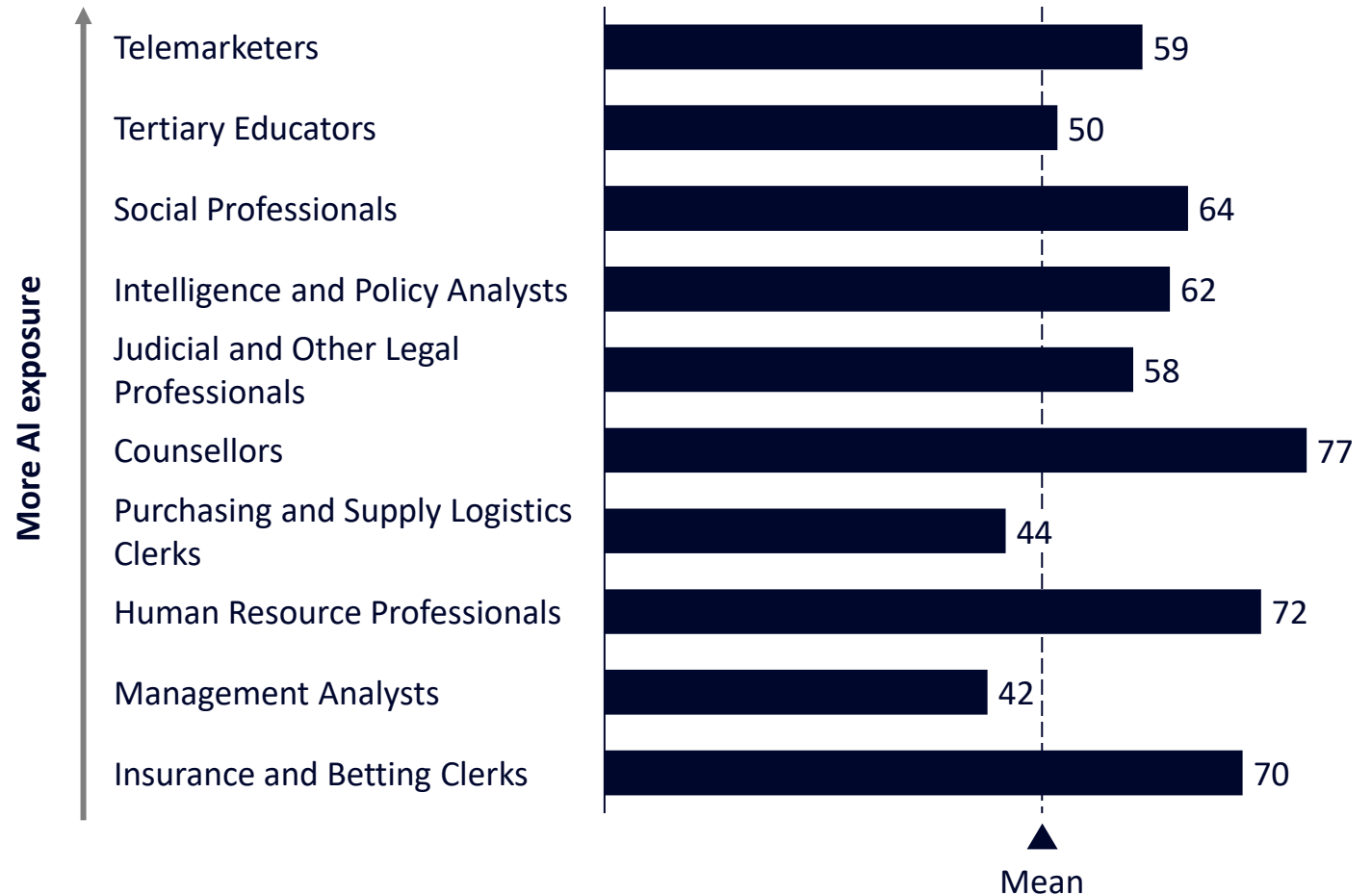
Mandala also found that the most exposed occupations to generative AI tended to have a higher share of female employees.

The roles with the highest share of female employees were 'carer' roles like counsellor and HR professionals. These roles place a particular emphasis on soft skills like case and stakeholder management, along with communication skills like report writing. Generative AI will be used in these occupations to support these processes, generating drafts of emails and reports for the employee to approve.

These roles also require a deep subject knowledge on topics like workers compensation and rehabilitation. Employing AI will free up the time of practitioners and allow them to expand and use their knowledge.

## Share of women in occupation

*% of women, occupations with the highest AI Occupational Exposure*



# The most exposed occupations are more likely to require an undergraduate or postgraduate degree

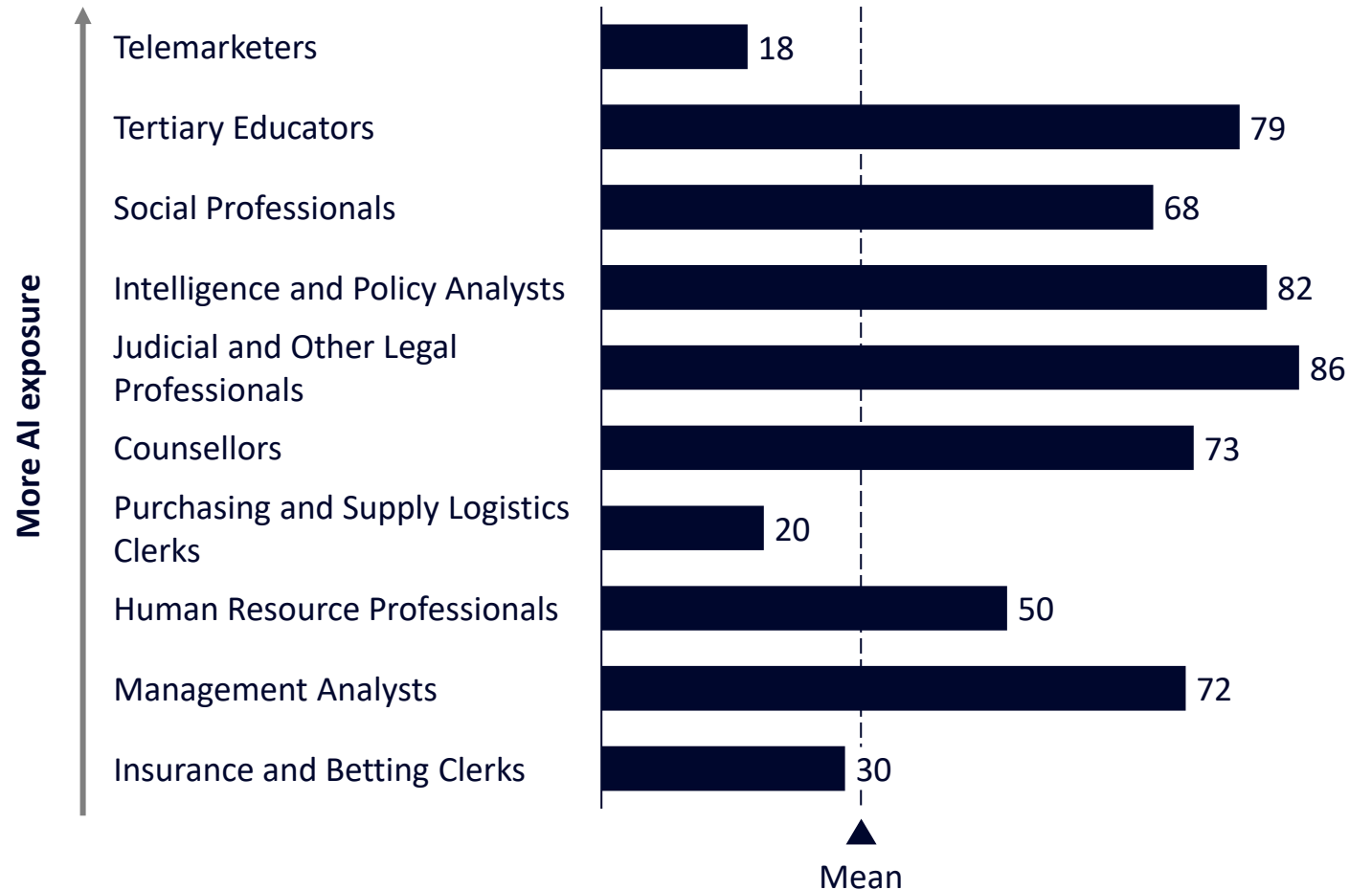
Mandala found that the most exposed occupations were overwhelmingly dominated by people with a tertiary education.

The roles with the highest share of tertiary education were judicial professionals and policy analysts. These roles in the information economy are dominated by tasks that involves written communication, information processing and information prioritisation.

These professions will see the greatest gains in productivity through the thoughtful integration of AI into processes. Employing AI to draft standardised documents, summarise and identify key information in reports will enable professionals to focus on tasks with the greatest value add.

## Share of employees with tertiary education

*%, occupations with the highest AI Occupational Exposure*



# For the top 10 occupations most exposed to generative AI, generative AI impacts only about one-third of the tasks associated with each job on average

## Most exposed skills of AI exposed occupations

Occupation	Skill 1	Skill 2	Skill 3	Impact of AI on Occupation
<b>Telemarketers</b>	Customer Service	Cold Calling	Customer Contact	Telemarketers will find generative AI is able to support customer interactions by automatically generating responses like answers to questions and cold emails and identifying potential leads. This will free up telemarketers to focus on leads with more concrete potential.
<b>Tertiary Educators</b>	Lecturer	Managing Student Data	Student Learning Outcomes	Tertiary educators will be able to direct students to use generative AI to answer some questions. This will allow them to focus on more difficult questions and curriculum development and allows the students to receive responses instantly.
<b>Social Professionals</b>	Communication Skills	Writing	Customer Service	Social professionals like interpreters and translators will find generative AI useful in providing initial drafts of documents. This will allow the professional to focus on the most difficult or most impactful sections.
<b>Intelligence and Policy Analysts</b>	Policy Analysis	Python	Data Science	Analysts will be able to use generative AI as both an information processing tool and as support in generating insights from data. This will enable analysts to focus on the implications of the insights AI helps to generate and focus on policy development.
<b>Judicial and Other Legal Professionals</b>	Legal Support	Customer Service	Legal Documentation	Legal professionals will find generative AI is able to quickly draft standardised legal documents and letters and allow them to focus on the deviations the client requires.
<b>Counsellors</b>	Working With Patients	Case Management	Report Writing	Counsellors will be able to use generative AI to support client interactions by supporting them to generate responses. It will also be key to generating standardised reports from patient notes with ease. This will free up counsellors time to spend on their clients who are most in need.
<b>Purchasing and Supply Logistics Clerks</b>	Contract Management	SAP	Customer Service	Purchasing clerks will use AI to support interactions with customers as well as managing contracts by automatically drafting documents and analysing data in real time. This will allow them to focus on negotiating and supporting supply chains
<b>Human Resource Professionals</b>	Employee Relations	Social Media	HR Policies	HR professionals will be able to use generative AI to support difficult employee interactions, drafting HR policies and to create social media campaigns. If they are able to outsource these tasks they will be able to focus on employee performance, recruitment and onboarding
<b>Management Analysts</b>	Business Analysis	Business Process	Data Analysis	Management analysts will use generative AI to process information on business systems as well as generate insights from data. Similar to policy analysts, this will enable them to focus on implications.
<b>Insurance and Betting Clerks</b>	Claims Adjustments	Customer Service	Customer Contact	For clerks, AI will inform decisions around claims adjustment by provided an initial view based on previous claims processed by the firm. It will also support customer service by automatically generating responses.

Notes: Mandala used job advertisement data to determine the skills that were demanded of employees in the most exposed occupations. These skills were then mapped to the human abilities identified in the O\*NET. These abilities were mapped against AI applications and rated on their ability to be disrupted.

Source: Lightcast; Mandala analysis.



# Technical Appendix

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# Most common skill requirements of AI exposed occupations

## Most common skill requirements of AI exposed occupations

Occupation	Skill 1	Skill 2	Skill 3	Skill 4	Skill 5	Skill 6	Skill 7	Skill 8	Skill 9	Skill 10
<b>Telemarketers</b>	Sales	Telesales	Outbound Sales	Customer Service	Telemarketing	Sales Goals	Cold Calling	Teamwork / Collaboration	Customer Contact	Prospective Clients
<b>Tertiary Educators</b>	Lecturer	Teamwork / Collaboration	Managing Student Data	Student Learning Outcomes	Curriculum Development	Teaching	Curriculum Design	Psychology	Competitive Analysis	Administrative Functions
<b>Social Professionals</b>	Teamwork / Collaboration	Communication Skills	Writing	English	Project Management	Stakeholder Management	Employee Relations	Customer Service	Microsoft Power BI	Teaching
<b>Intelligence and Policy Analysts</b>	Policy Development	Teamwork / Collaboration	Project Management	Policy Analysis	Stakeholder Management	Surveillance	Python	Policy Implementation	Data Science	Budgeting
<b>Judicial and Other Legal Professionals</b>	Teamwork / Collaboration	Legal Support	Environmental Law	Environmental Laws and Regulations	Land Management	Litigation	Administrative Support	Customer Service	Legal Documentation	
<b>Counsellors</b>	Working With Patients	Psychology	Case Management	Rehabilitation	Conflict Management	Occupational Therapy	Report Writing	Record Keeping	Public Health and Safety	Teamwork / Collaboration
<b>Purchasing and Supply Logistics Clerks</b>	Teamwork / Collaboration	Purchasing	Scheduling	Contract Management	SAP	Inventory Control	Customer Service	Negotiation Skills	Supply Chain Knowledge	Logistics
<b>Human Resource Professionals</b>	Talent Acquisition	Performance Management	Employee Relations	Teamwork / Collaboration	Stakeholder Management	Onboarding	Recruiting	Workers' Compensation	Social Media	HR Policies
<b>Management Analysts</b>	Business Analysis	Business Process	Change Management	Stakeholder Management	Teamwork / Collaboration	Project Management	Microsoft Power BI	SQL	Data Analysis	
<b>Insurance and Betting Clerks</b>	Claims Adjustments	Claims Knowledge	Customer Service	Claims Processing	Customer Contact	Teamwork / Collaboration	Property Claims	Negotiation Skills	Stakeholder Management	Case Management