Utilisation of AI and big data for talent acquisition in the transport industry in Australia

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Executive summary

What is one technical innovation that we can introduce to our industry that will help us achieve RA policy objectives and open up opportunities for new streams of talent in our workforce?

This report presents the key findings of a study exploring the application of Artificial Intelligence (AI) and Big Data in talent acquisition within the Australian transport industry. The study focused on identifying individuals with transferable skills from outside the industry, aiming to answer the question of what technical innovation can be introduced to achieve RA policy objectives and open up opportunities for new streams of talent in the workforce. The report also considers how this innovation relates to RA policy goals.

The findings of the report indicate that the use of AI and Big Data in talent acquisition can contribute to improving talent diversity and expanding the talent pool in the transport industry. By leveraging these technologies, talent acquisition managers can identify candidates with transferable skills, enabling the industry to benefit from a broader range of perspectives and experiences, aligning with the goals of RA policy.

AI and Big Data provide valuable tools for optimising the use of resources and enhancing decision-making processes in talent acquisition. The integration of these technologies streamlines recruitment processes and improves the efficiency of candidate selection. However, ethical concerns were also highlighted, particularly regarding bias and discrimination that can arise from the reliance on historical data for training AI models.

The study reveals that while there is recognition of the potential benefits of AI and Big Data in talent acquisition, the adoption remains limited within the transport industry. Talent acquisition managers express openness to recruiting candidates with transferable skills, but barriers exist due to concerns about training requirements, particularly in smaller organisations with limited timeframes and resources.

Furthermore, it was noted that the current adoption of AI in talent acquisition is primarily focused on saving time and improving efficiency in administrative tasks, such as data management and initial screenings. Only a small percentage of interviewees actively use generative AI on their own data sets.

Looking towards the future, the report recommends that the transport industry should increase awareness and understanding of AI, mitigate bias and discrimination in recruitment practices, and develop training programs that bridge the gap between transferable skills and industry-specific knowledge.

In conclusion, the study highlights the potential benefits of using AI and Big Data in talent acquisition within the Australian transport industry. By leveraging these technologies, the industry can enhance recruitment efficiency, attract diverse talent, and improve decision-making processes. However, it is crucial to address ethical concerns and ensure fair and unbiased candidate evaluation. The future lies in further exploration and adoption of AI and Big Data in talent acquisition while considering the identified limitations and focusing on aligning with RA policy goals.

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1   Introduction

This report aims to review the use of Artificial Intelligence (**AI**) and big data sets as a **technical innovation** in talent acquisition for the transport industry in Australia. Specifically, it focuses on how these advanced technologies can assist in the identification of suitable job candidates from different industries by matching their skill sets with specific job descriptions within the transport industry.

The transport industry plays a vital role in the overall economic development and functioning of any country. As the industry continues to grow and evolve, the need for skilled professionals with diverse backgrounds becomes increasingly important. Traditional methods of talent acquisition which focus on specific industry experiences rather than canvassing for diverse candidates, run the risk of overlooking or missing candidates with transferable skills from other industries who possess the potential to thrive and to offer fresh approaches in the transport industry.

The emergence of AI and big data sets presents new possibilities for talent acquisition managers to tap into a wider pool of candidates. By leveraging the power of AI algorithms and big data sets, these tools can analyse, categorise, and identify potential candidates whose skill sets align with the requirements of job positions within the transport industry. Do these technical innovations therefore provide talent acquisition teams with the opportunity to introduce **new streams of talent** and skills to the transport industry?

With extensive research demonstrating the benefits of diverse teams, this notion will naturally enhance organisations working within the transport industry resulting in wholistic support of **Roads Australia policy objectives**. Specifically, through identification of candidates with diverse background and skills, use of AI and big data sets in talent acquisition for the transport industry will support the development of a diverse workforce.

By drawing on the findings of a series of surveys and interviews conducted by our group, this report will explore the benefits and challenges of using AI and big data sets for talent acquisition in the transport industry. It will explore the ethical considerations and risks associated with the use of AI and big data sets for talent acquisition. The report also outlines future trends and advancements and provides recommendations for future talent acquisition in the transport industry.

The objective of this report is to provide insights into future trends and advancements for the use of AI and big data sets in talent acquisition, and to provide recommendations for talent acquisition managers in the transport industry to effectively leverage these advancements to identify job candidates with diverse skill sets, generating new streams of talent in our workforce.

2   Methodology

2.1   Generating the data

The project team's first step was to collect data relating to the utilisation of AI and big data sets within the talent acquisition and recruitment professions and also to understand the uptake of transferable skills by hiring managers. This required the project team to generate the greatest number of insights as possible in a short time and obtain perspectives from a variety of industries both local and international. The project team determined the best way to do this was through face-to-face interviews and an online survey.

As a project team, we utilised our respective professional networks, both internal and external to our organisations.

This was considered to be positive as the team members represented a broad range of organisations which operated locally and abroad within the transport industry. Additionally, it was possible to have access to talent acquisition professionals both directly employed, as well as external recruitment companies utilised within the represented organisations. Our aim was to generate the greatest number of research participants possible, generating data and statistics to best inform the group and thus our research report.

To begin, two sets of questions were developed targeting internal and external talent acquisition and / or recruitment professionals.

- Question set #1, was a series of 7 open ended questions to be used in a face-to-face interview format enabling the exploration of detailed insight through discussion
- Question set #2, was a series of 13 open and closed ended questions answered via a survey aiming to generate informed insights but, also provide statistical type data

Initially, the project team used an artificial intelligence chatbot to develop the two sets of questions. This approach provided the team with a starting point, exploring the relevance and accuracy of AI technology as well as generating a personal experience with AI type technology for project team members that had not as yet used it. The questions were then reviewed and workshopped by the project team, refining them to ensure their relevance to the project report outcomes.

2.2   Face to face interviews

The project team generated a list of interviewees which included talent acquisition and recruitment professionals either directly employed or engaged as external supporting companies to the representative organisations. The project team split into pairs to undertake the interviews, assisting the process by enabling a free-flowing conversation and at the same time ensuring key aspects of the questions were answered within the allotted time.

Overall, 11 interviews were conducted.

2.3   Online survey

The survey included 11 closed-ended questions offering a multiple choice range from (5) strongly agree to (1) strongly disagree, allowing respondents a single selection. Some close-ended questions also encouraged the respondents to expand on their answer with examples through an optional free text comment field.

Two open-ended questions were also included in the survey, which were optional to answer. These questions aimed to supplement the data and offer a broader comparison to the responses received via the face-to-face interviews.

Overall, 39 respondents completed the survey.

2.4   Data analysis

Individually, the project team members reviewed and considered the information generated via the face-to-face interviews and the online survey. The common themes were agreed collectively and have been summarised in the key findings section of the report.

3   Current landscape of talent acquisition in the transport industry

The current landscape of talent acquisition in the Australian transport industry is marked by a blend of traditional and modern approaches. While traditional methods like word-of-mouth referrals and newspaper advertisements still find some utility, the industry also utilises digital platforms such as online job portals, recruitment agencies, and social media, with LinkedIn emerging as a primary data source. Talent acquisition managers are harnessing the power of big data and AI tools to identify potential candidates and align their skill sets with job descriptions. These tools include Applicant Tracking Systems (ATS), analytics tools, and AI-driven solutions like ChatGPT, which streamline various recruitment tasks, from writing job descriptions to conducting candidate searches. However, the industry faces notable challenges, including skill shortages, high turnover rates, regulatory compliance, the need to adapt to technological advancements, and the imperative of attracting younger talent to ensure its long-term sustainability.

In response to these challenges, talent acquisition specialists are employing innovative strategies and leveraging technology to create a compelling narrative that attracts top talent. Organisations are also investing in employee development and training programs to bridge skills gaps and ensure a capable and adaptable workforce. Despite the hurdles, the Australian transport industry's talent acquisition landscape is evolving, driven by a commitment to meet the demands of a dynamic sector and contribute to the nation's economic growth and success.

3.1   Current talent acquisition methods

A summary of the current methods used by talent acquisition specialists is provided below:

- Traditional Recruitment: Traditional recruitment methods, including newspaper advertisements and word-of-mouth referrals, still have a presence in the Australian transport industry. While they may be less prevalent than in the past, some companies continue to use these methods to attract talent, especially for non-specialised roles.
- Online Job Portals: Online job portals like Seek and Indeed have become a popular choice for posting job vacancies and attracting a wide pool of candidates. These platforms offer the advantage of reaching a large audience quickly and allow for easy customisation of job listings.
- Recruitment Agencies: Many organisations collaborate with recruitment agencies specialising in the industry. These agencies have extensive networks and knowledge of the sector, making them valuable partners for sourcing and screening candidates.
- Social Media: Social media platforms, particularly LinkedIn, are increasingly being used for talent acquisition. Companies utilise these platforms not only to post job openings but also for employer branding and networking with potential candidates.
- In-House Talent Acquisition Teams: Larger organisations often have in-house talent acquisition teams. These teams work closely with hiring managers to identify job requirements, source candidates, and oversee the recruitment process from start to finish.

3.2   Challenges faced by talent acquisition managers

One of the most pressing challenges in talent acquisition for the Australian transport industry is the shortage of skilled professionals. The industry's growth has outpaced the availability of qualified talent, making it increasingly difficult to fill essential positions.

The transport industry is also known for its high turnover rates, especially in roles that involve long hours and significant time away from home. Employee turnover not only increases recruitment costs but also disrupts operations, affecting overall productivity and service quality.

The transport industry in Australia is subject to stringent regulatory requirements and safety standards. Talent acquisition managers must ensure that candidates possess the necessary certifications and qualifications to meet these standards. Failure to do so can result in legal and safety concerns.

Advancements in technology are transforming the transport industry, which is also providing challenges in hiring people with the right experience. The adoption of technologies like autonomous vehicles, real-time tracking systems, and data analytics requires a workforce with specific technical skills. Finding and hiring candidates with expertise in these areas can be challenging.

The aging workforce in the transport industry is a growing concern. Many experienced professionals are nearing retirement, creating a potential knowledge and skills gap. Attracting younger talent to the industry is crucial for its long-term sustainability.

3.3   Existing big data and ai tools used in recruitment

The below list details some of the AI tools that the recruitment industry is currently utilising, as identified through research and interviews carried out by the project group. It is acknowledged this is not an exhaustive list given the fast-developing area of AI but, provides a good overview.

- **Applicant Tracking System (ATS) - Bullhorn:** This internal ATS helps extract skills from resumes and includes a resume marking tool. It also uses keyword and phrase searches along with AI to assess candidates' skills from previous placements. This data is leveraged to improve job advertisements and suggest candidate matches.
- **ChatGPT Widget:** ChatGPT is utilised for various tasks, including streamlining front-end tasks such as writing gender-neutral position descriptions, creating executive summaries of CVs, drafting guides, and rating processes. It's also used to create sophisticated Boolean searches for candidate identification via Google.
- **Analytics tools:** Analytics tools are employed to gather data on talent acquisition activities, providing insights into what has been done with candidate profiles.
- **LinkedIn Recruiter and Seek Premium:** LinkedIn is a primary source of big data used for talent acquisition. LinkedIn Recruiter is employed to pull candidates based on job titles and skills, rather than just job title matching. Seek Premium is another valuable resource for browsing CVs and job profiles.
- **JobAdder:** Some talent acquisition specialists use JobAdder, which includes its own big data set and acts as a CRM system. Many recruiters find it beneficial for their operations.
- **Lusha:** Lusha is used to obtain contact information, particularly when it's challenging to retrieve contact details from LinkedIn profiles

4 Data review and results

A total of 39 recruitment and talent acquisition professionals working in small, medium and large organisations across Australia, New Zealand and Europe responded to the survey. Their operational sectors include:

- Civil engineering / construction / design
- Travel
- Insurance / wealth management
- Safety / injury management
- Manufacturing
- Pharmaceutical / medical device / FMCG
- Transport
- Technology

11 closed ended questions were developed to assess:

- Familiarity and Current Use of AI and Big Data
- Benefits of AI and Big Data in Talent Acquisition
- Challenges and Limitations
- Ethical Considerations and Risks; and
- Future Advancements and Changes.

By categorising the closed-ended questions into the above themes, we are able to better assess the overall trends in the data set and analyse the use of AI and big data in talent acquisition.

4.1 Familiarity and Current Use of AI and Big Data

As shown in the responses to survey questions 6 and 7 (refer to Figure 1 and **Error! Reference source not found.** below), there is still a significant number of people who have very low awareness of AI and how it can be utilised within the industry. Question 6 showed 35% of survey respondents had little or no awareness, with 15% disagreeing they were familiar with the concept of utilising AI and big data sets for talent acquisition purposes. Question 7 showed only 28% of survey respondents currently use AI for skill matching across industries, indicating a lack of widespread adoption. Nearly half (48%) of the survey respondents showed limited engagement or utilization of AI in their recruitment practices.
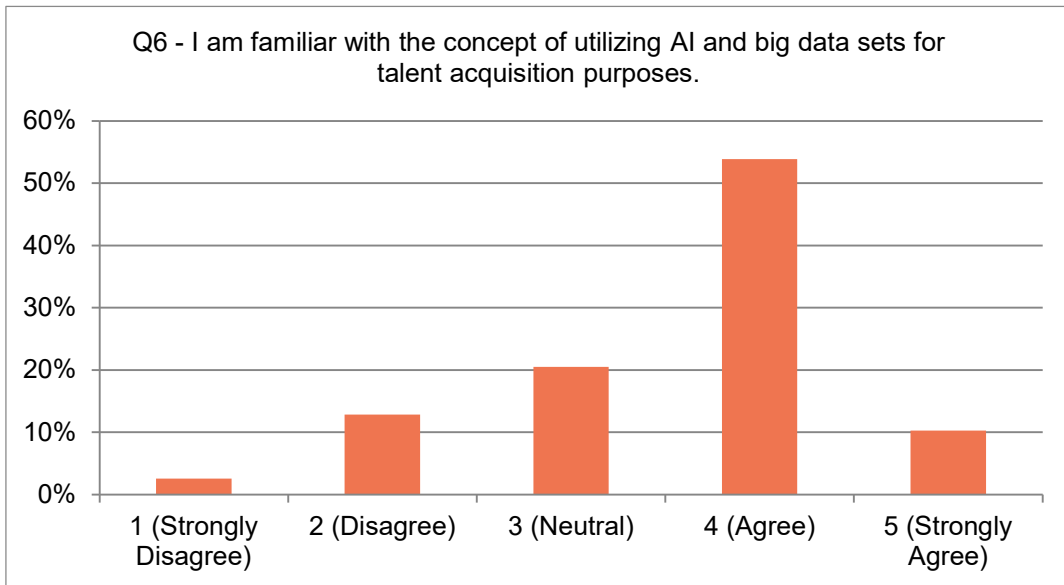
Q6 - I am familiar with the concept of utilizing AI and big data sets for talent acquisition purposes.

Figure 1 – Survey question #6 – results

Q7 - In my talent acquisition processes, I currently utilize AI and big data tools to identify potential candidates from different industries and match their skill sets with job descriptions in the transportation industry.
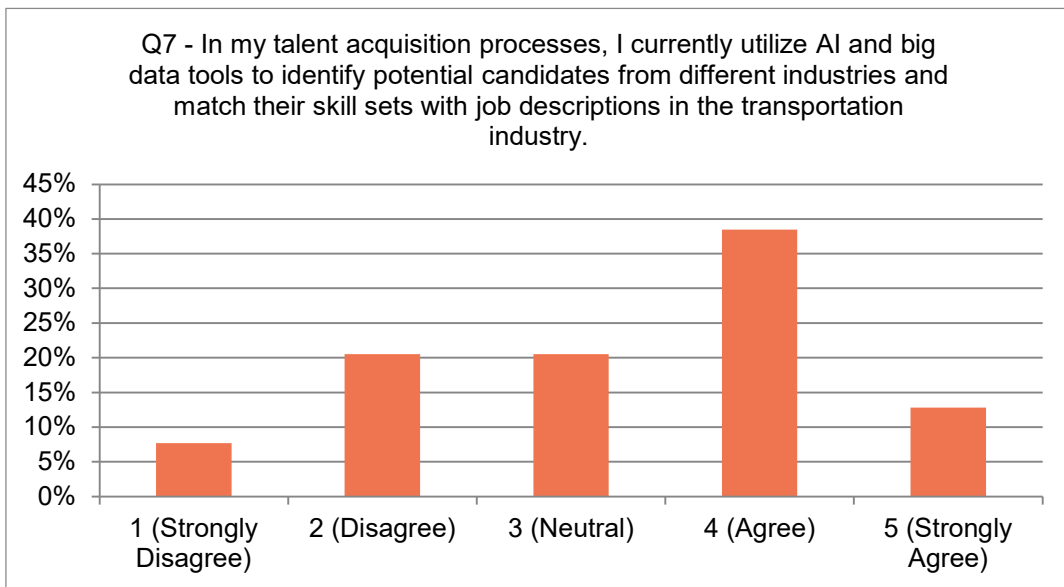
Figure 2 – Survey question #7 – results

4.2 Benefits of AI and Big Data in Talent Acquisition

Survey questions 8, 9, 10,11, 12 and 16 assessed the potential benefits of using AI and big data within the recruitment process and whether these benefits have resulted in improvements within the recruitment process in general and improved diversity of candidates identified for roles.

The benefits reviewed in the survey were:

- Question 8 - efficiency in process;
- Question 9 - improved the accuracy of matching candidates' skill sets;
- Question 10 - improvement to the overall pool of candidates;
- Question 11 - enhancement of diversity and inclusion in our hiring process; and

- Question 12 - improving the ability to identify candidates from other industries or backgrounds.

Of the benefits reviewed, it was found that efficiency in the process (Question 8) was where most respondents identified benefits had already been found, with 64% agreeing or strongly agreeing. The next area where respondents saw the most improvement was in improvement to the overall pool of candidates (Question 10) and enhancement of diversity and inclusion (Question 11) with 42% and 41% respectively of respondents agreeing or strongly agreeing.

When assessing the benefits AI and big data have already had in improving the accuracy of matching candidates' skill sets (Question 9) and improving the ability to identify candidates from other industries or backgrounds (Question 12), only 29% of respondents agreed or strongly agreed.

Question 16 was a catch all question looking at the survey respondent's belief in the overall benefit of using AI and big data sets. Only one respondent disagreed to this question, and 71% either agreed or strongly agreed.

These results show that while people in the recruitment industry identify and acknowledge benefits of using AI and big data, they have mainly only achieved benefits in the efficiency of the recruitment process. With some respondents acknowledging benefits in other areas, there is a suggestion that AI and big data could be used to improve diversity and capacity in the candidate pool in the future, but this is still to be realised.

4.3   Challenges and Limitations

Question 13 asked survey respondents about challenges and limitations of using AI and big data. This was a closed-ended question with the option to leave a comment. 38% of survey respondents agreed or strongly agreed with the statement *'I have encountered challenges or limitations in implementing AI and big data tools for talent acquisition'*. This suggests that the AI and big data sets used in recruitment currently are generally useful and easy to use.
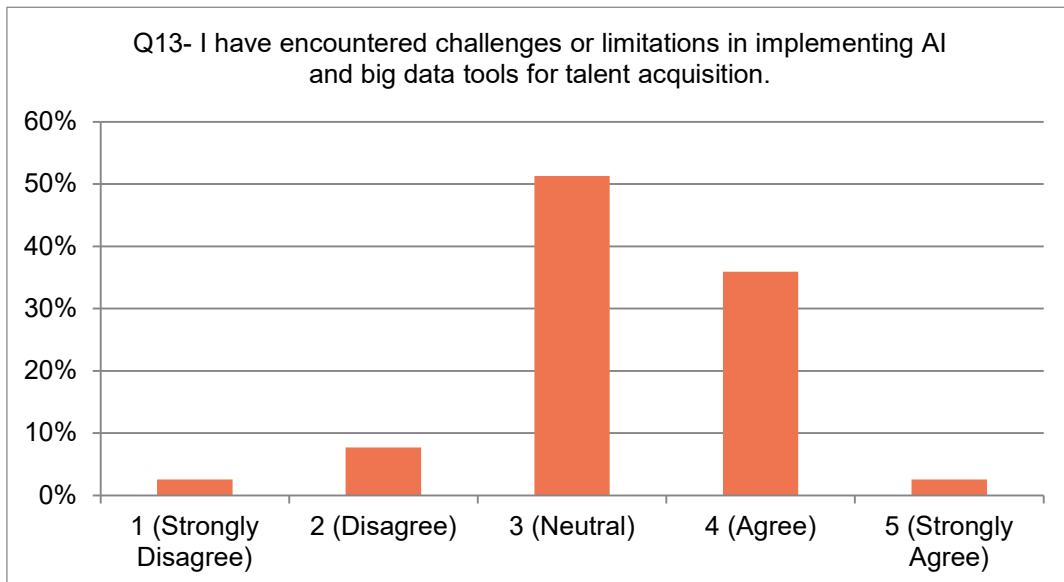

Figure 3 – Survey question #13 – results

Where survey respondents chose to provide examples of the limitations and challenges, they had experienced, they generally fell into the following topics:

- Being comfortable and trusting recommendations made by AI
- AI can take time to set up and learn

- Companies not investing in purchasing AI tools

- Concern about losing the personal touch which may turn off potential candidates; and

- Missing great candidates who may not match job adds because of the way AI matches candidates is very black and white.

4.4   Ethical Considerations and Risks

Question 14 asked survey respondents whether they believed there were potential ethical considerations or risks associated with using AI and big data in talent acquisition. 51% for survey respondents agreed or strongly agreed.
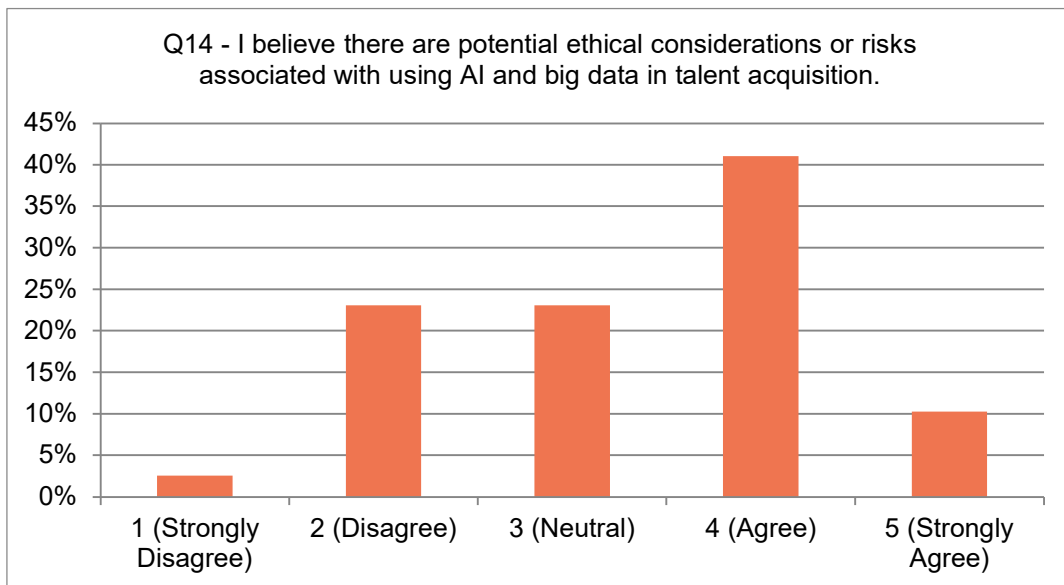

Figure 4 – Survey question #14 – results

The question also invited respondents to provide examples of what they considered were the ethical issues. There were two main concerns raised being biases incorporated into the AI and data privacy concerns.

Bias – Concerns around bias were:

- algorithms being created with the inherit bias of their creator and

- AI predominantly being pattern recognition, can ingrain bias in the tool and when using generative leading to additional bias from the user being further embedded within the tool.

Data Privacy – With regards to privacy concerns when it comes to using AI in recruitment, survey respondents raised these key issues:

- AI digging into people's backgrounds and revieing a person's online presence and provide this to individuals or companies including people who have not applied for or are interested in a job;

- AI missing people who do not have an online presence; and

- Companies not actively gaining permission of individuals to collect personal data.

4.5   Future Advancements and Changes

Question 15 asked survey respondents if they foresee significant future advancements or changes in the utilisation of AI and big data in talent acquisition. 82% of survey respondents agreed or strongly agreed with this statement, which shows that while AI and big data may not currently be widely used, based on questions from this survey respondents are predominantly seeing the main benefits as being for process efficiency. Most people believe there is a future for in AI and big data in recruitment. What respondents thought these changes might be was not clear with the only suggestions being around further process efficiency and taking on some initial interviewing of candidates.
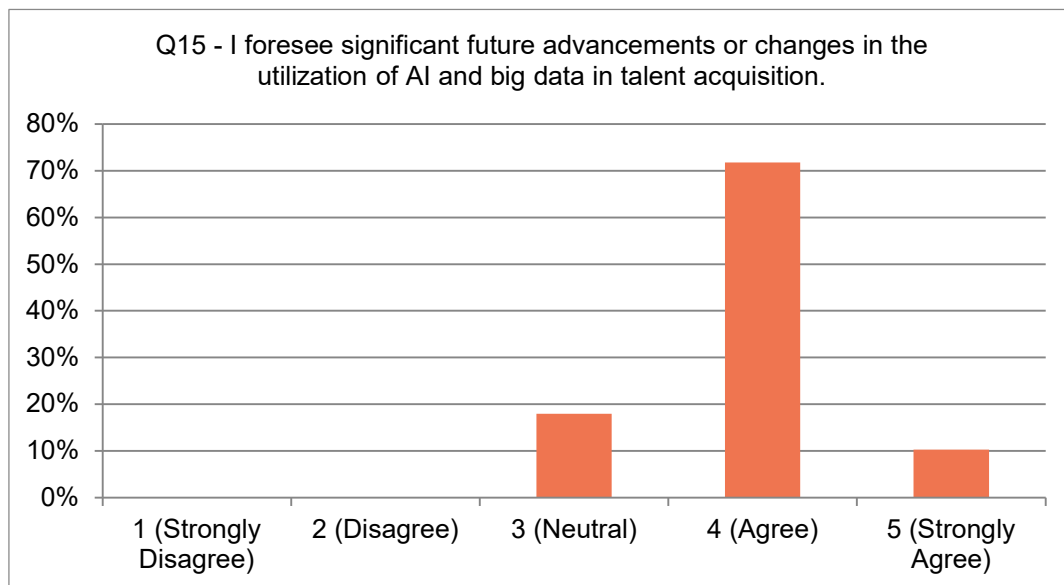

Figure 5 – Survey question #15 – results

4.6   Hiring outside of the transport industry

The final two question of the survey where optional and open ended they looked at respondent's perception of hiring managers willingness to hire people outside the immediate transport industry and the barriers in doing so.

Question 17 asked if hiring managers were open to recruiting people with transferable skills from other industries and Question 18 asked what the barriers to doing so were. The responses show that some hiring managers may have a willingness to onboard candidates with strong transferable skills, but this was only the case if the hiring managers perceived their company was able to provide the time and resources for training the individual with the necessary additional skill to excel in their position.

One response to whether hiring managers are open to recruiting people with transferable skills stated "The extent to which this scenario unfolds can vary based on several factors, including the scale of the role, the characteristics of the company, the availability of training resources and any time constraints associated with the recruitment of the role. Conversely, in situations where resources are limited, or when the role necessitates specific qualifications and or experience, candidates relying solely on transferable skills might not be given due consideration."

Reponses to Questions 17 and 18 show there are still a significant number of hiring managers who perceive some technical and personal skills can only be achieved via experience within a particular sector and geography. This perception, combined with the time pressures associated with an

existing skills shortage, increases the need for new employees to be 100% autonomous (or as close to as possible) from day 1. Thus, resulting in an increased reluctance to engage candidates with transferable skills from other industries.

6. Interview insights: Perspectives from talent acquisition managers

Interviews were carried out with a diverse group of professionals who work in recruitment, encompassing a range of experience levels and representing various organisations. These included large recruitment companies, multinational corporations with internal recruitment departments, and sole traders. Most interviewees had extensive experience in recruiting within the civil design and/or construction industry and their insights provide a valuable perspective on the utilization of AI in recruitment including the benefits, challenges, and ethical considerations associated with its implementation.

All interviewees acknowledged the availability and potential benefits of AI and big data sets and most recognized the value of using AI for initial candidate searches, whether it be creating a list of potential candidates or narrowing down a list based on key criteria. All emphasized that one-on-one interviews remained essential for evaluating candidates' attitudes, true skills, and potential fit within the organization. This shows awareness within the industry of AI, although it is in the early stages of implementation. Only one out of the 11 interviewees had incorporated AI into their own data set and was actively analysing their internal data to improve the recruitment process with the direct use of AI.

When considering the possibility of hiring individuals from outside the transport industry, most interviewees expressed openness to this idea. They recognized the shortage of skilled candidates and the potential benefits of diversifying the talent pool. However, the primary barriers identified were hiring mangers not willing to take the time to train people or agree to the costs associated with upskilling individuals who lack industry-specific experience. Smaller organisations or teams, in particular, faced challenges in providing on-the-job training within limited timeframes and resources.

Regarding ethical concerns, over 50% of interviewees raised the issue of bias and discrimination, mentioning there was the potential to remove some human bias however AI may in fact perpetuate biases due to learned patterns as AI technologies primarily focus on pattern recognition and are trained on historical data that may contain inherent biases, reinforcing discriminatory patterns.

7. The key findings

Through the analysis of the data gathered through the interviews and the online survey, several key findings emerged regarding the use of AI and big data in recruitment. The following key findings related to ethical concerns, awareness and adoption rates, current understanding, and resistance to the utilisation of AI.

1 Limited Awareness and Adoption of AI in Recruitment:

- 15% of individuals surveyed were unaware of AI's role in recruitment, while 35% had minimal awareness.
- Only 28% of survey respondents reported using AI for skill matching across industries, indicating a lack of widespread adoption.
- Nearly half (48%) of survey respondents showed limited engagement or utilisation of AI in their recruitment practices.

2 Current Understanding of AI in Recruitment:

- The current perception of AI in recruitment is primarily focused on its potential to save time and improve efficiency in administrative tasks, such as data management and initial screenings.

- Respondents indicated that AI is primarily viewed as a tool to streamline processes, rather than a comprehensive solution for talent acquisition.

3 Resistance to Transferable Skills and Industry Transition:

- One of the major challenges in considering transferable skills across industries is the perception that individuals require training and may not be able to hit the ground running.

- Some hiring managers still hold perceptions that some technical and personal skills can only be achieved via experience within a particular sector and/or geography.

4 Discrimination within AI/Machine learning tools:

- In both the interviews and the survey, the potential for discrimination was raised as one of the main ethical issues when using AI as these technologies primarily focus on pattern recognition. This can result in AI systems reinforcing discriminatory patterns and favouring certain demographic groups, potentially leading to unfair treatment and unequal opportunities for candidates from underrepresented backgrounds.

8. Benefits of utilising AI and big data in talent acquisition

When considering the benefits of AI for talent acquisition, we must look through the lens of our key findings or else we find ourselves on a path of exponential twists and turns that will inevitably lead us to nowhere. Should a business or organisation choose to implement some form of AI? The following benefits in utilising AI and big data in talent acquisition have been identified through the survey results, together with further research:

- Improved Efficiency: AI and big data can automate time-consuming tasks such as resume screening, candidate sourcing, and initial candidate assessment. This frees up HR professionals to focus on more strategic and value-adding activities. This would need to go hand in hand with a dramatic change in the awareness of AI from a basic introduction all the way through to more advanced techniques.

- Enhanced Candidate Matching: AI algorithms can analyse large datasets of candidate profiles and job requirements to identify best-fit candidates more accurately. This results in higher-quality recruitment and reduced time-to-fill job openings. This one comes with a warning! The warning being that there is still bias or discrimination in AI based tools which does still need to be accounted for when using such tools.

- Predictive Analytics: Big data analytics can help organisations identify trends and patterns in their hiring processes. This enables predictive analytics to forecast future talent needs, plan succession strategies, and make more informed decisions about workforce planning.

- Bias Reduction: AI can help mitigate unconscious bias in the hiring process by focusing solely on a candidate's qualifications and skills rather than demographic characteristics. This promotes fairness and diversity in hiring. As mentioned above, despite this being an advantage this also needs to be considered in terms of what we are asking AI to achieve for us. This may become less of a factor once experience in using AI rises.

9. Challenges and limitations of ai and big data in talent acquisition

Below is a list of both challenges and limitations when it comes to using AI in the manner in which we have gone to great lengths in this report to detail. We would urge the reader of this document to consider our findings when reading the whole report and these sections in particular.

Challenges:

- Data Privacy and Ethics: Collecting and analysing large amounts of personal data can raise serious privacy concerns. Companies must comply with data protection regulations like GDPR and ensure that candidate data is handled responsibly and ethically.

- Bias and Fairness: AI algorithms can perpetuate biases present in historical data, leading to discriminatory hiring practices. It's essential to continually monitor and mitigate bias in algorithms to ensure fair hiring processes.

- Data Quality: Big data relies on the availability of high-quality data. Inaccurate or incomplete data can lead to flawed insights and hiring decisions.

- Cost of Implementation: Implementing AI and big data solutions can be expensive, especially for smaller organizations. The initial investment in technology and talent can be a barrier.

Limitations:

- Lack of Context: AI and big data may not capture the full context of a candidate's qualifications and potential. Soft skills, cultural fit, and interpersonal abilities can be challenging to assess solely through data.

- Overreliance on Technology: Relying too heavily on AI and data-driven processes can lead to a loss of the human touch in recruitment, which is important for building relationships with candidates.

- Inability to Predict Future Performance: While AI can analyse past performance data, it may not accurately predict how well a candidate will perform in a future role, especially in rapidly changing industries.

- Data Privacy Regulations: Stricter data privacy regulations can limit the types of data that organizations can collect and use in their hiring processes, potentially hindering the effectiveness of AI and big data solutions.

- Resistance to Change: Employees and candidates may be resistant to the introduction of AI and big data in the hiring process, fearing job loss or concerns about fairness.

In much of what we detailed in this report, we do hope that the reader is able to determine that where we are in the current adoption and refinement of AI there is a fine line between what can be considered a benefit and what can be considered a challenge. This is similar to many aspects of work and career, but in this case it comes down to what we know of AI and what we are asking it to achieve for us.

10. Ethical considerations and risks in ai and big data-driven talent acquisition

Like any new technology, the use of AI and big data for the purposes of talent acquisition raises questions of ethics, along with the obvious legal, security and privacy implications.

More than half of our survey respondents agreed there are potential ethical considerations or risks associated with using AI and big data in talent acquisition.

Our interviews, as outlined in section 6, highlighted the following key ethical considerations and concerns:

- **Privacy** – questions regarding whether people have consented to their details being reviewed for potential talent acquisition purposes.
- **Accuracy** – may not allow for the nuances of experience, but likely to limit searches to yes/no or in/out fields. Further, the ability of AI to consider long histories of candidates (which may not be relevant to a position) could create bias and introduce material that is not appropriate or relevant.
- **Bias** – possibility of bias through machine learning based on historical data (noting there are also biases in more traditional methods of talent acquisition).

Other ethical considerations identified across all industries include the data security of storing and processing very large amounts of candidate information, and accountability of organisations to address errors or biases within an AI system.

As discussed here (Harvard Business Review, 2019), the emergence of a new generation of tools for talent acquisition has occurred through technical innovations, rather than as a direct result of research or scientifically-derived methods.

"With the expansion of data comes the potential expansion for misuse and resulting discrimination — either deliberate or unintentional."

It was generally agreed by interviewees that, due to the above ethical considerations, AI, big data and machine learning should be used as a tool within the talent acquisition process, but only alongside more traditional methods such as one-on-one interviews.

The two key benefits of AI and big data identified are:

1 the ability to develop a shortlist of candidates quickly; and
2 the opportunity to expand and diversify the talent pool and consider a broader field of candidates.

The realisation of these benefits is somewhat dependent upon the type of job being recruited. In terms of identifying a large pool of possible candidates, the benefits are higher for roles that do not require targeted expertise. For specific or targeted roles, the benefits may be the ability to identify a short list of possible candidates, who can then be personally and individually approached by the talent acquisition team.

Ultimately, there are a number of benefits from adoption AI and big data sets in our talent acquisitions processes, but we must remember the success of the transport industry is supported by successful teams delivering successful outcomes. The importance and value of human interactions remains very high in our industry, and therefore should remain so in our talent acquisition process. The introduction of these technical innovations must be progressed in parallel with understanding and management of the associated risks and ethical considerations.

11. Advancements in AI and big data for talent acquisition and, the future

Talent acquisition is undergoing a significant transformation with the integration of AI and Big Data. While organisations value talent acquisition and recognise the competitive nature of attracting top talent, they face challenges like slow hiring processes and outdated tools. To improve, they're turning to automation, AI and Big Data to streamline hiring, enhance the candidate experience, and focus on the important aspects of the talent acquisition process. By addressing the challenges and

leveraging advanced tools, the transport industry can continue to thrive and contribute to Australia's economy.

Through our research and interviews, we found that talent acquisition professionals foresee several emerging trends in the use of AI and Big Data. The pandemic has positively influenced the development of off-the-shelf database tools, which is facilitating easier access to candidate information. There is an expectation that AI-driven database information collection process will continue to evolve, improving data quality and efficiency, and allowing more time for crucial human interactions. However, with automation strengthening, this could potentially lead to candidate spamming issues. ChatGPT and similar AI tools assist in generating job-related content and AI technology is expected to provide advances in recommending suitable talent accurately, learning from past outcomes, and streamlining initial qualification screening tasks. AI's role in end-to-end recruitment, from job advertisement to contract issuance without human interaction, is expanding.

Other noteworthy trends include the focus on diversity and inclusion. AI is helping organisations reduce bias in hiring by anonymising candidate data and optimising job descriptions to attract a more diverse pool. Employee retention prediction is also on the rise, with AI aiding in identifying employees at risk of leaving. AI is also being used more frequently to customise onboarding experiences and assist in remote work adaptation, which is especially relevant in today's remote work landscape.

Based on our interviews and research, we believe the future of talent acquisition will include:

- The increased use of AI to do the raw data crunching required to sift through the vast number of resumes that are received whenever a new position is advertised.

- Utilising AI to search through databases of resumes and career histories to pick out potential candidates that the recruitment personnel can contact in an attempt to lure them into the exciting world that is road construction and the transport industry in Australia.

- Initial interviews being conducted solely by AI who can more accurately and with less biases, assessing if the candidate's responses to questions are what they actually know or have done, rather than what the candidate wants the recruiter to think they know or have done.

- AI-powered chatbots and virtual assistants will be utilised to provide real-time support and personalised interactions, improving the overall candidate experience throughout the recruitment process, maintaining regular contact, addressing issues/errors in applications, and even helping to schedule meetings.

- Using AI to assist with the writing of job advertisements with the aim to attract talent from outside of the transport industry.

- Industry created data sets which have significant potential by leveraging data specific to a particular industry, so that organisations can gain valuable insights into talent trends, skill requirements, and market dynamics.

- Personalised skill development plans where AI-powered learning platforms can be utilised to provide personalised skill development plans for candidates taking into consideration their existing transferable skills and their skill gaps.

- AI algorithms will assist recruiters and hiring managers in making data-driven decisions by providing insights, recommendations (augmented decision making).

- A growing emphasis on establishing ethical guidelines and regulations to ensure responsible and fair usage, protecting candidate privacy, and preventing discriminatory practices.

12. Recommendations for talent acquisition managers & Roads Australia

Following extensive group discussion, research and analysing the information gathered during face-to-face interviews and from survey responses, our group has the following recommendations

for Roads Australia, talent acquisition managers and hiring Mangers/Companies in the transport industry.

Recommendations for Road Australia

- **Promote awareness and education:** Foster awareness and understanding of the potential benefits and implications of AI in talent acquisition among your member organisations. Provide resources, workshops, or industry events to educate hiring managers, HR professionals and talent acquisition managers on the latest AI trends and best practices.

- **Encourage collaboration and knowledge sharing:** Facilitate collaboration and knowledge sharing among member organisations regarding the use of AI in talent acquisition. This can be achieved through industry forums, conferences, or online platforms where professionals can exchange insights, experiences, and success stories.

- **Advocate for ethical AI practices:** Promote the adoption of ethical AI practices within the talent acquisition processes of member organisations. Encourage the development and adherence to guidelines that address fairness, transparency, and accountability in the use of AI algorithms, ensuring that potential biases are identified and mitigated.

- **Facilitate access to industry-specific data sets:** Work towards providing access to industry-specific data sets for talent acquisition purposes. Collaborate with relevant stakeholders to aggregate and anonymise data, enabling member organisations to leverage these datasets to gain insights into talent trends, skill requirements, and market dynamics.

- **Stay informed about emerging AI trends:** Stay updated on the latest developments and trends in AI for talent acquisition. Continuously monitor advancements in AI technology, industry research, and regulatory changes to provide timely insights and guidance to member organisations.

By following these recommendations, Roads Australia can play a key role in driving the responsible and effective use of AI in talent acquisition within the transport industry. This can help member organizations leverage AI to attract and retain top talent, enhance diversity and inclusion, and support the industry's overall growth and success.

Recommendations for talent acquisition professionals

- **Embrace AI to broaden candidate reach:** Embrace the numerous forms of AI that are currently available and use them to streamline the initial stages of the recruitment process to free up recruitment staff deliver in areas where human interaction is required to develop a connection with the potential candidates.

- **Stay updated with emerging AI technologies:**

  a Promote continuous learning and awareness of emerging AI technologies within the recruitment industry. Encourage recruitment professionals to stay informed about AI advancements, attend industry conferences, and engage in training programs to leverage the latest tools and techniques for more effective talent acquisition.

  b Keep up to date with the technology that is being rapidly developed and refined to further push the boundaries of what AI can do to assist recruiters either access candidates from broader industries or to streamline the recruitment process.

- **Collaboration for industry-specific data sets**: Collaborate and get involved with the creation of industry-specific data sets. Encourage the sharing of anonymised data related to talent trends, skills requirements and market dynamics. This collaborative approach can provide valuable insights to improve recruitment strategies across the industry.

- **Establish ethical AI guidelines and best practices:** Advocate for the development of ethical AI guidelines and best practices within the recruitment industry. Collaborate with industry associations and regulatory bodies to ensure responsible and fair usage of AI in talent acquisition.

The adoption of AI in the transport recruitment industry is in its early stages. As it develops, AI will become better at identifying candidates from outside the transport industry, thereby helping to expand the pool of talented people that may be suitable for roles in the transport industry in Australia.

Recommendations for hiring managers and organisations:

Without the support and willingness of hiring managers and companies to look and consider people from outside the transport industry, the use of AI and big data sets by talent acquisition manager will not be successful. Below are recommendations for hiring companies and mangers to help improve the success rate for people transitioning into the industry.

- Identify transferable skills: Understand and identify the key skills that are valuable to the role/business, such as problem-solving, analytical thinking, communication, adaptability, and leadership abilities that can be applied effectively in various contexts.

- Assess adaptability and potential: During the hiring process, evaluate candidates for their adaptability, willingness to learn, and potential for growth within the transport industry. Look for candidates who demonstrate a strong ability to transfer their skills and quickly adapt to new environments and challenges.

- Provide training and development opportunities: Recognise that candidates with transferable skills may require industry-specific training to adapt to the transport industry. Offer training programs and professional development opportunities to bridge any knowledge gaps and ensure a smooth transition into their new roles.

- Mentorship and peer-to-peer learning: Facilitate mentorship programs and encourage peer-to-peer learning within your organisation. Pair candidates with transferable skills with experienced professionals from the transport industry who can guide and support them in their transition, fostering knowledge transfer and skill development.

- Foster a supportive work environment: Create a supportive work environment that values and recognises the contributions of employees with transferable skills. Encourage collaboration, provide opportunities for growth, and celebrate the diverse expertise that individuals from different industries bring to the transport industry.

- Encourage diversity and inclusion: Embrace diversity and inclusion in your hiring practices by actively seeking candidates from different industries and backgrounds. Create a culture that values and appreciates the unique perspectives and experiences that candidates with transferable skills can bring to the transport industry.

- Collaborate with industry bodies: Engage with industry bodies, associations, and educational institutions to create pathways for individuals with transferable skills to enter the transport industry. Partner with these organisations to develop programs that facilitate the transition and integration of candidates with transferable skills.

The above recommendations for Roads Australia, talent acquisition managers and hiring mangers/companies in the transport industry will help to achieve Roads Australia policy goals by bringing in new and diverse talent which will in turn create better and creative solutions and ideas to enhance and optimise the use of our roads for environmental, social, economic and cultural outcomes and improve the stewardship of our roads.

13. Conclusion

When looking at the one technical innovation that could be introduced to the transport industry to help achieve RA policy objectives and open up opportunities for new streams of talent in our workforce, we concentrated on AI and big data sets in the recruitment process as this is being seriously underutilised in our industry and the potential benefits focus directly to one of the main

issues facing our industry at the moment which is the lack of skilled labour to help design, construct and operate assets on the network.

While using AI and big data sets could significantly improve the recruitment process, the need for experienced and quality people in the recruitment process is still needed. It is these people who will use the AI and big data sets as part of their toolkit to find the hiring companies the quality people that they so desperately need.

Then with further advancements in AI, the onboarding of new recruits from outside of the transport industry can be improved which will go part way to alleviating concerns held by a large number of the recruiters that we spoke with as part of this project, which was that the hiring company wants to have someone that can hit the ground running and start contributing from day one.

Concerns including privacy and biases through machine learning were raised with an increased reliance on technology and these will need to be addressed by developers and users of AI.

The tried and true adage of "you hire on attitude and then train them" still holds and it is the skill and judgement of the recruitment personnel that can find a candidate that has the right combination of skills and attitude to enable them to fit into and help grow an existing culture. AI and big data just make this process easier and faster. With more uptake of AI and Big Data, there will more opportunities to find new talent for our industry and create a more varied and well-rounded workforce, with individuals from different backgrounds contributing to environmental, social, and cultural aspects of road usage.

Our study showed that most people were aware of AI and big data in some way but lacked the experience with using it to its fullest potential. We hope that this report gives them the confidence to continue to learn and utilise new forms of AI for the benefit of the entire industry.

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Appendix A - Survey questions and data

Question 1 - What is your role in relation to talent acquisition?

Internal recruitment for the wider Symal Group. Attraction, selection, retention. End-to-end recruitment and strategy.

I'm a full time recruitment consultant

Global Director

I recruit talent as an agency representative for a variety of clients (companies).

Senior Talent Acquisition Adviser

Director TA

Recruitment

General Manager - Recruitment

Talent Acquisition Business Partner

Talent Acquisition Specialist

I am the Talent Acquisition Lead for three different PUs within the business.

As a LinkedIn Account Director, I partner with Talent customers (this includes Talent Acquisition, OD, Learning and Employee Experience) across ANZ to help them achieve their objectives.

Lead recruitment for Engineering Consultancy in New Zealand

Recruitment

Team Lead

Team Leader

Talent Acquisition Manager

Recruitment Consultant (external agency).

I am a Business Development Manager for the Insurance & Wealth Management industries. My relationship to talent acquisition is bringing in new businesses for our candidates to work in.

Team Leader of a Receruitment team

Consultant

Account Manager

Account Manager

Recruitment Resourcer

I recruit within both the white collar and blue collar spaces. Assisting companies within the construction, infrastructure and utilities space.

Agency Recruitment Consultant

Recruitment Consultant

Recruitment Resourcer

Recruiter

Senior Consultant

Senior Recruitment Consultant.

National Manager - Insurance & Wealth Management. I lead a team of 20 Recruitment Consultants who specialise in the recruitment of financial services professionals.

Recruitment consultant to the industry

Recruitment Consultant - Agency

I am a recruitment resourcer, meaning I source, search, interview and manage candidates for client roles.

Recruitment Consultant

National Manager

Team Leader - Recruitment

Consultant

Question 2 - Approximate number of employees in your company?

~1000

100+

36000

2

1000 -1500

1200

20

10

In Australia 3500, Globally 30,000

Around 1,300+ in Aus.

60000

21,000

300

65

6500

55

400

70.

60

60

60

80

170

50

50ish...

60

54

70

70

58

50-60

65

50

50

60

70

65

70

70

Question 3 - Approximate number of hires per year?

200-300

30+

6000

20

over 100

not sure

200

2022 Stats- 349 hires in Australia with a team of 4, so roughly 87 hires per person

Around 300+ per year.

Personally, approximately 300. Collectively, unsure.

~2K

60-80

30

5

Not sure sorry.

100

15

10

15

300

400

5-10

10

10-15

20

Not sure

5

Internally - my team, approx 5-6 per year. Externally - hundreds of temp, contract and permanent placements.

15

10

Not aware

350

150

10

Personally - 5 to 7 per month

## Question 4 - Industry type you work in / predominately work in?

Civil Construction.

Construction, Accounting, Technology and Education

Design, Engineering and Environmental Services

Civil Engineering

Civil Construction

Travel tech

safety and injury management

Safety

Transport and Infrastructure Engineering

Civil, design, consultancy recruitment.

Engineering Services Consultancy across various industries including transport.

LinkedIn is a Tech company but I work with customers in Construction, Civil Engineering, Tech and Financial Services mostly.

Engineering, Surveying, Planning and Urban Design

Government / Insurance

drainage & flooding / sydney

Insurance and Wealth

Civil Engineering

Manufacturing.

Insurance & Wealth Management

Financial Services

Recruitment

Manufacturing

Manufacturing

Wealth Management

Construction

Insurance and wealth management

Wealth

Pharmaceutical, Medical device and FMCG

FMCG, medical device, pharmaceutical

Manufacturing

Manufacturing

Insurance and Wealth Management/Financial Services

Infrastructure

Recruitment for Infrastructure & Utilities

Manufacturing and FMCG

Wealth Management

Infrastructure and Utilities

Construction/Engineering

IT & Digital

Question 5 - Which country / region do you specialise in?

Australia

Victoria

All

Victoria

Australia - Victoria

Europe

Australia

Australia

Australia - Nationally

Australia

Australia and New Zealand

ANZ

New Zealand, but we recruit globally

Australia/NSW

australia / nsw

Australia

Australia

Australia - QLD, NSW, VIC

Brisbane, Australia

Australia, Queensland

Australia wide

Australia, Adelaide

Australia - WA, Sydney, & Victoria

Queensland predominately, but some roles interstate.

Australia - predominately Victoria

Australia

VIC, Australia

Australia

Australia

QLD and NSW

Australia

Qld Australia

Nationwide

Brisbane, Queensland, Australia

Australia - Melbourne

Australia

Australia

Australia – Nationally

Question 6 - I am familiar with the concept of utilizing AI and big data sets for talent acquisition purposes.

Answer Choices	Responses	
1 (Strongly Disagree)	2.56%	1
2 (Disagree)	12.82%	5
3 (Neutral)	20.51%	8
4 (Agree)	53.85%	21
5 (Strongly Agree)	10.26%	4
	Answered	39
	Skipped	0

I am familiar with the concept of utilizing AI and big data sets for talent acquisition purposes.
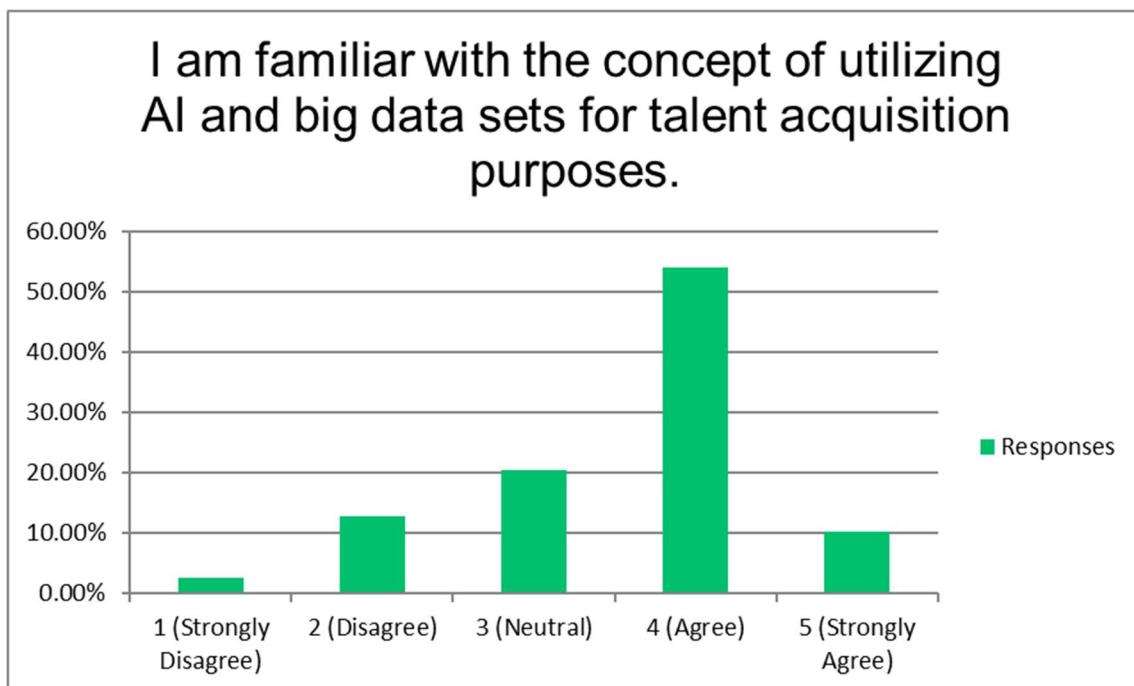
Question 7 - In my talent acquisition processes, I currently utilize AI and big data tools to identify potential candidates from different industries and match their skill sets with job descriptions in the transportation industry.

Answer Choices	Responses	
1 (Strongly Disagree)	7.69%	3
2 (Disagree)	20.51%	8
3 (Neutral)	20.51%	8
4 (Agree)	38.46%	15
5 (Strongly Agree)	12.82%	5
	Answered	**39**
	Skipped	**0**

In my talent acquisition processes, I currently utilize AI and big data tools to identify potential candidates from different industries and match their skill sets with job descriptions in the transportation industry.
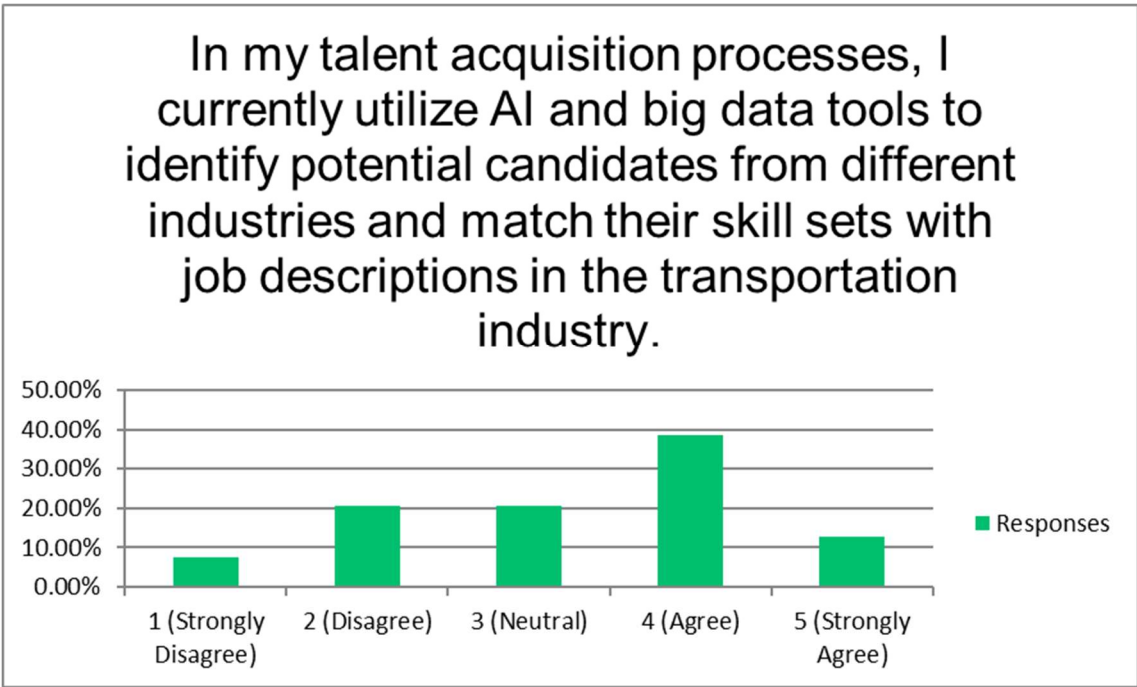
Question 8 - The utilization of AI and big data tools has increased the efficiency of our talent acquisition process.

Answer Choices	Responses	
1 (Strongly Disagree)	5.13%	2
2 (Disagree)	7.69%	3
3 (Neutral)	23.08%	9
4 (Agree)	51.28%	20
5 (Strongly Agree)	12.82%	5
	Answered	**39**
	Skipped	**0**

The utilization of AI and big data tools has increased the efficiency of our talent acquisition process.
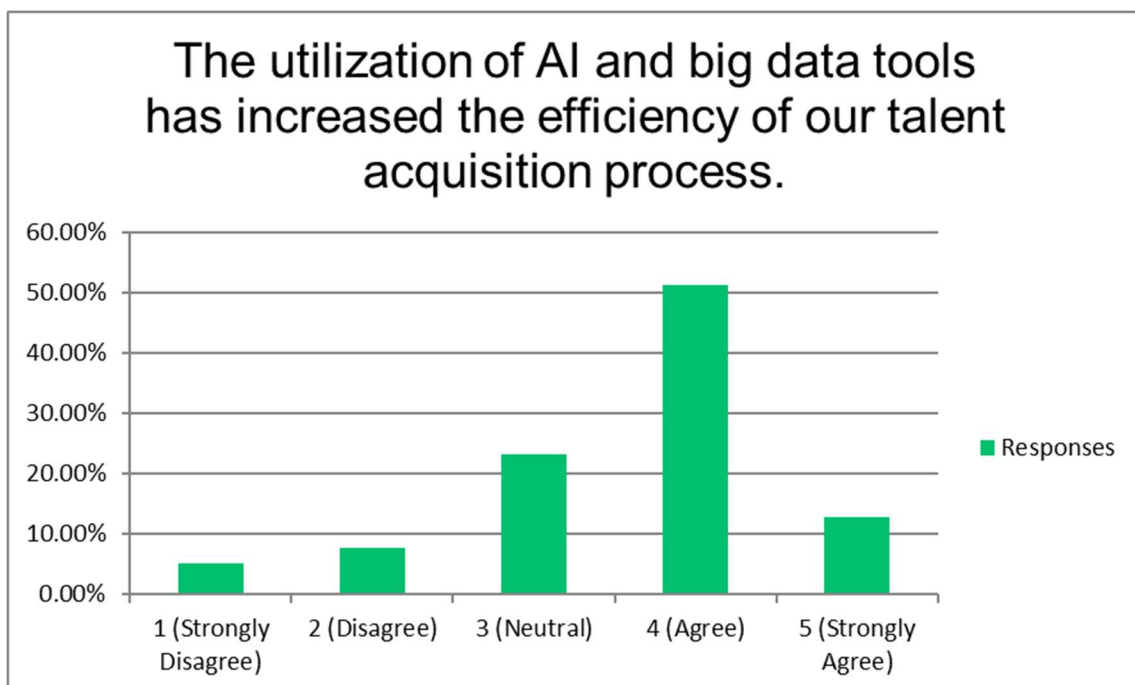
Question 9 - AI and big data tools have improved the accuracy of matching candidates' skill sets with job requirements in the transportation industry.

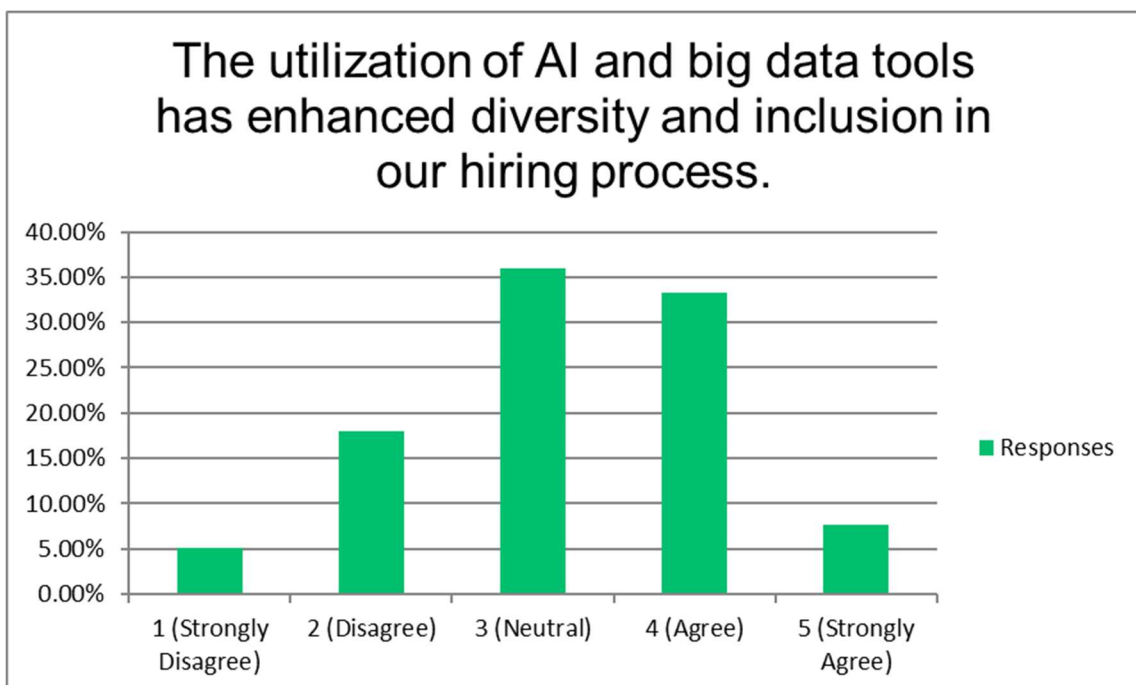| Answer Choices	Responses	
1 (Strongly Disagree)	5.26%	2
2 (Disagree)	18.42%	7
3 (Neutral)	47.37%	18
4 (Agree)	21.05%	8
5 (Strongly Agree)	7.89%	3
	Answered	**38**
	Skipped	**1**
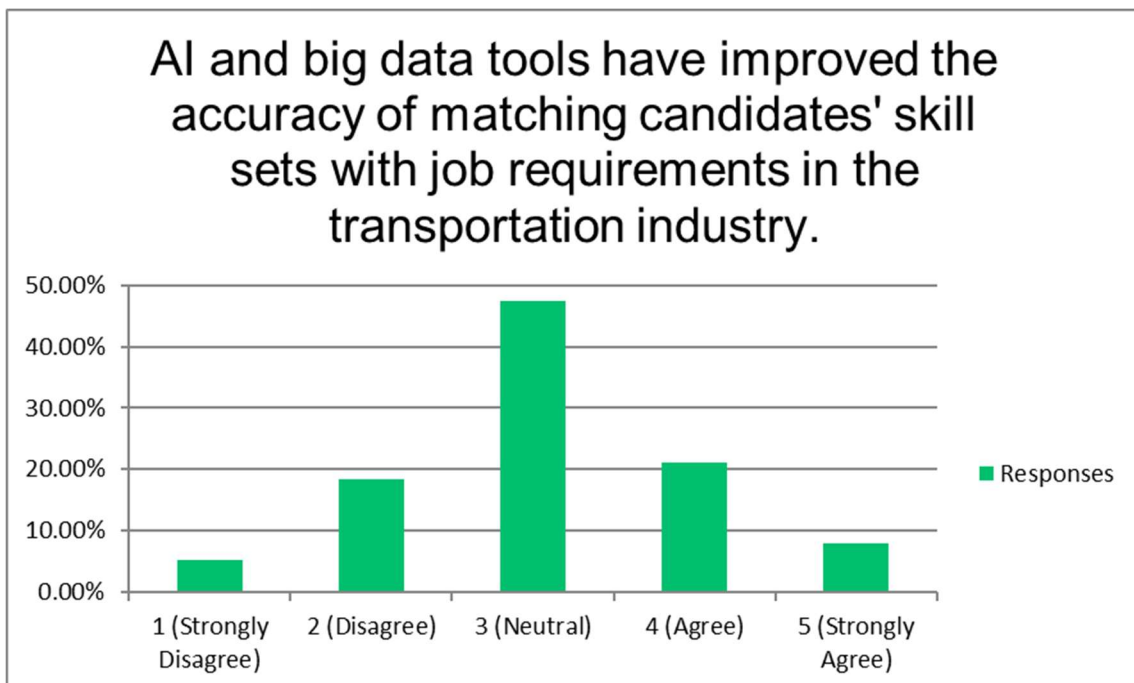
Question 10 - AI and big data tools have allowed us to tap into a wider pool of candidates from different industries.

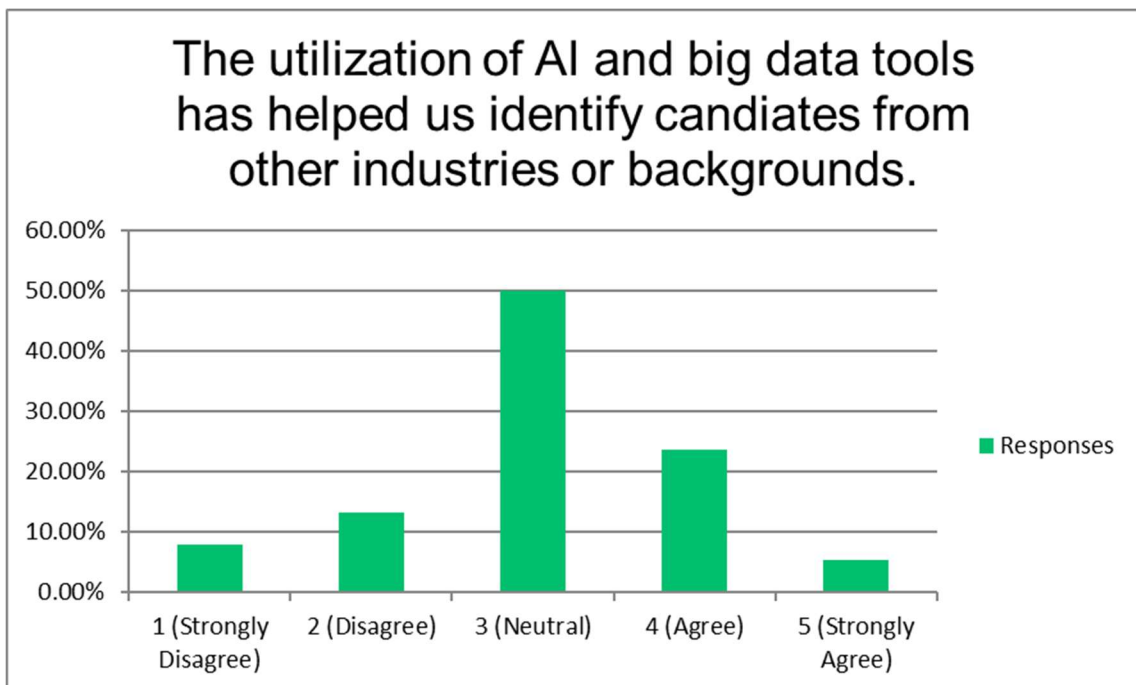| Answer Choices	Responses	
1 (Strongly Disagree)	10.53%	4
2 (Disagree)	10.53%	4
3 (Neutral)	36.84%	14
4 (Agree)	34.21%	13
5 (Strongly Agree)	7.89%	3
	Answered	**38**
	Skipped	**1**
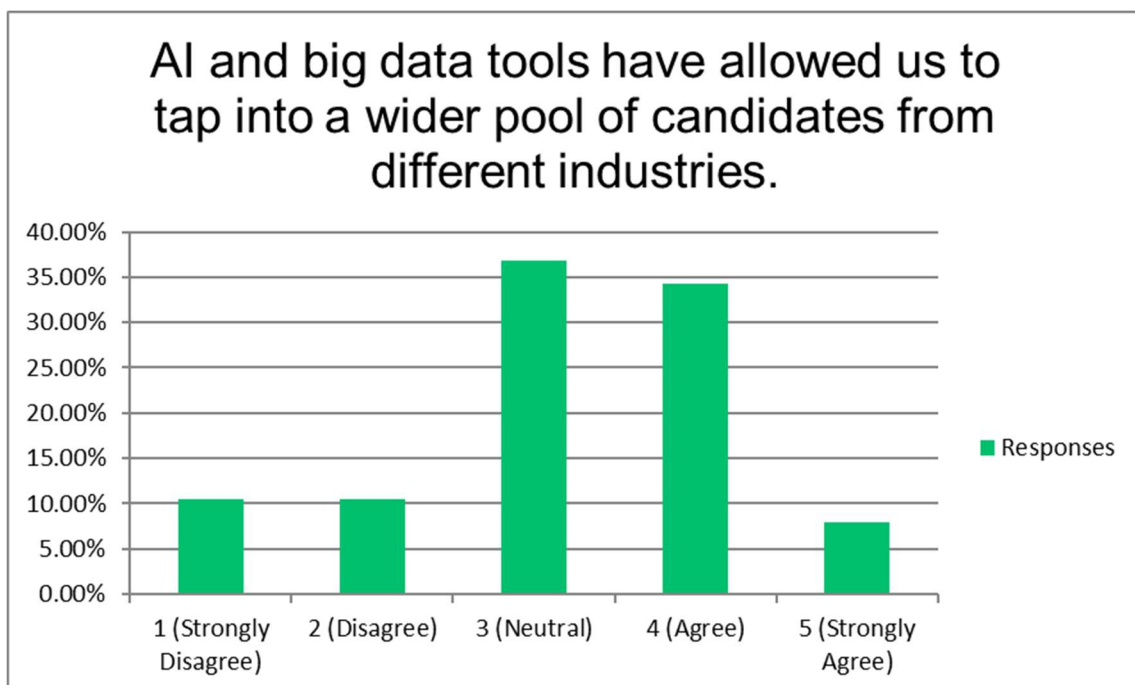
Question 11 - The utilization of AI and big data tools has enhanced diversity and inclusion in our hiring process.

| Answer Choices	Responses	
1 (Strongly Disagree)	5.13%	2
2 (Disagree)	17.95%	7
3 (Neutral)	35.90%	14
4 (Agree)	33.33%	13
5 (Strongly Agree)	7.69%	3
	Answered	**39**
	Skipped	**0**

Question 12 - The utilization of AI and big data tools has helped us identify candidates from other industries or backgrounds.

Answer Choices	Responses	
1 (Strongly Disagree)	7.89%	3
2 (Disagree)	13.16%	5
3 (Neutral)	50.00%	19
4 (Agree)	23.68%	9
5 (Strongly Agree)	5.26%	2
	Answered	**38**
	Skipped	**1**

The utilization of AI and big data tools has helped us identify candiates from other industries or backgrounds.

Question 13 - I have encountered challenges or limitations in implementing AI and big data tools for talent acquisition.

| Answer Choices	Responses	
1 (Strongly Disagree)	2.56%	1
2 (Disagree)	7.69%	3
3 (Neutral)	51.28%	20
4 (Agree)	35.90%	14
5 (Strongly Agree)	2.56%	1
(Please specify examples)		12
	Answered	**39**
	Skipped	**0**
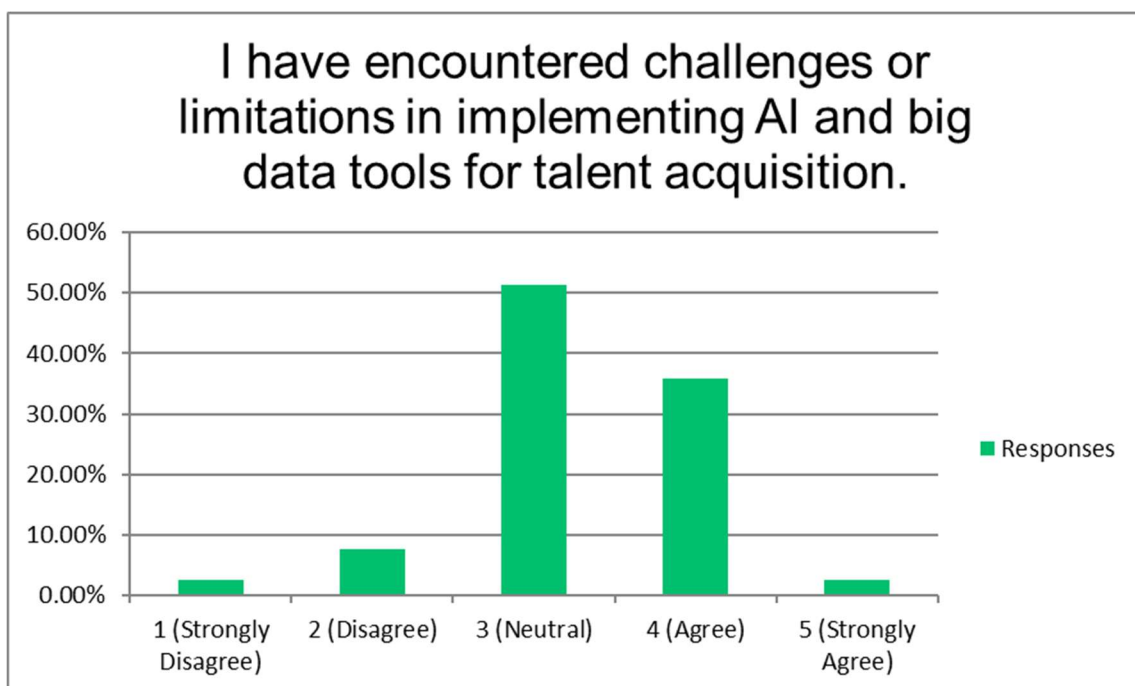
(Please specify examples)

1. We are currently implementing all the technology. In Europe there are challenges with Works Councils and globally Hiring Managers need to get comfortable with AI recommendations

2. Talent Acquisition relies on a set of tools and systems for structured hiring. The integration of AI (or not) is very varied depending on the software tool and thus the providers adoption of AI into these tools can be limited.

3. The human element is still a big issue, Culture fit, personality, tenure etc still get missed

4. "It is not so much a challenge or limitation but the fact that there really isnt a huge volume of talent specific AI or Big data softwares. And as a business in *company-X* and our internal systems and tools we dont have the budget to buy/use the ones that are available outside of Linkedin Recruiter and Seek Talent.

   In agency recruitment previously I had access to a bit more and felt agency recruiter better invest in these tools as they need more speed to market to financially win work as its a heavy sales environment. But in internal environment they are not often invested in as much.

   I do feel the biggest challenge is regardless of the technology and AI invested in, our people, industry and business's need to be open and willing to accept candidates from diverse backgrounds and be more open to those not meeting all expectations. "

5. Change management required to adopt new processes from both internal recruitment teams and hiring managers.

6. Aside from using new AI language models, we haven't tried to implement AI technology.

7. It can take the AI a while to learn

8. The roles I have are quite specific and require a niche skillset, the candidates I typically get through AI are not always aligned.

9. Not able to personalise as much

10. I have found that sometimes the way that it matches candidates is flawed and we end up with a pool of unsuitable candidates.

11. "People communicate in different manners, the might describe the same thing differently to the next person. While there are some limitations that we can utilise AI for maybe with regards to qualifying questions, or locations, it still takes more than just key words to understand a persons experience and skillsets. Recruitment is still a people based job"

12. Some AI bias in results

Question 14 - I believe there are potential ethical considerations or risks associated with using AI and big data in talent acquisition.

Answer Choices	Responses	
1 (Strongly Disagree)	2.56%	1
2 (Disagree)	23.08%	9
3 (Neutral)	23.08%	9
4 (Agree)	41.03%	16
5 (Strongly Agree)	10.26%	4
(Please specify examples)		12
	Answered	**39**
	Skipped	**0**

I believe there are potential ethical considerations or risks associated with using AI and big data in talent acquisition.
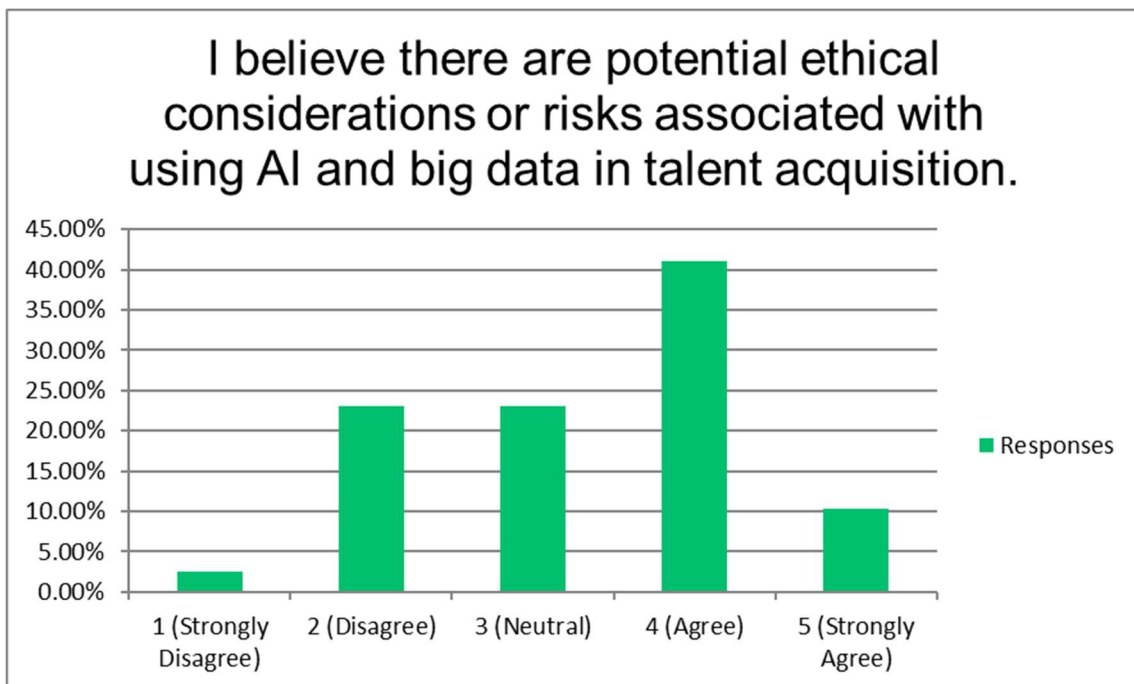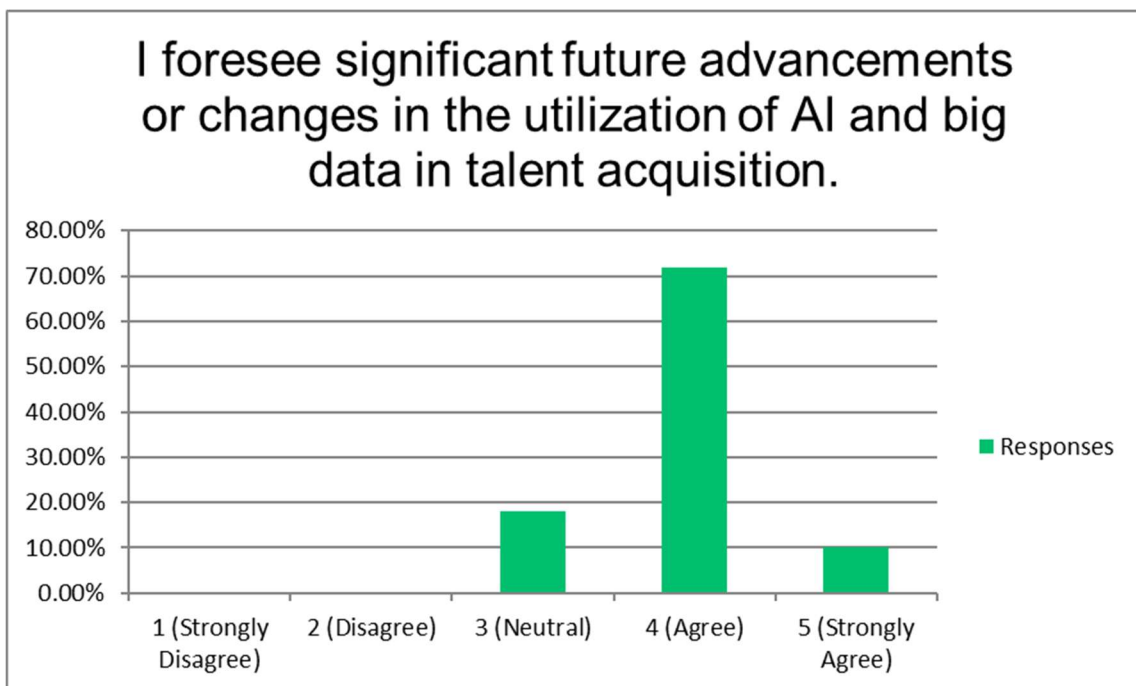
(Please specify examples)

1   It is essential to use tools with bias free, equal opportunity algorithms. Ethical AI is essential

2   I think ethical can be raised for how far AI can dig into a persons personal background. Particularly social media

3   "Relying on AI and Data means sourcing talent from the web which in turn relies on those candidates having an online presence. Some candidates do not have online presence, nor wish to.

   Some have some privacy or cultural beliefs that may limit their online activity and in this instance we will not tap into that source of talent.

   Also any candidates who potential have learning disabilities or written or verbal challenges but are still highly capable of performing the role may also be disadvantaged with this approach. "

4   Where do you you draw the line in regards to obtaining permission to gather information and to disseminate to clients etc.

5   Understanding the inputs used in generative AI models and how this can lead to more bias. Context is key when using generative AI.

6   "AI is built on Data models to find patterns. In the same way we discriminate in our process, AI can also provide discrimination challenges depending on the model and how it is built.

   Risk of reducing the need for recruiters - is AI in our own best interests? "

7   Agree to an extent.

8   Use of collected data can trigger privacy concerns with some individuals, despite the data being made publicly available.

9   People lose jobs

10 Cutting corners in the process, I find you don't touch the best talent, using AI.

11 AI is still new and learning, there is almost a theme behind everything AI generated. Without having a person reviewing we could leave ourselves exposed to potential discrimination etc.

12 Gender/diversity bias

Question 15 - I foresee significant future advancements or changes in the utilization of AI and big data in talent acquisition.

| Answer Choices	Responses	
1 (Strongly Disagree)	0.00%	0
2 (Disagree)	0.00%	0
3 (Neutral)	17.95%	7
4 (Agree)	71.79%	28
5 (Strongly Agree)	10.26%	4
(Please specify examples)		5
	Answered	**39**
	Skipped	**0**

(Please specify examples)

1   One thing I have seen is video interviewing that then gives a personality profile and assesses suitability for a role.

2   At LinkedIn, AI and big data have been incorporated into our solutions for years which has enabled our customers access to a massive pool of passive talent. We are now incorporating generative AI into our Hiring and Learning solutions which will improve TA efficiency massively, and will allow Learners to access our Economic Graph (big data) to understand what learning content they should access to accomplish their career development goals.

3   AI is inevitable, it will change everything. The question is how we apply it.

4   Candidate identification & engagement/triaging.

5   Changes to the ability of AI will significantly change the way it is used and implemented into businesses.

Question 16 - Overall, I believe that AI and big data tools are valuable for talent acquisition in the transportation industry.

Answer Choices	Responses	
1 (Strongly Disagree)	0.00%	0
2 (Disagree)	2.63%	1
3 (Neutral)	26.32%	10
4 (Agree)	63.16%	24
5 (Strongly Agree)	7.89%	3
	Answered	**38**
	Skipped	**1**
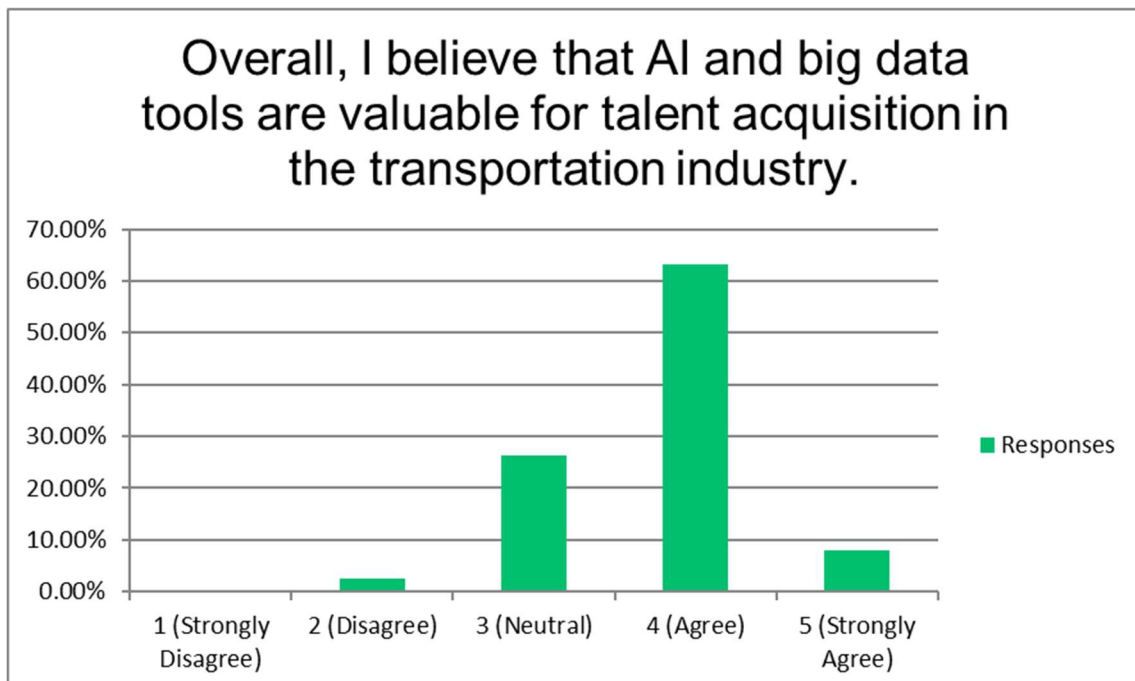
Question 17 - (Optional) Are hiring mangers open to recruiting people with transferable skills from other industries?

Answered	25
Skipped	**14**

1   Some are and some are not. Depends on the needs at the time and the success we have in finding our ideal candidate first,

2   Occasionally depending on the level and technical expertise required

3   This is part of the human centered change that needs to go alongside the AI technology implementation

4   No

5   From other industries yes - but only with the transferable relevant skills ie software engineer in gaming is relevant and transferable to software engineer in travel tech

6   They are not very open for people with transferable skills, but this is key thing missing as transferable skills bring great variety and thought process for doing things. If the hiring manager is open to hire for such candidate- then there is concern of paying their worth amidst rising cost, which is a challenge meeting candidate expectation.

7   Not in construction from my experience which is now over 8 years. Its a massive issue which hasn't improved in my opinion

8   I would truthfully answer no, not really. hence my comment above being not so much about AI but more about educating the industrie and our managers to encourage this. The barriers we some times have as a company are also not our own, its our clients and JV partners not accepting CV's with diverse backgrounds which in turn makes it hard for us to recruit them and ensure they are billable. So it has a flow on effect. This includes projects demanding specialist qualifications you may only ever get working for one client, its very limiting.

9   I don't see too much of it at present but I think more are open to it.

10   Not typically no. Only when other industry skills and experience is required for the role or job.

11   Infrequently

12   Yes to a degree but prefer experience.

13   Almost never. A lot of resistance.

14   Yes, absolutely.

15   It depends on the role

16   "The extent to which this scenario unfolds can vary based on several factors, including the scale of the role, the characteristics of the company, and the available training resources. Some hiring managers may show a willingness to onboard candidates with strong transferable skills, as long as there is a commitment to provide them with the necessary time and guidance to excel in their position. Conversely, in situations where such resources are limited, or when the role necessitates specific qualifications, candidates relying solely on transferable skills might not be given due consideration.

17   Yes.

18   Yes

19   Yes, in the current market I believe hiring managers are more open to those with transferable skills from other industries.

20   Sometimes

21   In our experience, not overly.

22   Yes

23   Sometimes

24   Yes

25   In some industries yes.

Question 18 - (Optional) What do you think are the main barriers for people with transferable skills getting into transport related industries (i.e. engineering, construction, design etc.)?

Answered	20
Skipped	**19**

1. Hiring managers already having rigid perceptions on ideal candidates and what the business needs. Hiring managers openness to looking at candidates from different industries with transferrable skills.

2. Historical and traditional perceptions that specific skills are needed. we need to move to recruiting for Skills not Jobs and recruiting for skills not educational background

3. Lack of technical experience. They may have managerial experience, communication skills but without technical skills, there's unlikely to be a pathway forward.

4. I am not very familiar with these industries so couldn't speak to this specifically

5. an opportunity to work in these field

6. Old ways of thinking, poor old school hiring managers and a backwards industry. Also absolutely no training or mentorship at all. I see highly experienced candidates from developed countries like the UK, Ireland and the UAE who get rejected as they don't have Australian experience. This still happens daily in the industry. I also see highly experienced candidates from commercial building, domestic building get rejected for jobs in Civil construction because they haven't done civil? Its so short sited.

7. Not having the relevant project or technical experience. Its not that they don't have the capacity to learn, but its whether the business have the capacity and willingness to teach. However if you have an immediate project needs which requires someone to be 100% autonomous from day 1, then this isnt an option. So its identifying what parts of the industry has less limitations and using that as a channel into transport related projects.

8. Most places don't have the time to train hence they would rather find people who are able to hit the ground running.

9. More branding is required for the industry as a whole. The industry relies on in person, F2F events to socialise opportunities. If the goal is to attract people with transferable skills, organisations need to socialise their brand/employer brand like those organisations do. More online, more employee advocacy, more storytelling.

10. Higher requirements for training and development. Takes them longer to get up to speed in the role which is more of a hinderance for hiring managers than help.

11. I think a lot of businesses want someone now that can hit the ground running, a lack of L&D capability and there isn't an appetite for it.

12. 1. Having managers and hiring teams see the value in diversity.

    2. Often the comment is 'we don't have time to train people up' but when you drill down, it's a much shorter time to train local standards or come up to speed in a project than unhinging similar talent in the local market or paying tens of thousands of dollars more for 'local knowledge'"

13. Learning & development - the pace at which a new person is required to operate may be too fast for their necessary learning gap.

14. Clients look for very specific skill sets

15. Hmmm, cultural fit also is a big component, alongside aligning salary expectations, sometimes the candidates have to lower their salary to get into this space..

16. .

17. Very niche industries individually, transferring from building & construction industry to the civil infrastructure industry is extremely difficult being the types of projects done are very different. Standards, codes, etc a lot of these are completely different across the varied industries.

18. Open minded hiring companies

19. Limited Local Experience and Knowledge.

20. Lack of relevant certifications.

Appendix B – Interview questions

1 What big data and AI tools do you currently utilize to identify potential candidates for job positions and match their skill sets to job descriptions?

2 Have you encountered any challenges or limitations while using big data and AI tools for candidate identification and skill matching? If so, how have you addressed or overcome these challenges?

3 In your opinion, what are the key benefits of utilizing AI tools for talent acquisition, specifically in terms of identifying potential candidates and matching their skill sets to job descriptions? What are the key risks of utilising AI tools for talent acquisition?

4 Looking ahead, how do you envision the future of using AI tools evolving in talent acquisition? Do you foresee any specific advancements or changes that could further enhance the candidate identification and skill matching processes?

5 Have you struggled to identify candidates for positions previously? Are hiring mangers open to people outside the transport industry with transferable skills?

6 Do you think there are skills in other industries that are transferable to the roads (transport?) industry? If so, which?

7 Does the use of AI raise any ethical question or concerns and if so, what do you think they are?