



Joe Berry Award 2024 Final

Presentation #5

Topic: 5 Question: Ai Driven Workforce Planning

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Maria completed a Bachelor Of Business Management at RMIT University and has held a number of roles within Operations and Marketing. She has been with Coles for over 5 years, working on a number of key strategic projects and initiatives across Central Operations and Transformation. Currently an Operations Transformation Manager, in Workforce Transformation responsible for project management, strategy, comms and change across a variety of projects.

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Introduction

The retail landscape continues to evolve at lightning speed; however, one constant remains for supermarkets: the value of having the right talent in the right place, at the right time, at the right cost. **The recent combination of a tight labour market post Covid-19, and a global economic downturn, has resulted in the highest increase in wages and earnings in Australia in more than ten years. Meanwhile, labour productivity growth continues to be low, with employees putting in more hours but generating less output.**¹¹¹

With the dynamics of the current job market, supermarket retailers are being forced to re-imagine and re-design their workforce.

Welcome to the future of workforce planning, where artificial intelligence (AI) is revolutionising how supermarkets optimise their operations through data driven insights.

Transitioning from intuition-driven decisions to data-driven decisions underscores the essential role of AI in workforce planning.¹¹² It offers increased productivity and accuracy on key components of a workforce plan that we will explore, such as rostering, recruitment, and the right workforce mix, just to name a few, whilst providing employees with more meaningful employment to improve engagement and reduce turnover.

To put it simply, it's like having a super-smart assistant that can take care of your workforce. Which supermarket retailer doesn't want that? The real consideration is not whether you have the resources to adopt it, but rather if you can justify not doing so.

Let's review AI driven workforce planning, the benefits it offers to supermarkets and leaders and how it can be integrated into a workforce plan.

What is AI in Workforce Planning?

Workforce planning is the strategic process of enhancing employee productivity, performance, and satisfaction. It involves planning, scheduling, forecasting, and analysing

various aspects of the workforce, such as skills, availability, preferences, and costs. Typically done over a multi-year horizon, workforce planning involves a six-step process.¹¹³ Graphically displayed in Figure 1.

¹¹¹ "Factsheet: Wage Dynamics in Australia." Australian Industry Group, November 16, 2023.
<https://www.aigroup.com.au/resourcecentre/research-economics/factsheets/factsheet-wage-dynamics-in-australia/#:~:text=Both%20the%20Treasury%20and%20RBA,overhang%20of%20unfilled%20vacant%20jobs>

¹¹² Workstatus. "The Impact of Artificial Intelligence in Workforce Management." LinkedIn, July 18, 2023.
<https://www.linkedin.com/pulse/impact-artificial-intelligence-workforce-management-workstatus>

¹¹³ "Business Strategy and Workforce Planning | Human Resources Management." n.d. Courses.lumenlearning.com.
<https://courses.lumenlearning.com/wm-humanresourcesmgmt/chapter/business-strategy-and-workforce-planning/>

Figure 1



Source: <https://signax.io/successful-workforce-planning/>

In dynamic and complex supermarket settings with evolving customer demands and fluctuating employee needs, workforce planning can be difficult and time consuming. The traditional approach is no longer suitable in today's rapidly changing environment.¹¹⁴

AI in workforce planning involves the use of sophisticated algorithms to streamline workforce management and coordination. This entails leveraging AI technologies to analyse data, forecast patterns, and potentially automate specific functions.¹¹⁵

In doing so, **“a supermarket can save up to 12% in labour costs and increased sales by up to 8%”**.¹¹⁶ It is already present in workforce management, and it is causing a shift in the way we work.

What does it mean to be a data driven leader?

To drive successful workforce planning, a crucial component is data driven leadership. With data driven leaders, supermarkets significantly increase their ability to cultivate a capable and adaptable workforce, that consistently meets and surpasses long term objectives.¹¹⁷

¹¹⁴ Workforce Management. “What Are the Challenges and Benefits of Using AI and Automation for WFM?” How AI and Automation Can Enhance WFM, October 31, 2023.

<https://www.linkedin.com/advice/0/what-challenges-benefits-using-ai-automationadjgc#:~:text=Using%20AI%20and%20automation%20for%20WFM%20can%20bring%20many%20advantages,and%20reduced%20costs%20and%20risks.>

¹¹⁵ Workstatus. “The Impact of Artificial Intelligence in Workforce Management.” LinkedIn, July 18, 2023.

<https://www.linkedin.com/pulse/impact-artificial-intelligence-workforce-management-workstatus>

¹¹⁶ “How to Improve Supermarket Operations, Reduce Labor Budget and Enhance Customer Service.” n.d. Wwww.linkedin.com.

Accessed February 25, 2024. <https://www.linkedin.com/pulse/how-improve-supermarket-operations-reduce-labor-alberto-del-barrio>

¹¹⁷ “How Data-Driven Leadership Boosts Strategic Workforce Planning.” MuchSkills. Accessed February 25, 2024.

<https://www.muchskills.com/blog/how-data-driven-leadership-boosts-strategic-workforce-planning>

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Leaders who are driven by data have a distinct advantage because they utilise facts to shape and advise strategic decisions, instead of depending on intuition and assumptions. However, this does not mean completely disregarding a leader's instincts. Whilst historical data offers predictions – not always accurate – of what will happen in the future, human reasoning and analytical thinking combined with experiences, remains essential for translating data into actions that are effective not only in theory, but also in practice.¹¹⁸

The Benefits of AI in Workforce Planning for Supermarkets and Leaders

Supermarkets have different departments that each drive different demands for work, tasks, and required skills. For example, the bakery department sells fresh bread and cookies. This requires employees to have the skills to operate an oven. The number of customer service team required, however, is not determined by how much bread is sold at any given time, but on the number of transactions completed. This can be broken down even further by defining the demand per time of the day. Bread may be more popular in the morning, while deli meats are sold more in the late afternoon.¹¹⁹

Each store and location has its distinct patterns. Making this clear distinction allows supermarkets to ensure they have the right team, at the right time and during busy or slow period across all departments. Implementing AI offers several benefits, including enhanced efficiency and accuracy, improved customer satisfaction and loyalty, higher employee engagement and reduced costs.¹²⁰

Furthermore, it can optimise the use of resources while minimising waste of time, money, and energy, mitigating the risks of overstaffing or understaffing, compliance issues, or even employee burnout".¹²¹

"Outperforming companies are leveraging AI to create actionable insights and targeted human resource strategies, with workforce planning being a top area of performance differentiation".¹²² Graphically displayed in Figure 2.

¹¹⁸ "How Data-Driven Leadership Boosts Strategic Workforce Planning." MuchSkills. Accessed February 25, 2024.

<https://www.muchskills.com/blog/how-data-driven-leadership-boosts-strategic-workforce-planning>

¹¹⁹ "How AI-Driven Scheduling Improves Supermarket Operations." Www.quinyx.com. Accessed February 25, 2024.

<https://www.quinyx.com/blog/how-ai-driven-employee-scheduling-improves-supermarket-operations>

¹²⁰ "How AI-Driven Scheduling Improves Supermarket Operations." Www.quinyx.com. Accessed February 25, 2024.

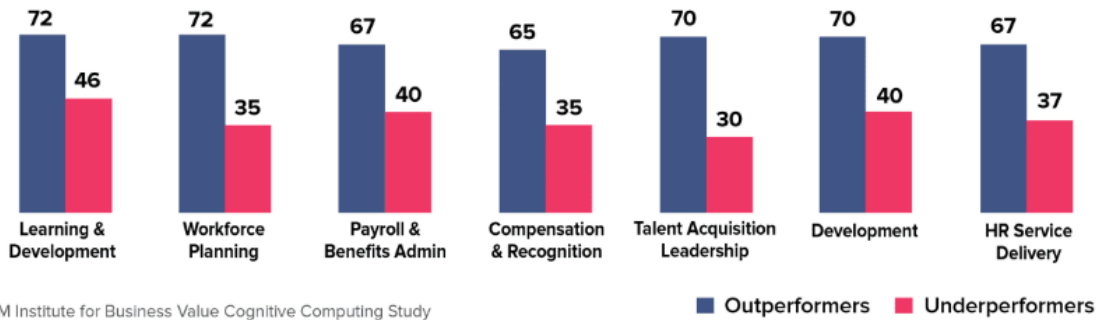
<https://www.quinyx.com/blog/how-ai-driven-employee-scheduling-improves-supermarket-operations>

¹²¹ Workforce Management. "What Are the Challenges and Benefits of Using AI and Automation for WFM?" How AI and Automation Can Enhance WFM, October 31, 2023. <https://www.linkedin.com/advice/0/what-challenges-benefits-using-ai-automation-adigc#:~:text=Using%20AI%20and%20automation%20for%20WFM%20can%20bring%20many%20advantages.and%20reduce%20costs%20and%20risks>

¹²² Millner, Dave. "How IBM Incorporates Artificial Intelligence into Strategic Workforce Planning - HR Curator." HR Curator, July 8, 2020. <https://hrcurator.com/2020/07/08/how-ibm-incorporates-artificial-intelligence-into-strategic-workforce-planning/>

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Figure 2



Source: <https://hrcurator.com/2020/07/08/how-ibm-incorporates-artificial-intelligence-into-strategic-workforce-planning/>

- **Rostering and Scheduling: Right Talent at the Right Time**

Basic automated rostering results in compliant, cost-effective schedules, reducing the workload for Store and Department Managers. However, advancements in AI rostering enable even more smarter scheduling options.¹²³

Demand based rostering means AI can adapt the schedule based on projected labour demand, calculated through a variety of methods: historical sales patterns, foot traffic, weather forecasts and employee availability to predict future rostering needs accurately. This enables supermarket retailers to create optimised schedules that align with customer demand, prevent understaffing during peak hours and reduce labour costs. Furthermore, AI creates personalised schedules that maximise productivity and employee satisfaction by factoring in employee performance metrics and preferences. Graphically displayed in Figure 3.¹²⁴

Figure 3



Source: <https://www.shiftlab.io/blog/how-to-harness-ai-for-retail-employee-scheduling-forecasting>

¹²³ "Automated Staff Rostering: How Does It Work and Why Do You Need It?" Humanforce. Accessed February 25, 2024. <https://humanforce.com/au/blog/automated-staff-rostering-how-does-it-work-and-why-do-you-need-it/>

¹²⁴ "Automated Staff Rostering: How Does It Work and Why Do You Need It?" Humanforce. Accessed February 25, 2024. <https://humanforce.com/au/blog/automated-staff-rostering-how-does-it-work-and-why-do-you-need-it/>

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AI considers employees' skills, availability, and performance data to assign shifts that align with their capabilities, while meeting the overall scheduling requirements of the supermarket.¹²⁵ Furthermore, AI can constantly monitor and adapt schedules in real time according to fluctuating conditions, such as unexpected increases in customer traffic or unplanned leave requests or absences, ensuring retailers always have the right number of team at the right time.¹²⁶

- **Recruitment: Right Talent in the Right Place**

Accurately predicting, hiring, and retaining the correct number of employees in the right place is a complex task and often managed at the store level by Store Managers and Department Managers. Failure to get this right results in high levels of attrition, additional cost to business in unnecessary hires and poor customer experience.

When it comes to peak recruitment periods, such as Christmas, AI does the hard work by analysing historical data on employee performance, productivity, and turnover rates to predict future workforce requirements. It can provide accurate forecasts on the number of employees a store may need to hire (if any), the departments they are needed, and the employment type (casual, part-time, or full-time) required.¹²⁷

Whilst the default is to recruit new employees to fill the gaps, supermarket leaders should look to utilise their existing employees where possible.

AI can also assist in identifying opportunities for cross-training and upskilling employees to fill roles across multiple departments, reducing the need for external hires, whilst also fulfilling the desired work hours of existing employees, improving engagement and retention.

AI can recommend training opportunities or scheduling adjustments to better utilise the existing workforce, by identifying skills or shifts that are consistently understaffed.¹²⁸

- **Workforce Mix: Right Talent at the Right Cost**

Supermarkets can benefit from a flexible workforce with a mix of part-time, full-time, casuals and juniors. **Having the right workforce mix, at the right cost can make a big difference to productivity and profit, as well as culture, employee engagement and retention.**¹²⁹

¹²⁵ "AI for Workforce Management: Everything You Need to Know." Time Doctor Blog, September 27, 2023. <https://www.timedoctor.com/blog/ai-workforce-management/>

¹²⁶ "Artificial Intelligence Adoption in Retail Is Real!" LinkedIn, February 6, 2024. https://www.linkedin.com/pulse/artificial-intelligence-adoption-retail-real-rapidpricer-aiic?trk=organization_guest_main-feed-card_feed-article-content

¹²⁷ "The Role of AI in Workforce Management for Peak Performance." Data Science Central, February 24, 2024. <https://www.datasciencecentral.com/how-can-data-science-and-ai-help-hr-in-workforce-development-evaluation-and-retention/>

¹²⁸ "AI for Workforce Management: Everything You Need to Know." Time Doctor Blog. September 26, 2023. <https://www.timedoctor.com/blog/ai-workforce-management>

¹²⁹ "Which Mix of Staff Is Right for Your Business? - Coraggio." Coraggio | Business & Entrepreneurial Advisory Boards | Brisbane | Sydney | Melbourne. July 15, 2019. <https://coraggio.com.au/which-mix-of-staff-is-right-for-your-business/>

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For example, utilising **junior employees can be a great strategy to reduce wage costs**, however due to lack of experience, they can require additional training and supervision, which impacts overall productivity. On the other hand, whilst casual employees offer flexibility and can help with fluctuation during peak trading periods, such as Christmas, they come with reduced employee engagement and loyalty.¹³⁰

While part-time or full-time employees may have higher initial costs, they can be more cost effective in the long run compared to hiring and training new casual or junior employees more frequently. Retaining permanent employees can reduce recruitment, onboarding, and turnover costs, creating a highly skilled and engaged workforce.¹³¹ How do you get it right?

AI can support supermarkets and leaders to conduct cost benefit analysis to compare permanent employees versus casual or junior employees. It can also determine the most cost-effective mix of employee types for different roles and tasks within a supermarket, by considering factors such as hourly rates, training costs, turnover rates, and productivity levels.¹³²

Barriers to Adopting AI in Workforce Planning

Whilst AI has the potential to transform the future workforce, its adoption is hindered by challenges, with managing data being a hurdle to overcome. “The most frequently cited barriers to AI deployment are data management (32%), outweighing challenges for security (26%) and compute performance (20%).”

Data integration issues may arise from disparate sources of information, making it difficult to compile and analyse data effectively. Additionally, poor data quality can lead to inaccurate insights, impacting decision making. Concerns regarding data privacy and protection are also significant, as the sensitive nature of workforce data requires robust security measures to prevent breaches.¹³³ Overcoming these barriers is crucial for supermarket retailers to effectively leverage AI in workforce planning and drive successful outcomes. Graphically displayed in Figure 4.

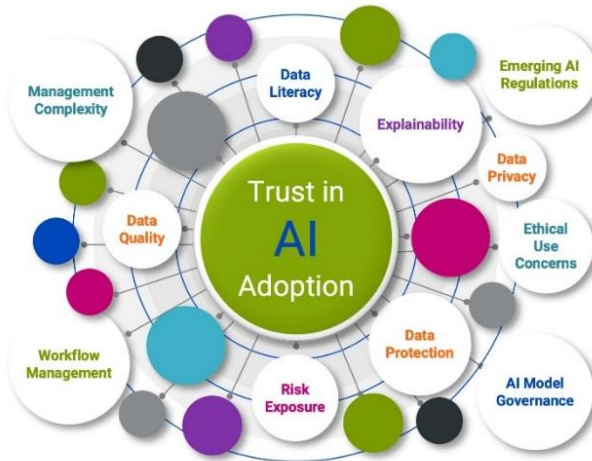
¹³⁰ “Is There Such a Thing as a Long-Term Casual Employee? - Bare Bones Consulting.” 2018. May 13, 2018. <https://www.barebonesconsulting.com.au/long-term-casual-employee/>

¹³¹ “The Importance of Retention over Replacement in the Workplace.” n.d. Www.linkedin.com. Accessed February 25, 2024. <https://www.linkedin.com/pulse/importance-retention-over-replacement-workplace-matt-wilkie>

¹³² “Which Mix of Staff Is Right for Your Business? - Coraggio.” Coraggio | Business & Entrepreneurial Advisory Boards | Brisbane | Sydney | Melbourne. July 15, 2019. <https://coraggio.com.au/which-mix-of-staff-is-right-for-your-business/>

¹³³ Informatica. “Overcoming the 4 Key Barriers to AI Adoption: Strategies for Success.” @Informatica, October 13, 2023. <https://www.informatica.com/blogs/overcoming-the-4-key-barriers-to-ai-adoption-strategies-for-success.html>

Figure 4



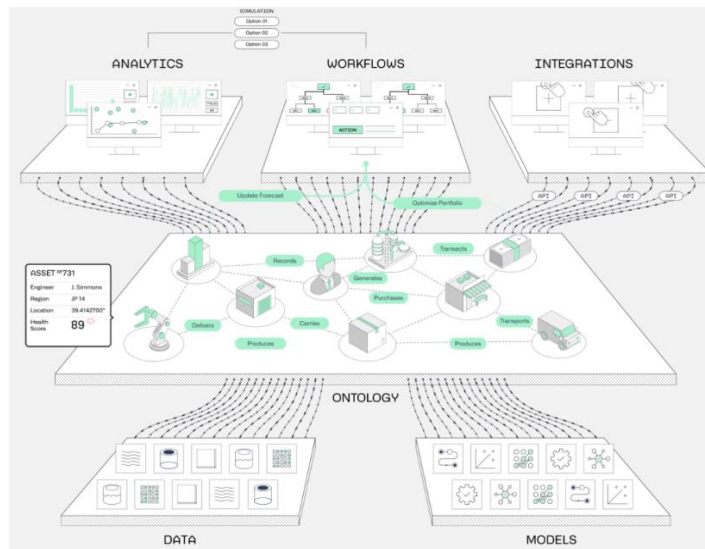
Source: <https://www.informatica.com/blogs/overcoming-the-4-key-barriers-to-ai-adoption-strategies-for-success.html>

How Coles Supermarkets is Adopting AI in Workforce Planning

Coles Supermarkets is taking the lead and bringing AI in workforce planning to life by announcing a 3-year partnership with Palantir Technologies, a leading provider of AI systems to deliver its workforce strategy and analytics tools. As part of the solution, Coles will utilise the vendor’s Foundry analytics platform and AI platform AIP.¹³⁴

Graphically displayed in Figure 5.

Figure 5



Source: <https://www.palantir.com/platforms/foundry/>

¹³⁴ “Palantir Partners with One of Australia’s Leading Retailers.” 2024. Wwww.businesswire.com. February 1, 2024. <https://www.businesswire.com/news/home/20240201306532/en/Palantir-Partners-with-One-of-Australia%E2%80%99s-Leading-Retailers>

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“By integrating data into one system, the suite of workforce tools will identify opportunities from over 10 billion rows of data, comprising each store, team member, shift and allocation across all intervals in a day, every day.”¹³⁵

Coles will deploy across its more than 840 supermarkets to support decision-making to optimise its workforce – including better workforce planning, shift efficiency, and a more granular understanding of spend as it relates to enhancing the experience for shoppers, including Bakery Production Planning tools for in-store bakeries and Ocado Fulfilment Centres. This means, Store and Department Managers will be able to make real-time decisions and use data driven insights to optimise costs and improve both customer and team member experience.¹³⁶

The collaboration between Coles and Palantir Technologies represents a significant milestone in not only the Australian supermarket industry but globally and highlights the significance of data driven decision making.¹³⁷

Conclusion:

In today’s competitive retail landscape, supermarkets must constantly strive to improve efficiency and provide exceptional customer service, while also providing meaningful employment. What does the future retail workforce look like? One thing is certain, AI is set to play a significant role.

AI in workforce planning enables supermarkets and leaders to make data driven decisions to lead better scheduling, reduce unnecessary labour costs and increase productivity. It can assist supermarkets in identify patterns and trends in employee performance, enabling them to make smarter decisions when it comes to hiring, training, and retaining talent.

Furthermore, leveraging AI in workforce planning enables leaders to streamline their operations, maximise efficiency, and most importantly, free up their time to focus on things that really matter – creating a more engaged and motivated workforce and enhanced customer service. Happy employees and happy customers lead to increased satisfaction, loyalty, and ultimate improved business performance.

Despite barriers to adopting AI in workforce planning, such as data integration, quality, and privacy, it is critical and worthwhile investment that enables supermarkets to adapt to changing market conditions and stay ahead of the game. Supermarket retailers are entering a new era, characterised by a focus on efficiency and accuracy, creating opportunities for continuous improvement and growth. Predicting the future does not require a magical crystal ball, it requires utilising AI in workforce planning.

¹³⁵ “Palantir Partners with One of Australia’s Leading Retailers.” 2024. Www.businesswire.com. February 1, 2024. <https://www.businesswire.com/news/home/20240201306532/en/Palantir-Partners-with-One-of-Australia%E2%80%99s-Leading-Retailers>

¹³⁶ “Palantir Partners with One of Australia’s Leading Retailers.” 2024. Www.businesswire.com. February 1, 2024. <https://www.businesswire.com/news/home/20240201306532/en/Palantir-Partners-with-One-of-Australia%E2%80%99s-Leading-Retailers>

¹³⁷ “Coles Supermarkets and Palantir Technologies: A Data-Driven Alliance Transforming the Retail Landscape.” Bnnbreaking.com. Accessed February 25, 2024. <https://bnnbreaking.com/world/coles-supermarkets-and-palantir-technologies-a-data-driven-alliance-transforming-the-retail-landscape>