Snapshot Report

Retain Talent

Project code
2024-1081 (A)

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Project description

This project explored whether machine learning could be used to predict which employees in meat processing plants are likely to leave their job within the next 12 months. Funded by AMPC and delivered by Toustone, the project built on earlier research (Project 2022-1138) and trialled a tool called *RetainTalent*, which analyses existing human resources data to identify staff at risk of leaving. The aim was to test, validate and prepare the model for wider industry use, and to support up to five meat processors to scale the tool for practical adoption.

The project involved working with participating processors to securely collect and analyse HR data over a 12-month period. This data included employee tenure, work patterns, demographics, leave and injury records. The machine learning model was trained on historical data and updated monthly, with results displayed through easy-to-use dashboards. The approach focused on understanding how accurate the model was, how long an employee needed to be with a company before reliable predictions could be made, and which data sets most improved prediction accuracy.

The trial demonstrated that the RetainTalent model could reliably predict staff turnover, achieving an accuracy rate of around 86% across the 12-month period. The system operated as intended, with automated data updates and regular reporting. However, only one processor ultimately participated in the trial, and that business chose not to continue using the tool beyond the research phase due to timing and organisational readiness. While the project did not progress to wider adoption, the results confirmed that the model is technically sound and remains a viable option for future use by meat processors when the need and conditions are right.

Project content

The project selected a representative meat processor through the AMPC expression of interest process, based on business size, ownership structure and location. In practice, only one processor participated in the trial. Toustone set up the RetainTalent machine learning model for this processor and provided up to five Yellowfin user licences to enable access to workforce insights through dashboards and reports.

Over a 12-month period, HR data from the participating processor was collected and analysed to identify patterns linked to employee turnover. Core data included employee demographics, employment type, tenure, work location and leave history, with additional data such as injury records and engagement or exit survey results included where available. Toustone covered all associated project costs, maintained data flows to AMPC, and provided quarterly reports summarising key learnings. Insights from the trial informed ongoing refinement of the model and contributed to planning for potential future industry adoption.
Toustone conducted pre-implementation assessments, prepared and integrated the processor's data, trained and optimised the machine learning model, and deployed dashboards and reporting tools. The effectiveness of the model was evaluated by monitoring staff retention KPIs over time, validating prediction accuracy, and refining the tool as required. All processes and outcomes were documented and reported to both the participating processor and AMPC.

Project outcomes

The project successfully demonstrated that the RetainTalent machine learning model can predict employee turnover with a high level of accuracy, maintaining an average accuracy of around 86% over a 12-month period. Automated monthly data updates and dashboards operated as intended, providing clear and timely insights into staff at risk of leaving.

Only one meat processor participated in the trial, and while the tool performed well technically, the processor chose not to continue using the model beyond the research period due to timing and organisational readiness. As a result, the project did not progress to wider industry adoption.
Despite this, the project confirmed that the RetainTalent model is technically sound, scalable, and suitable for future use by meat processors. The learnings have informed model refinement and provide a foundation for potential future deployment when industry conditions and demand align.

Benefit for industry

This project demonstrated the potential for machine learning to support red meat processors in addressing workforce retention, a persistent challenge across the industry. By using existing HR data to predict which employees are at risk of leaving, tools such as RetainTalent can provide processors with earlier visibility of retention risks and the factors contributing to staff turnover.

Access to predictive insights allows processors to move from reactive to proactive workforce management. Managers can intervene earlier with targeted actions, such as adjusting rostering, providing additional support or training, or addressing workplace or supervisory issues, before employees decide to leave. This can help reduce unplanned turnover, improve workforce stability, and lower the significant costs associated with recruitment, onboarding and training.

Improved retention also delivers broader operational benefits, including greater productivity, safer workplaces through a more experienced workforce, and stronger workplace culture. At an industry level, the project shows how data-driven tools can support better decision-making and provides a pathway for future adoption of advanced analytics to strengthen workforce sustainability across the red meat processing sector.
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