Australian Unity

Optimising Home
Care Roster and Visit
Scheduling
2024 Case Study

Biarri commercial mathematics

ACCPA ASSOCIATE PARTNER 2024-25

Optimising staff rosters and home care visit schedules for Australian Unity

Australian Unity

We partnered with a nation-wide home care service provider to implement advanced workforce planning algorithms that optimise staff-rosters and scheduling of home care.

Facing an ever-ageing population and a national shortfall in qualified carers, Australian Unity recognised the need to innovate home care delivery using workforce planning optimisation.

Australian Unity traditionally used Procura combined with manual processes to manage all rostering and scheduling, but believed that an advanced algorithm-led approach to workforce planning could support efficient delivery of care.

On the basis of a flexible delivery model, custom software solutioning and rich experience optimising under Australian labour agreements, Australian Unity selected Biarri as their trusted optimisation partner.

Business outcomes

Supported by Biarri, Australian Unity transformed the Home Health business through:

- Investing in improving the quality and accuracy of required data
- Integrating Biarri software into the Australian Unity technology stack
- Effective change management
- Implementation of a Biarri roster maintenance engine that maintains the benefits of an optimised roster

Australian Unity is now rolling out roster optimisation across their national footprint. As of March 2024, rolled-out branches have achieved average performance improvements of:

15% decrease in cost to service a home visit.

15% decrease in average travel minutes per visit.

Increase in number of visits delivered as planned - from 60% to 90%

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How does it work?

The Biarri rostering software is equipped with algorithms that:
1. automate and optimise the creation of rosters & schedules
2. optimally maintain rosters & schedules in response to changes leading to the day-of-operations.

The algorithms optimise rosters and schedules simultaneously, determining not just the most efficient route, but also determining the best allocation of client visit to carer and roster of the carer. The algorithms consider:
- scheduling constraints (e.g. travel times, visit time windows)
- roster rules & constraints (e.g. employee agreements, availability)
- soft constraints/costs (e.g. stability of schedules/rosters, maintaining familiar care workers, minimising undesirable shifts).

The result? Roster and carer schedules that optimally balance cost-savings with client and employee experience. Each carer's schedule is also planned in detail to include breaks, travel and team meetings.

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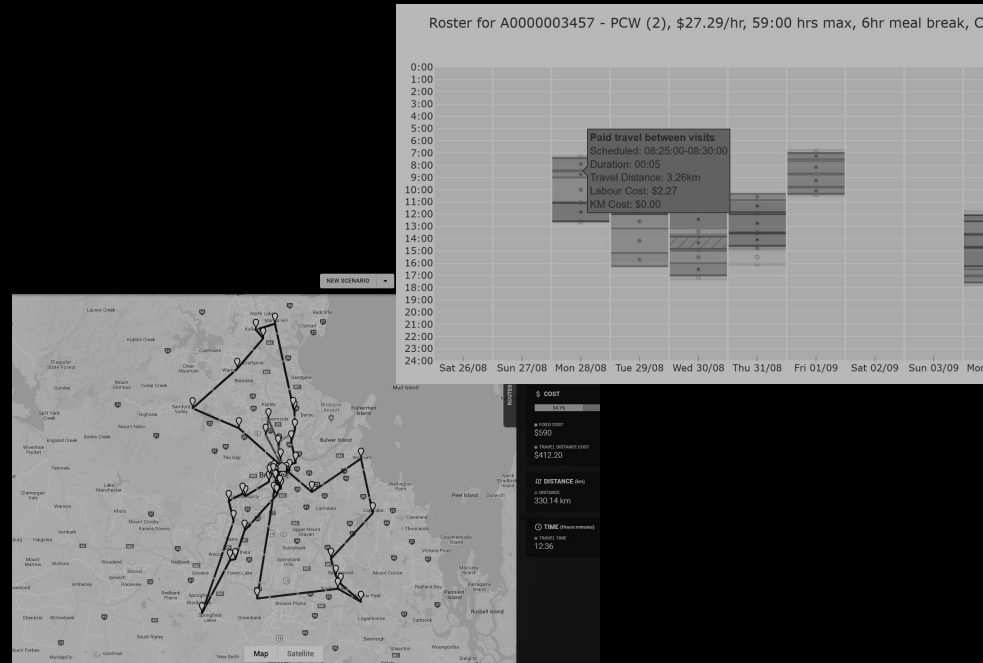
Challenges faced by customers

We find that customers must address critical business questions in order to successfully implement roster optimisation:

- How do we build a **strong business case** to implement roster optimisation?

- What **systems, datasets** and **data quality** must we have in order to implement roster optimisation?

- How do we **integrate a Workforce Planning optimisation solution** with existing Workforce Management, HR and CRM/Care platforms?

- How should we **balance cost optimisation with carer and employee satisfaction**?

- How do we optimise against **ever-evolving employee agreements**?

- How do we effectively **maintain optimised rosters** over time, with changes to bookings?

Talk to us to learn about how we help our customers overcome these challenges.

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Typical path forward for customers

We offer a **Proof-of-Value (PoV)** engagement to prove the operational benefits of our software **before** customers commit to a software implementation.

During a PoV/pilot, we customise and/or configure **planning optimisation algorithms** that automates and optimises the workforce planning process. We then perform baseline analysis to measure the benefits to operational efficiency and labour cost. This analysis allows our customers to **understand the cost-benefit ratio**, **de-risk the engagement** and **build trust** in the technology.

Our customers typically use the forecasted benefits from the PoV to **justify the budget** for a software implementation and roll-out.

The software implementation then closes the loop to deliver software that ensures a user-friendly planning experience, customised to fit the organisation's IT and business needs.

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Phase 1
Workshop

Understand customer's operational planning requirements and system architecture.

Phase 2
Proof-of-Value

Short/fast project.
Customise/configure mathematical engine.
Measure the benefits.
Prove the business case.

Phase 3
Design
Configuration

Customise the software architecture and software design to fit the customer need

Phase 4
Implementation

Implement software in operational environment.

Support

Maintain software for continual relevance to evolving business needs.

An Introduction to Biarri

B2B Software Company
we build bespoke solutions for operational planning, scheduling and rostering.

The Biarri Difference
our technology empowers planners with **mathematical optimisation**: automating planning processes and optimising planning & execution.

Benefits and Value
our software establishes operational efficiencies for our customers, improving operating profit and/or planner productivity.

Biarri Workbench
despite the custom nature of our solutions, our core technology (the **Biarri Workbench**) enables us to build and deploy solutions rapidly and cost-effectively.

15 Year History
Since 2009, Biarri has spawned a family of companies (the **Biarri Group**), with ~200 employees across the group and offices in US, UK, Australia and Philippines.

Cross-functional Team
we are a team of 40 software engineers, mathematicians, data scientists and ML engineers, predominantly in client-facing or consultative roles.
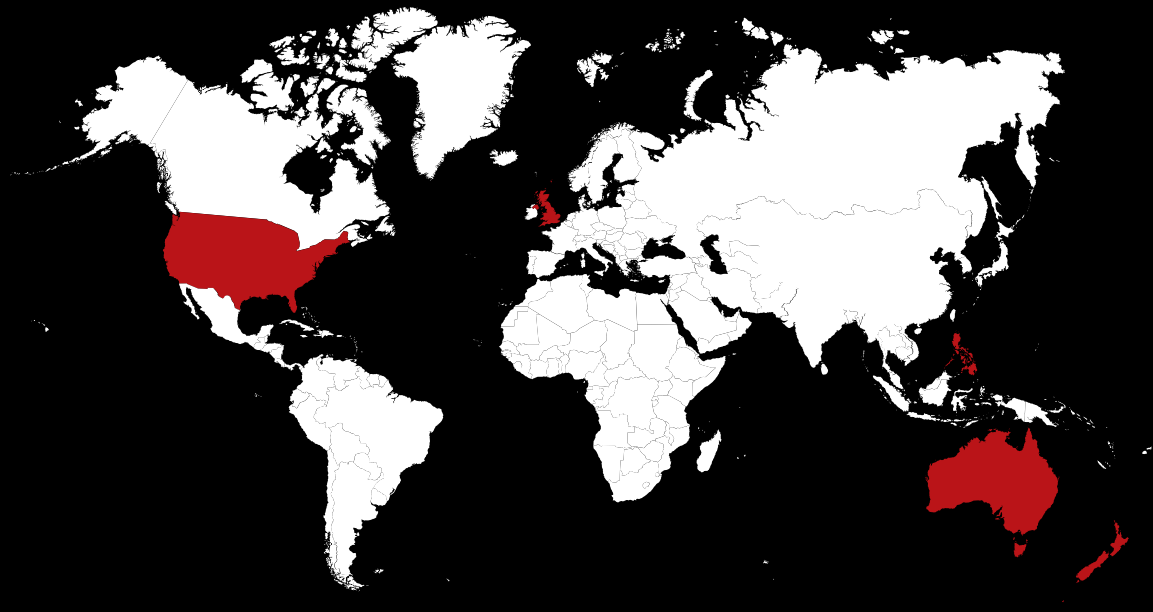
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