

Qantas Freight – Capacity utilisation for superior performance

Case Study



The airline industry is undergoing massive pressure to cut costs and optimise performance, which also includes air freight.

The challenge was to convert complex data streams into useful information for better capacity utilisation management.



The problem

Qantas Freight had a vision of integrating dispersed data from their global operations into a single data source and being able to track all freight movements down to each individual container on each flight.

They also needed to visually determine the capacity utilisation ratio of each flight taking off. Altis Consulting had previously implemented a Data Warehouse for Qantas Freight and was again engaged to extend the Data Warehouse and add new Business Intelligence functionality. This project presented a number of complex technical challenges that included:

- Integrating Flash MX technology with both Cognos and the Data Warehouse.
- Interpreting text data sourced from Qantas stations worldwide.
- Defining rules for interpreting booking transaction history

The Solution

The solution had 4 distinct components:

1. Capacity Usage: This project focussed on enabling the Data Warehouse to include planned and actual data. One of the new data sources was text messages historically received via telex. This data was interpreted and stored in the Data Warehouse making it easily accessible to business users for both ad hoc querying and analysis.
2. Capacity Usage Visualisation: Altis Consulting took the initiative to develop a graphical frontend application to present a visual display of freight usage data. This was presented as a prototype to Qantas Freight Management and was so well received that the prototype was then implemented as a production system. The key to success on this project was the innovative use of a graphics and animation tool in combination with the Data Warehouse data to build a view of the cargo hold that was instantly meaningful to everyone in Qantas Freight. Following the release and successful ongoing use of the initial Capacity Usage Visualisation (CUV) prototype, requirements for a second release were gathered. This was a major new release incorporating added functionality based on user feedback. Changes included providing new statistical data, adding planning information and permitting the different stages of a flight to be viewed together. Altis Consulting defined the requirements, designed the enhancements, built, tested and delivered this new release.

- Data
- Information
- Analytics
- Outcomes

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3. Proactive Flight Manager: This was a new application that used warehouse data to add value to business processes. Flight planning and flight booking data are combined and analysed prior to flight departure and each flight is categorised according to specified thresholds as being either 'OK' or in need of attention. This allows both Sales and Planning teams to quickly focus their efforts on flights that are either underbooked or overbooked in terms of freight. Traffic lighting is used to present this visually
4. Capacity Wastage: This project is a natural complement to the Capacity Usage project. This sub-project focused on increasing the understanding of why a given flight had capacity wasted. This was a complex project that relied on interpreting booking transactions for freight that went on a given flight, freight that had a booking on the flight at some time but didn't travel on that flight and freight that travelled on a flight but did not have a booking.

Tangible Outcomes

- Instant return on investment achieved upon the release of the project. This was due to the testing phase financial reconciliation which found unbooked revenue worth more than the cost of the system.
- Provided the ability to sell freight in advance by giving analysts more time to assess future bookings to optimise capacity utilisation. Reporting timeframes reduced from 1 week to 30 minutes