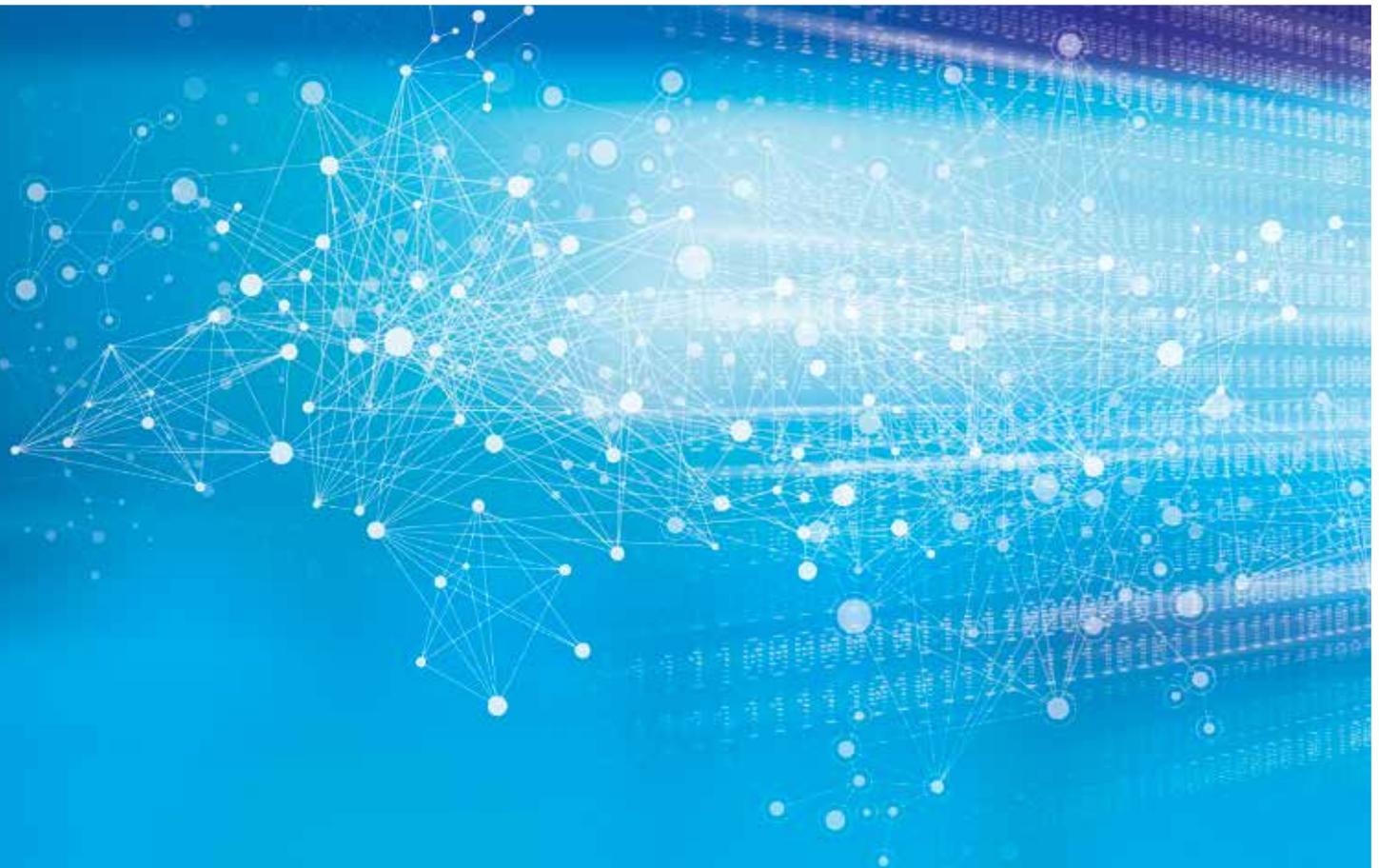# harmonic
analytics

Forecasting with Confidence
key for BCITO

harmonic analytics

Forecasting with Confidence – Key for BCITO

BCITO

The Building and Construction Industry Training Organisation (BCITO) is appointed by the Government to set standards and develop qualifications for the building and construction industry in New Zealand. The BCITO is the largest provider of construction trade apprenticeships in New Zealand.

BUILDING AND CONSTRUCTION ITO
We're Building People

THE BUSINESS CHALLENGE

BCITO's objective was to forecast how many apprentices will need to be trained to meet the future demand for skilled trades-people. As the apprenticeship takes up to four years to complete, this requires a long term view.

Apprentice numbers vary from year to year and are often influenced strongly by economic factors, the construction industry job market and the demand for housing in New Zealand. An accurate projection is required to minimise the financial impact from over or under forecasting apprentice numbers.

THE SOLUTION

BCITO asked Harmonic Analytics to build a statistical model to forecast the number of building apprenticeships over a three year period (2014-2016) with a good level of accuracy.

Harmonic considered several sources of data and forecasting techniques in order to provide an accurate projection of the expected apprentice numbers, based on robust statistical methodologies as well as relevant economic information. Four categories needed to be treated and forecasted separately. Apprentices can start, complete and withdraw at any time of year.

"We used a combination of time series, regression and visualisation techniques to discover trends and patterns to reveal new insights from the data." says Shirley Wu, Chief Analytics Officer.

Based on the data, the techniques and input from BCITO subject matter experts, Harmonic built a robust statistical model that is providing apprentice forecasts to a high level of confidence.

BENEFITS/OUTCOMES

Forecasting with Confidence

The resulting information provides BCITO with a high level of confidence to plan for apprentice training. Monthly and yearly projections are provided, and refreshed six monthly.

"We worked with Harmonic to build a model which incorporates historical trends together with industry and econometric forecasts to give us a view of future demand for apprenticeship training. The team at Harmonic displayed considerable expertise in the area for data modelling and forecasting and the resulting report fully met our needs and expectations."

Paul Mitchell, Group Manager Support Services, BCITO

The data breakdown also gives BCITO a more in depth understanding of the key attributes and variables that impact apprentice numbers. For example clear trends, seasonal patterns and important economic attributes were identified.

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