

PREDICTIVE ANALYTICS MODELING

A Large Australian Airlines

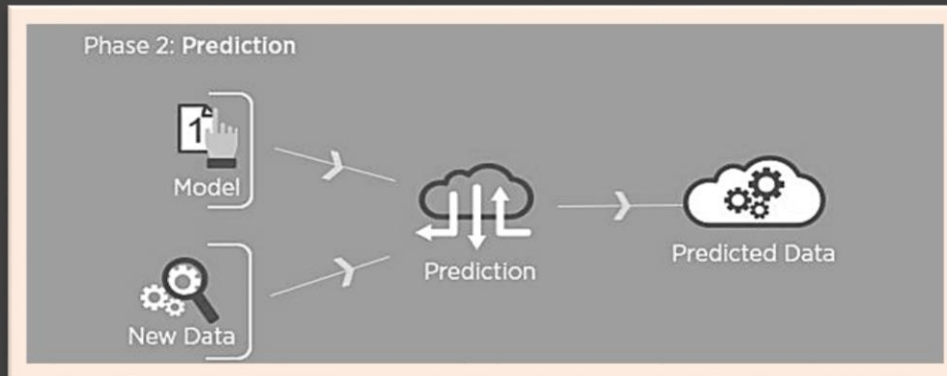
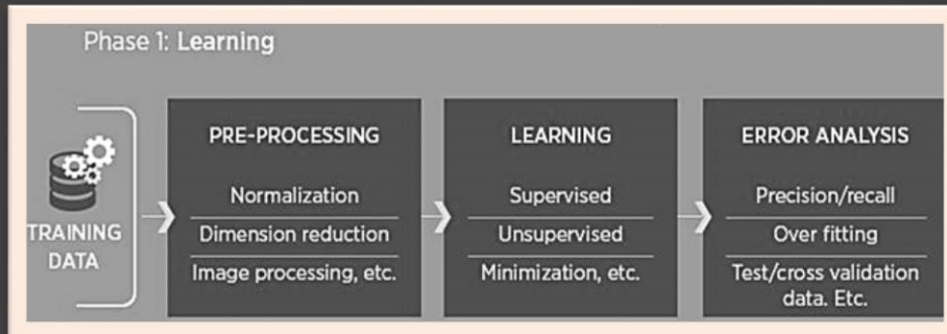
THE CLIENT PROBLEM STATEMENT

Client wanted to test and build an innovative proof of concept to see how machine learning and analytics can help to predict crew absenteeism for better disruption management



SOLUTION

- It is the machine learning based approach for predicting the absence of crew before the roster planning exercise by leveraging several internal and external parameters such as age, holiday, weather, historical leave patterns, fly duty details etc.



CREW LEAVES PREDICTION



January 2018, Prediction with 89% accuracy

*BNE, FC and Short Haul Flight



Total Crew 1011

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01 20 26	02 20 24	03 19 25	04 19 23	05 19 22	06 19 20
07	19 20	08 18 18	09 18 18	10 18 18	11 18 18	12 17 19	13 17 19
14	17 18	15 17 17	16 17 17	17 17 17	18 17 18	19 17 18	20 17 18
21	17 22	22 17 21	23 16 22	24 16 20	25 16 20	26 17 18	27 16 18
28	16 18	29 16 17	30 17 17	31 17 17			

■ Predicted Leaves
■ Actual Leaves

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Short Haul Flights (73H,E90,332,73W,73C,738,73T,773)

BUSINESS OUTCOME



- Better management of disruptions resulting from crew absence
- Improved roster utilization and efficiency
- Improved customer experience and operational efficiency