

Case Study



Machine Learning – UK based Call Centre needed insights into why their staff retention was very low.

Industry

A UK based call centre that provided first line support for a mobile phone provider had a very low staff retention rate. The organisation was city centre based and majority of the employees in the call centre were aged between 18 – 30. Team leaders tended to be call centre handlers that had been promoted internally. The call centre staff was broken down into sub teams consisting of a team leader and 6-8 staff under each team lead. In total the call centre was approximately 80 staff in total. This included call handlers, team leaders, and managers.

Each sub team within the call centre would be given targets based on the number of call handlers in the team, and the experience within the team. The targets were based on the number of calls answered, the number of first call resolutions, and the scoring from the customer feedback survey after the call.

Teams would have a table based on performance against target within the call centre so that all staff could see the performance of both their own team, and the performance of other teams.

Challenge

The organisation was employing, training, and mentoring new staff. They realised that over 40% of their new staff was leaving the organisation within the first 6 months of the employment. This provided concerns for the organisation as they incurred costs associated with the employment process, as well as training. Also of concern was the service to the mobile phone provider was difficult to maintain with the constant changing of staff.

Solution

Datahub Consulting initially conducted a workshop where we looked at the employment process. How the new employees were trained and mentored. We also looked at the organisational structure.

Understanding the processes together with the employee, training, and timekeeping data allowed us to develop a supervised learning model. Once that was developed we worked with the organisation to refine the model and increase the success rate.

Datahub to create a machine learning model that could identify personas that were at risk of leaving the

organisation. For security no employee numbers or identifiable information was processed and the algorithm only identified employee personas.

Definition of a Persona.

An employee persona is a profile of a specific employee segment that details their characteristics, attitudes, wants, and needs. HR teams can use these profiles to better personalise and tailor their initiatives to best suit their employees.

Outcome

We provided to the customer a machine learning solution where they could identify employee personas that was considered a high risk of leaving the organisation (churn). This was then put into a Power BI dashboard so that senior management only could visualise.

Datahub provided the solution, and the organisation could identify business improvements that meant that the employee retention improved, reducing employment and training costs.

Datahub worked with the customer to make sure that all ethical and data compliance guidance was followed.

Technology We Used



Azure Blob Storage

The data is from various sources and first is copied to one central location in the Azure platform utilising blob storage technology



Azure Data Factory

Azure data factory was used as an ETL tool to monitor and move the data between services. Providing the pipeline of data.



Azure SQL Server

SQL Server was used to cleanse and wrangle the data. Removing any errors, blanks data, outliers etc that would reduce the accuracy of the model.



Python Code

Python code was used for the machine learning algorithm. The Python script takes the cleansed data from SQL Server and then outputs a score for the various people personas. During the development and testing the data was split for the testing, evaluation and training of the algorithm.



Power BI

Microsoft Power BI was used to visualised the output from the machine learning algorithm. Allowing the management team to analyse and to implement the soft skills in order to increase the staff retention. The reports and dashboards included row level security so that the leadership team can see all the data. But the managers could just see the data for the team that they manage.



To see if Datahub Consulting could help your organisation with an Data Science / Machine Learning project. Please contact one of our office's where we will be happy to arrange a call to discuss.

Email Address: info@datahubconsulting.co.uk

Leicester Office: +44 (0)116 223 0689

London Office: +44 (0) 2039188 799

European Office (Madrid): +34 911 11 58 11