Global Telco uses Y-Analytics to Predict Customer Behaviour

Y-Analytics

A global telecoms provider has used Y-Analytics –
the automated predictive marketing suite – from Warwick Analytics
to automatically understand and predict customer behaviour.

The Challenge

Retailers know that their customers' behaviour is constantly changing, but they don't always know how, why, nor what to do about it. In some sectors such as groceries, shopper behaviour appears to have become more heterogeneous and dynamic, with spending being influenced by a wide variety of factors, both inside and outside the store as well as by location and a growing array of channels and media – both offline and online. As consumer choice and awareness increases, it is becoming harder for retailers to capture the attention of distinct customer segments, and indeed those segments themselves are becoming increasingly hard to track, define and understand.

The Opportunity

The opportunity for the telco was to be able to provide predictive insight to retailers, and other location-interested parties (such as transportation companies, smart cities and events) derived from the anonymised usage data of its customers. In particular for 'partner' retailers, it triangulated the location of those users by placing a beacon in their stores.

Initially it provided business intelligence analytics, aggregating the data in useful ways via a dashboard e.g. showing footfall, catchment, demographics and browsing data as well as an 'affluence' index. This could be used by retailers to assist a variety of actions such as targeting postcodes for vouchers to improve the RoI of their marketing activity.

The next level of opportunity for the telco was to move from BI analytics to predictive analytics, i.e. to generate automated actionable insight which could help drive specific activity without hypotheses. This would allow retailers to dynamically change their marketing and communication depending on the business priority e.g. winning new customers, promoting loyalty or increasing

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shopping basket value. The telco knew that predictive analytics would be powerful but they were not planning on hiring the team of data scientists required to set up specific projects.

The Solution

The telco turned to Y-Analytics from Warwick Analytics.

Y-Analytics is an award-winning automated predictive analytics suite which obviates the need for a team of data scientists. It automates the 85%+ work that data scientists would normally undertake in transforming the data (aka "data wrangling"). For the first time it turns predictive analytics into a product, not a project. Specifically, it uses a suite of proprietary predictive analytics 'workflows' in a big data parallelised platform to automatically generate and validate predictive models on-the-fly. The particular workflows deployed depends on the use case, for example whether the requirement is for unsupervised clustering (e.g. customer segmentation), classification or explanatory analysis (e.g. factors explaining/predicting behaviour), or association rules (e.g. which activities or product purchases are associated with other activities or purchases) etc.

The key proprietary technology came from over a decade of academic work spun-out from the University of Warwick: It is the workflows, the parallelised platform (called A3) and "AIR" – Automated Information Retrieval – which takes any kind of data and extracts the maximum information from it, whether structured, semi-structured or unstructured. All this technology is packaged within Y-Analytics and runs either in the cloud or on-premise.

The telco had a requirement for all of the use cases. It wanted to initially cluster the customers into similar groups and then to be able to find predictive rules of key decisions, for example to identify the factors which explain/predict why users pass by a store, or visited it, or to increase dwell-time, or loyalty.

From the analyses, the telco was able to provide to the retailers the dynamic segmentation of customers and how it changed over time, as well as the specific factors which explained or predicted key decisions such as those listed above. These factors could be used for

a variety of purposes, for example determining which segments to target and which locations, media and channels to use to communicate with them. Further, there was inbuilt flexibility for the retailer to generate its own questions, for example to understand the factors behind different customer behaviour and situations.

The anonymised datasets contained both user mobility data as well as browsing history and profile data. These could (with user permissions opting-in) be applied to, or extended to conjoin with other datasets e.g. customer loyalty data from the retailer to enable location and time-based insight, including the ability to target relevant offers to mobiles at the right time and place. It could also be added to external datasets such as the weather and competitor activity. This approach means that the retailer gets a more efficient and effective way to market and communicate with its customers, ensuring shoppers are only sent relevant offers and information.
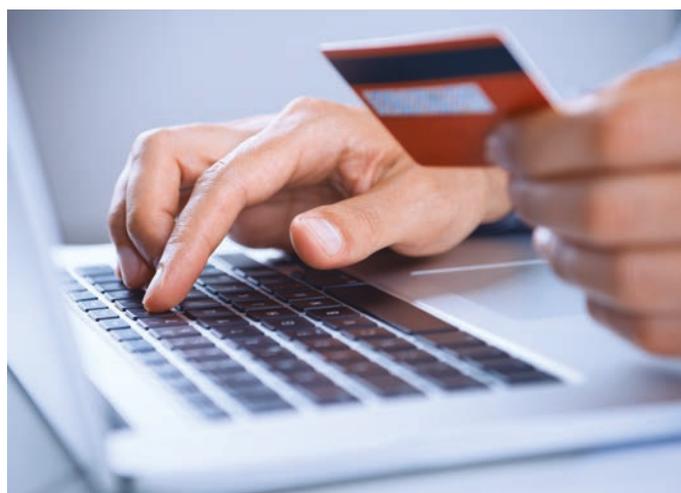
"We are very impressed with the capability of Y-Analytics. Prior to engaging with them, we didn't know whether we needed to hire a team of data scientists or consultant. In a very short space of time, they showed how we could automate predictive insight that was actionable and validated. We are also excited to be able to provide a capability to our customers and partners such as retailers, who can easily generate their own predictive questions. Rather than BI where you need to look for answers, predictive means all you need to do is think about the questions you want to ask."

Telco Insight Product Manager

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