

37% of subscribers of a pre-paid service in South Africa tend to default on their scheduled payments when checked over a 12 month period. Various methods have been used to classify these customers and understand why they fail to pay their subscriptions regularly. It was previously thought that payment method (debit vs. cash) was the largest factor in inconsistent payment behaviour and a campaign to shift customers onto debit orders was undertaken by the client. In addition, payment reminder SMSs detailing the amount due were routinely sent to all cash paying customers 3 days before due date to drive regular payment.

Ixio Analytics used an iterative, machine learning approach on a large customer behavioural database to model customer behaviour and understand possible drivers of inconsistent payment behaviour. A 10-fold cross-validation method was used to verify the final model and achieved a model score of  $0,855 \pm 0,002$ .



**86%** of the time, using known customer information and historical behaviour, we can predict whether a customer will default on payment or not, for the next 12 month period. In contrast to previous dogma regarding payment behaviour, we established that method of payment only ranked 10th in importance in determining payment behaviour.

The model was used to score all existing customers on their likelihood to default, providing customer-specific default predictions.

The model identified all individuals who had a high likelihood of defaulting on payments. An important segment derived from this were previously up-to-date customers who had a high likelihood of defaulting on payment.

This model has been used for high-level cash flow projections and in a payment promotion MMS campaign. Messages promoting early payment are sent to customers likely to default on payments. The response rate has been 24% over the 5 month campaign period in contrast to response rates of previous non-targeted payment campaigns of only 2%.



## Ixio Analytics Predicts Future Payment Behaviour at Sign-Up

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A multinational media company used Ixio Analytics data scientists to identify potential future payment defaults at customer sign-up. The company fully understood, and wanted to avoid, the costs to recover the customer and the loss of revenue while the customer was 'away' after a payment default. Payment is a month-to-month voluntary decision without obligation and so much harder to predict than credit-based organisations' experience with details of credit worthiness and payment history.



Ixio Analytics used just ten variables, all available at customer sign-up already, to determine the likelihood of each customer defaulting on payments with more than **80%** accuracy – this figure gets even stronger for existing customers with a history of product, payment & default data.

This data science solution has allowed the client to:

- (i) focus and follow up on new customer potential payment defaulters before the default occurrence
- (ii) focus on-boarding marketing and informative communications around payment points and due dates long before the customer actually would have defaulted
- (iii) drive up revenues with improved payment compliance and reduced costs of on-boarding
- (iv) target follow-up marketing communications and reduce operations support requirements