



# AN ANALYTICS ENGINE FOR REVENUE GROWTH

## Abstract

For any business, stagnating revenue from a growing customer base can feel like driving on a highway in a vehicle well-past its prime. This case study presents how an Australian telecom giant partnered with Infosys BPM to build an intelligent new analytics engine, to set its revenues back on the fast track of revenue growth and gain benefits of \$20 Mn.



## The client

Infosys BPM's client is a leading Australian telecommunications company offering voice, mobile, internet access, pay television, and other products and services to over 18 million Australian retail subscribers. The organization also has a strong international presence, providing network solutions to thousands of business, government, carrier, and OTT customers across 20 countries.





## A problem of stagnating revenues

The client was facing a business-critical situation due to stagnant average revenue per user (ARPU). Even though the customer base was growing, this had not always translated into revenue growth because the organization had limited visibility into the constantly changing preferences of customers for products and services. The company used traditional rearview business

intelligence for reporting, and the lack of a standard analytical framework hampered its capacity to solve the complex business problem of increasing the ARPU.

To grow its revenue incrementally, the client needed an advanced analytics-powered recommendation engine that could factor in customer preferences

and provide actionable insights on personalizing product mix and promotion offers. As a long-standing transformation partner for the client, Infosys BPM was tasked by the client to develop a robust solution that would utilize data science principles and feature an automated analytical workflow.

## Fueling up with intelligence

Infosys BPM's analytics team began working on conceptualizing and developing an integrated "next product to buy" recommendation solution. This engine, leveraging artificial intelligence/

machine learning models, would notify business stakeholders about the optimal product mix which would meet the needs and interests of customers at any given point in time.

Building the solution broadly comprised of two major stages: defining customer segments and then generating segment-wise product recommendations.



Fig 1: Segmenting the customer base



To effectively define useful customer segments the team first performed due diligence on the customer demographic and behavior data which included

customer tenure, churn likelihood, derived customer lifetime value (CLTV), product holdings, and usage. In addition, the team also studied the client's existing

business segment data and then derived the behavioral and profiling parameters for defining customer segments based on their behaviors and values.

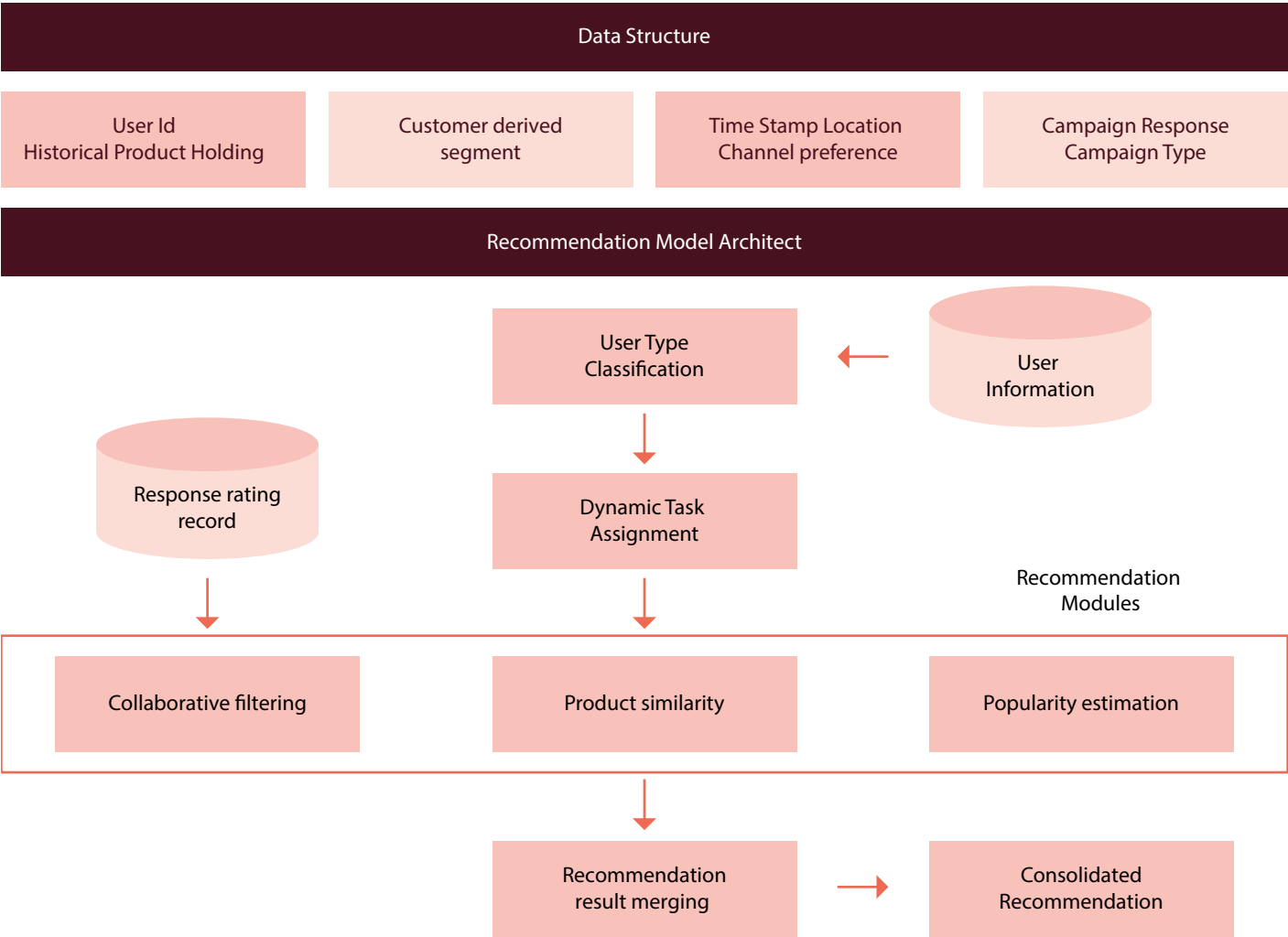


Fig 2: Building a recommendation engine

In the second stage, the team developed a product recommendation algorithm for individual value segments using hybrid modelling techniques. Using the customer profiling parameters derived in the first stage, the algorithm could deliver deep insights into the various factors potentially influencing purchase behavior, and estimate the likelihood scores for product purchases by customers. Thus, the engine could recommend a set of products with a high likelihood of being purchased by a given customer, which helped formulate highly personalized cross-sell and up-sell recommendations across customer segments.



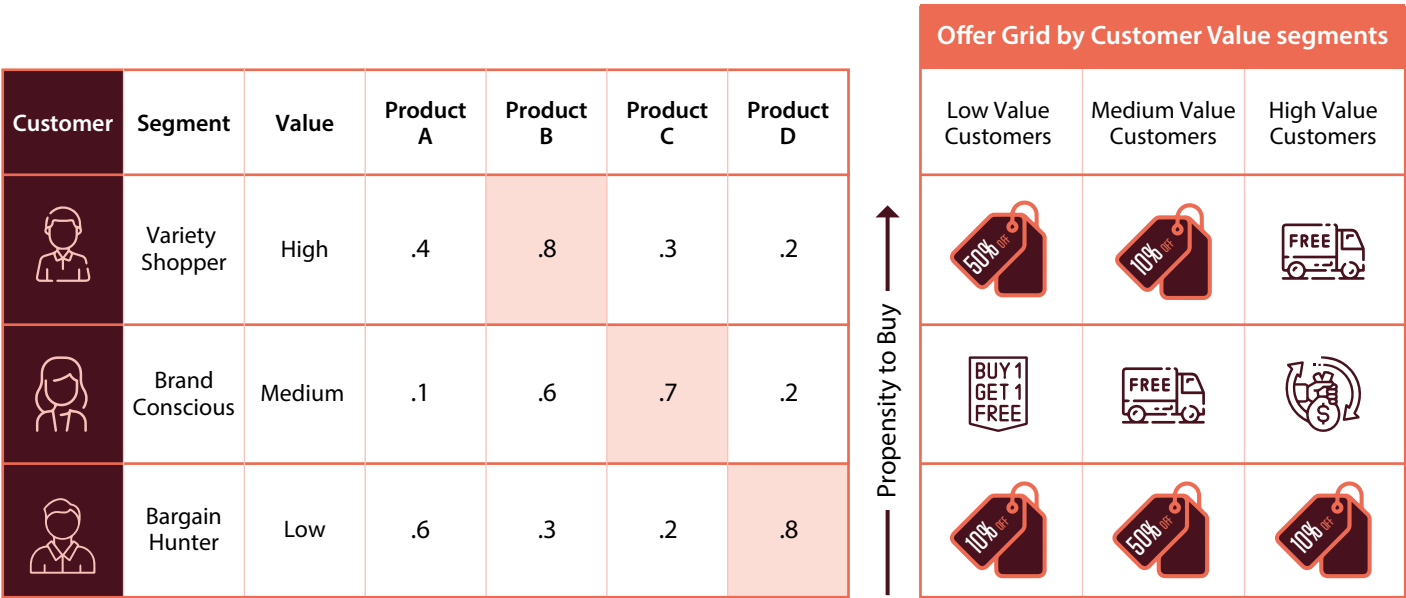


## Firing up the engine

After its development, the team integrated the recommendation algorithm into the client's enterprise system to facilitate personalized offers and recommendations for actual customers. These offers were

then promoted through test campaigns and based on the response, the team tweaked the recommendation model by bringing in the time dimension. The team also used the algorithm to devise retention

and loyalty strategies for high-risk customers by factoring in segment-wise personalized product-mix offers.



The figure above illustrates a typical output of Infosys BPM's next product to buy model (NPTB) recommendation engine. The output is a combination of the purchase likelihood score for different products and an offer strategy to build a robust customer-wise framework for the

next product to be offered, with suggested discounts and deal-sweeteners.

The team also conceptualized an agent playbook for channel operation excellence that utilized the engine's analytical output. The playbook helped optimize

the utilization of different sales channels, enhanced the content for digital marketing to include customized offers for preferred customers, and through other personalized offers and recommendations greatly enhanced agent performance as well as customer satisfaction.





## Back onto the fast lane

Infosys BPM's dynamic NPTB recommendation system with its customer-level personalizations and recommendations was a huge success in guiding the client's revenue growth strategies. The client was able to retain its high-risk customers and well as increase customer spends across categories.

The cross-sell and up-sell opportunities provided by the recommendation engine as well as the intangible benefits of sales channel operation excellence and better agent performance translated into business case benefits of \$20 Mn for the client. This included cross-sell opportunities worth \$17 Mn annually by positioning recommended products, and up-sell opportunities worth \$3 Mn annually by targeting higher subscription plans.



For more information, contact [infosysbpm@infosys.com](mailto:infosysbpm@infosys.com)



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