Case Study

Using ML to drive postpaid migrations

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Striking the right balance on promotions

Mobile CSPs in highly competitive markets often look to maximize ARPU of their existing customers because most people who want a mobile device already have one. Because the lifetime value (LTV) of postpaid customers far exceeds that of prepaid, or pay-as-you-go (PAYG) customers, it is in the CSP's interest to convert as many prepaid customers as possible into postpaid customers.

Amdocs recently worked with a tier 1 EU CSP who in previous campaigns had sent monthly communications to its entire prepaid customer base. In the end, it successfully converted its target number of subscribers. However, it later realized that targeting people who were not likely to convert was not only a waste of effort but had the potential to negatively impact its Net Promoter Score (NPS). Accordingly, the communication policy has shifted so that only those PAYG customers most likely to convert would receive personalized migration offers and the remaining customers would receive more relevant contextual campaign offers.

Amdocs was tasked with helping the CSPs analyze and categorize all subscribers; create and execute real time personalized campaigns; and effectively fulfill the generated demand.

The challenge, then, was how to determine which customers were most likely to convert, free the rest of them to relevant campaigns and still achieve the desired number of converted customers.

AI maximizes likelihood of conversion

Amdocs began by working directly with the business team to identify the factors that correlate with increasing the likelihood of converting from PAYG to postpaid.

The Amdocs Machine Learning (ML) model was conceptualized, designed, and tested on real data prior to engaging actively with the customer. The model scored each customers' probability to migrate, and demonstrable results were available from day one.
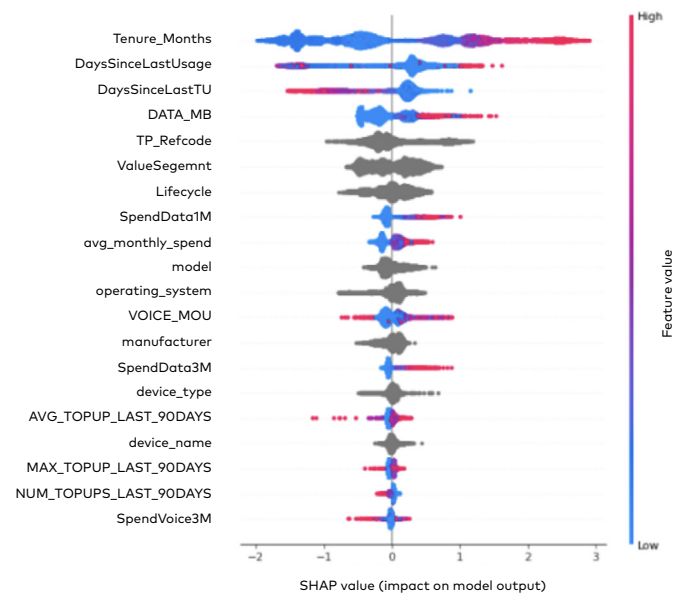
One of the most powerful features of the model is that it gave the customer clear sight of the optimum point of minimal targeting and maximum response. To enable this, it was necessary to evaluate the key migration drivers and identify, at a customer level, the behaviors that have the highest impact on the decision to migrate.

Once operationalized it was possible to pinpoint the optimal minimal number (of specific) subscribers to target and still meet the migration KPI. Unlike most, this tier 1 EU CSP recognized that there is a large portion of PAYG customers who are not interested in migration to postpaid.

Thanks to a detailed understanding of the customer, their data, and their business, as well as the end-to-end capability that the Amdocs system delivers, it was possible to embark on a project with an ambitious timeline.

During the development stage the model was designed and tested on real CSP data. New data aggregations were required, and once refined and validated system attributes were created which scored each subscriber's probability to migrate to a postpaid solution. In parallel, new procedures were defined and implemented which automated monthly scoring of the base, and the periodic retraining of the model to ensure ongoing accuracy and long-term consistent results.
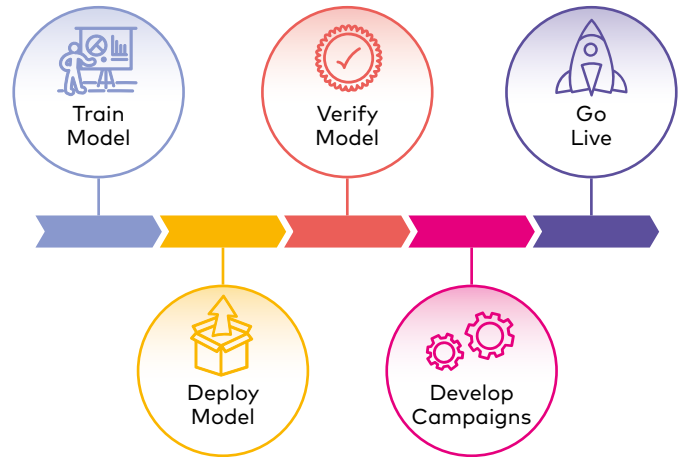
Before implementation the model was trained twice (to optimize its ability to learn and evolve). Amdocs then developed and QA'ed the new campaign logic leveraging fully the new ML attributes. End to end, the entire process took less than three months.

AI delivers desired growth and happier customers

During the early inception of the project the number of Amdocs enabled migrations grew by 7.5%, and the percentage of total monthly postpaid migrations derived from Amdocs campaigns continues to climb month over month.

Not only did the project deliver significant business value to the customer but it also directly improved customer experience across the PAYG base, more focused targeting resulted in a 2.4% increase in responses to other contextual campaigns and valuable improvements in NPS scores, including a 10% increase for the population who stopped receiving irrelevant migration offers.

Improvement in KPIs

10% increase in NPS

7.5% increase in migrations to postpaid

21% improvement in Re-Activations

Targeting a smaller subset of the prepaid subscriber base also freed-up a huge number of subscribers for other contextual offerings, such as engagement and reactivation campaigns, as well as revenue-increasing campaigns. This resulted a more engaged customer base, with a +21% lift in Reactivations.

Mastermind your data journey with Amdocs Data Intelligence Solutions:

Amdocs data intelligence e2e framework enables CSPs to blend ML outcomes with real business processes and operationalize the outcomes. This requires that detailed definitions be derived from scoping and understanding of the CSPs business challenges. The results are deployed (after testing) with more focused targeting and quality campaigns.

By providing a truly end-to end solution, it is able to ensure that the ML output is used to provide significant business value by seamlessly incorporating ML into real-life campaigns.

The Amdocs team provides a single point of accountability, combined with in-depth industry best practices and client knowledge, and delivers significant business value in the shortest possible time to market.

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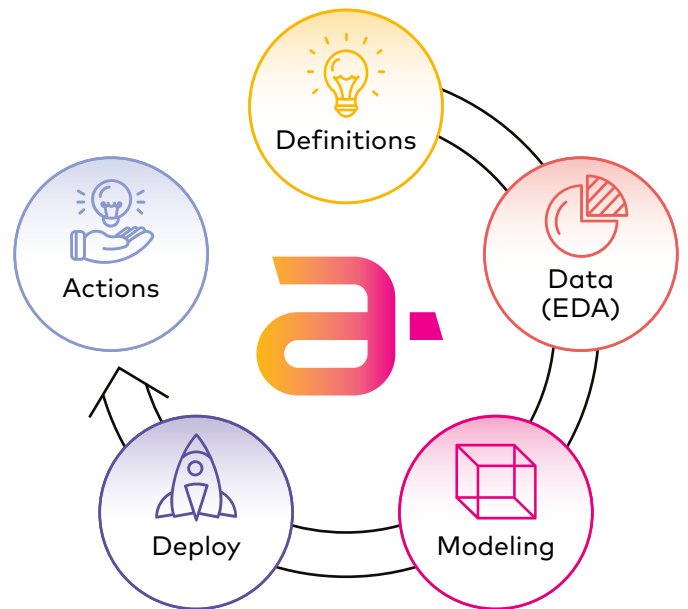
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Amdocs helps those who build the future to make it amazing. With our market-leading portfolio of software products and services, we unlock our customers' innovative potential, empowering them to provide next-generation communication and media experiences for both the individual end user and large enterprise customers. Our 31,000 employees around the globe are here to accelerate service providers' migration to the cloud, enable them to differentiate in the 5G era, and digitalize and automate their operations.

Listed on the NASDAQ Global Select Market, Amdocs had revenue of $4.58 billion in fiscal 2022.

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