PRESS #1 FOR CUSTOMER SERVICE

When a customer calls for help,
you want to offer the best.
But they often fear the worst.

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UNHAPPY AGENTS, UNHAPPY CUSTOMERS

Our client was a large financial institution with millions of customers using a wide range of products. So when customers called the contact center, they could have any query out of a possibility set of 68 categories. They would want investment advice, or ask about their account. Or they would simply want to reset their PIN. The trouble was that the large range of support offered at the contact center meant long and complex phone calls, as customers often found their way through the interactive voice response (IVR) system to the wrong agent. They had to be re-routed — often several times — which gave our client two problems.

First, customers didn't like the negative experience of being re-routed, or spending their time waiting for the right agent to come through. They expected their queries to be addressed quickly and professionally, but experienced delay and frustration instead. Second, inefficiencies at the contact center were high, because more agents than necessary were involved in each call. This not only raised costs; but also meant that when customers finally got through to the right agent, they had less time to handle the calls.

But how could our client avoid both inefficiency and poor customer service?

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GIVE ME A REASON WHY

The usual approach that organizations adopt is to focus on optimizing contact center operations. But we felt that the re-routing problem was not so much about lack of efficiency as it was about lack of knowledge of the customer.

We proposed to our client that we should use available data to understand why customers were calling us. If the data could suggest what customers were calling for, we could serve them faster because we would be able to offer the likeliest options up-front. It wouldn't work for everyone, but statistically, we would have a much better chance of delivering great customer service. This is why we set out to build a data-driven model for the call center.

BREAKTHROUGH

If the data could suggest what customers were calling for, we could serve them faster.

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SEVEN DAYS OF HISTORY

Historical data suggested that most callers visited the client's website before calling. However, this wasn't true for every caller. Some called directly, and others called only after they couldn't find the information they required, on the website. So it made sense to combine information gathered from previous web visits with previous call history data and other standard customer data, such as transactions and demographics. We used this to build a predictive model, and then developed an ensemble model in order to predict the intent of the caller in real time.

We calculated that there were 68 possible call scenarios. The likelihood of each one was given a score based on the data of the customer, and the two highest scores were presented to the customer via the interactive voice response system (IVR) when they called the contact center. This gave us the greatest chance of directing the call to the concerned department. We also did multiple iterations, testing data for different time periods, and found that we achieved the most accurate predictions on using the previous seven days of web data.

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IT'S NOT MAGIC; IT'S DATA

In the space of eight months, we turned an inefficient and often random call-routing system into one that effectively knew what most callers wanted before the phone was even answered.

It took a lot of data preparation, data mining, predictive modeling, and various other machine learning algorithms; but the effect on the contact center efficiency and customer service was immediately felt.

This meant 80 percent fewer call transfers. It meant that agents spent 30 percent less time handling calls and only 13 percent of callers needed to be re-routed to another agent.

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PREDICTING THE INTENT

CLICKSTREAM DATA → **ONLINE MODEL**

ACCOUNT, TRANSACTION, DEMOGRAPHIC DATA → **OFFLINE MODEL**

→ **OVERALL PREDICTION**

HOUSEHOLD ID	PREDICTION - PIN RESET	PREDICTION - EQUITY ADVICE	PREDICTION - RETIREMENT SOLUTION
			.38
		.47	N/A
10001	.97	.06	.55
10002	.11	.22	
10004	.51		

→

OVERALL PREDICTION

PIN RESET
N/A
RETIREMENT SOLUTION

This a representation of the ensemble model that we developed for the client. We took two sets of analytical models (online and offline), analyzed data from them, and then synthesized the results into a single score in order to improve the overall accuracy of predictions.

NUMBER OF QUERIES ANSWERED IN THE FIRST CALL INCREASED BY

60

PERCENT

Our client knows what most customers want before they even dial.

WE DID THIS FOR THEM. WE CAN DO IT FOR YOU.

Find out more about how you can use data to boost efficiency and improve customer service. Reach out to us at **askus@infosys.com**

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