Customer Success Story
Caixa Bank

ORACLE®

- Caixa Bank is one of Spain's largest banks with 5,000+ branches.

- In the past decade, the Spanish banking industry has begun the conversion to digital finance.

- Caixa sought a machine learning and analytics solution to maximize digital potential.

- Caixa also needed a solution built to scale as regulations and demands grow.

- Oracle's products delivered improved performance, strong ROI, and a platform for the future.

BACKGROUND

Caixa Bank is a leader in Spain's retail banking sector. With more than 5,000 branches and 9,000 ATMs, Caixa has one of the largest networks to deliver accessibility and flexibility for its customers. With wire-banking prominent between countries throughout the EU and beyond, a strong infrastructure across digital channels is necessary to retain Caixa's leadership spot in the marketplace.

This also means looking forward and providing services faster as digital access has transformed the finance industry, and particularly as 100% digital competitors have emerged. In 2013, Caixa Bank recognized the changing landscape and sought a scalable solution as it looked to the future.

BUSINESS CHALLENGE: LEADING THE CHARGE TOWARDS DIGITAL FINANCE

The first step was for Caixa to understand how 100% digital competitors utilized technologies, then create an infrastructure that had the same ability to scale as those entities. As a bank with a massive network of physical branches and a significant number of international transactions, stepping into the world of analytics and big data required a deliberate approach with all options vetted. This also opened up the door to the power of machine learning (ML) and artificial intelligence (AI). "We learned that, at the moment, machine learning was a basic and essential component of these frameworks," says Xavier Gonzalez Farran, the director of big data analytical tools at CaixaBank, in Barcelona. "(Machine learning) could be very useful for us by virtue of the amount of data that we have available normally."

Combining the logistics of a digital infrastructure with the power of ML/AI represented a path to a number of things that could transform the way Caixa operated. On the customer side, it was important for Caixa to offer services and solutions that stayed ahead of the competition and even reduced cost and effort for customers. Internally, these tools could create a positive impact in many different areas, from customer engagement to fraud detection to streamlining processes.

Because the banking industry as a whole was moving towards this digital transformation (especially with startups entering the marketplace with 100% digital offerings), regulatory impacts had to be considered, both for now and the future. Given the inherent computing power required to handle ML and AI—and the need to scale up as the volume of big data increases—Caixa recognized several things:

- Any solution had to be scalable for future volumes and growth.

- Current and future regulations regarding security and other guidelines had to be taken into account.

- Data from multiple sources (commercial, retail, internal, research) had to be handled in a way that could offer unified and consolidated access.

Caixa examined many possibilities, but only one solution delivered the unified performance and accessibility the institution desired: Oracle.

"The big advantage is that Oracle Machine Learning is completely integrated in these appliances and it's very easy to deploy from the delivery man to production because it's all integrated"

Xavier Gonzalez Farran
the director of big data analytical tools at CaixaBank

THE SOLUTION: ORACLE'S FAMILY OF PRODUCTS

The Caixa team had many reasons for ultimately choosing Oracle. With so many different tools and features available under a single platform, working with Oracle meant streamlining internal processes and external access for great accuracy and efficiency. This would take time to properly assemble and build, which is why Caixa performed thorough due diligence before moving forward. As Gonzalez explains, "There were few people in Spain who knew how to handle a big data project (of this scope). We analyzed the market to learn which solution could be a partner for us. We decided that Oracle was the best option because it offered an integrated solution to build a solid analytics environment."

The goal was to develop efficiency across many departments and processes. This was an ambitious change because Caixa's previous data analysis used strictly statistical techniques and derivations. By bringing everything together and powering it with machine learning, the staff at Caixa discovered a whole world of possibilities. "We use Oracle Machine Learning products to deal with most business cases; at the same time, it's an easy way to spread machine learning literacy to many of our employees (at Caixa HQ)," says Gonzalez. "It's very important that our users or our employees think about, 'Okay, I can apply machine learning here to solve this problem.' I think that products like Oracle Machine Learning help us do this."

Caixa used a combination of Oracle Machine Learning, Oracle Advanced Analytics, and Oracle Data Mining, in addition to exploratory work with Oracle Analytics Cloud. Oracle's products covered the analytics framework from all angles, from data ingestion and information to data governance to business analytics. This also enabled the integration of ML models with Caixa's big data coming from various resources.

Specifically, regarding Oracle Machine Learning, the ability to train and execute many models in the same environment housing the data proved to be invaluable when it came to saving time. From the elimination of data transfers to streamlined deployment, the overall integration maximized efficiency due to the simple fact that models lived in the same environment that housed the data. Machine learning algorithms could also easily be embedded with SQL processes while also being available in R—this was particularly important as many Spanish universities teach R to statistics students. Flexibility between languages allowed for faster spreading of ML, which hit one of Caixa's primary goals

RESULTS: SIGNIFICANT IMPROVEMENTS INTERNALLY AND EXTERNALLY

With Oracle Machine Learning, Caixa saw results quickly across the board in a number of processes. Specifically, a standard banking process such as risk analysis for loan grants was transformed; previously, textbook derivation models were used, but Oracle Machine Learning was able to power sophisticated algorithms. The result saw a 7% accuracy improvement in models, which translated to a 12% increase in profits on loans.

More complex situations benefited as well by simplifying and streamlining processes. One example of this came from the direct debits process. In Spain, standard utilities such as electricity, water, and essential home supplies are paid through the bank. This required thousands of human hours at individual branches to perform oversight. Caixa developed and deployed an algorithm trained from thousands of historical decisions, and the result was a 99% accurate match to human decision-making. Once that level of accuracy was achieved, the algorithm took over the task of managing those issues.

By crunching the numbers on efficiency improvements, Caixa projected that 60,000 hours of human effort were saved across all branch employees, allowing them to spend more time on value-added tasks such as financial advisory, selling products and services, etc.

Oracle's solutions have enabled this kind of improvement in many different areas of Caixa's operations, both at the institution's main headquarters and at individual branches. As this initiative evolved over six years, perhaps the best showcase of true results stems from how people view emerging technology. "Six year ago, it was mostly impossible

"Thanks to products like Oracle Machine Learning, these sophisticated algorithms are now more accessible and can be used by more people in the bank."

Xavier Gonzalez Farran
the director of big data analytical tools at CaixaBank

that anyone wondered if machine learning could solve a certain problem," says Gonzalez. "And now, many people have this question in their mind (when solving problems)."

CONCLUSION: BUILT FOR TODAY AND TOMORROW

By integrating Oracle's family of products, Caixa Bank built an infrastructure and process to take advantage of the latest emerging technology. And while these steps have created significant improvements for both internal efficiency and customer service, they are just the foundation for the next decade of change. As the Spanish and European financial markets move further into the digital age, everything from security to storage to transaction regulations will evolve. Because Caixa invested in products today, its future is in good hands thanks to Oracle.

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