

# Customer Segmentation & Churn Pattern Analytics in European Banking

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## What this project is about

I worked with a dataset of 10,000 European bank customers across France, Germany, and Spain. The goal was not to build a prediction model — it was to actually understand which groups of customers are leaving and why the patterns look so different depending on where you look. A single overall churn number tells you very little. Breaking it down by segment is where it gets useful.

## What I found

The overall churn rate came out at 20.4%, which means roughly 1 in 5 customers has left. That alone is concerning, but the numbers behind it are what really stand out.

Germany was the biggest surprise. France and Spain both sit around 16-17% churn, which is already not great, but Germany is at 32.4%. That is not a small difference — it is double. And German customers tend to hold much higher account balances than customers in the other two markets, so each exit costs more. I kept going back to this number throughout the analysis because it is hard to explain away.

Age turned out to be the strongest signal in the entire dataset. Customers between 46 and 60 years old are churning at 51.1%. That is more than half of that group. Meanwhile customers under 30 churn at just 7.5%. The gap is striking and it points to a real disconnect between what the bank is offering and what its middle-aged customers actually need.

There is also a consistent gender gap. Female customers are leaving at 25.1% versus 16.5% for males. That 8.6 point difference shows up across all three countries, so it is not just one market doing something different — it is a pattern.

The product numbers were the most alarming thing I found. Customers with 2 products churn at only 7.6% — that is the healthiest segment in the whole dataset. But customers with 3 products churn at 82.7%, and every single customer with 4 products has already left. The cross-selling strategy is not working. It is actively pushing people out.

Inactive members churn at 26.9%, compared to 14.3% for active ones. Nearly double. That gap matters because inactivity tends to come before the decision to leave, not after — which means there is a window to act.

## KPI Summary

KPI	Value	What it means
Overall Churn Rate	20.4%	1 in 5 customers has exited
Germany Churn	32.4%	Double France and Spain
Age 46–60 Churn	51.1%	Highest of any segment
Female Churn Rate	25.1%	8.6pts above male customers
Inactive Member Churn	26.9%	Nearly 2x active members
3–4 Product Churn	83–100%	Cross-selling is failing badly
High-Value Churn	23.7%	Above the overall average

## What the bank should do

- Germany needs immediate attention. A 32% churn rate in one market does not happen without a specific reason. The bank should be talking to recently churned German customers directly, reviewing local pricing, and taking a hard look at service quality before assuming a generic fix will work.
- The 46–60 age group is haemorrhaging customers and this cohort likely holds the most valuable accounts. A proper retention programme — not just a loyalty email, but a personal relationship manager model or meaningful product incentives — is overdue for this segment.
- The gender gap needs to be taken seriously. Female customers are leaving at a much higher rate across every country. The bank should go back to recently churned female customers and ask them directly what was missing. The answer is probably not obvious from the data alone.
- Inactive members are almost certainly on their way out. Setting up an automated outreach at around 60 to 90 days of inactivity — a real conversation, not a marketing push — could catch a lot of these customers before the decision is made.
- The cross-selling model needs a serious rethink. Customers enrolled in 3 or 4 products are leaving at near-total rates. The 2-product zone is where customers are happiest. Pushing beyond that is clearly costing more than it is earning.