BANK CHURN · A BUSINESS PERSPECTIVE

Why Are Our Customers Leaving?

A churn & retention analysis of 10,000 retail-banking customers

20.4% churn · **€186M deposits at risk** · **2,037 customers lost**

Data Analyst Program, Hebrew University of Jerusalem | Noy Levy, David Zeff, Danielle Ab, Sagi Gutin, Shira Meriash | June 2026

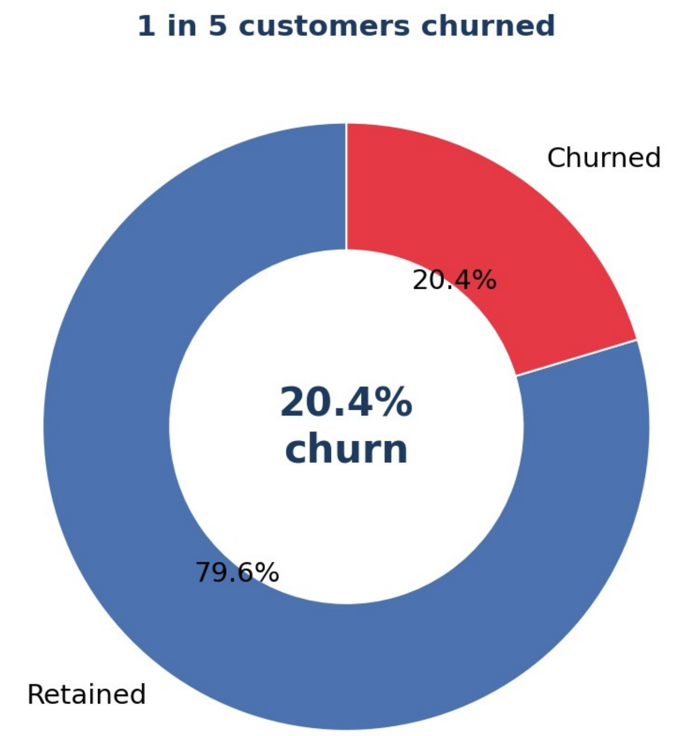
PROJECT

Team & Mentor

Presenters	Noy Levy, David Zeff, Danielle Ab, Sagi Gutin, Shira Meriash
Mentor	Tal Mizrachi
Dataset	Bank Churn — 10,000 retail-banking customers
Tools	Python (pandas) · cleaning & analysis | Plotly · interactive dashboard | PowerPoint

The Domain — Retail Banking Churn

- **Churn** = a customer leaves the bank (closes their relationship). Our flag: Exited = 1.
- **Why it matters:** acquiring a new customer costs far more than keeping one — and a churned customer takes their deposits and fee income with them.
- **The base:** 10,000 customers across France, Germany and Spain, with demographics, account balances, products held and activity.
- **Our questions:** How many leave? WHO leaves, and WHY? And WHERE should the bank intervene first?



KPIs & Success Metrics

SUCCESS METRICS — CURRENT vs TARGET

20.4%
CHURN RATE
target ≤ 15%

79.6%
RETENTION RATE
target ≥ 85%

52%
ACTIVE MEMBERS
target ≥ 60%

49%
CROSS-SELL (2+ PRODUCTS)
target ≥ 60%

DEPOSITS, VALUE & REVENUE

€765M
DEPOSITS UNDER MGMT
total deposit book

€76K
AVG BALANCE / CUSTOMER
per customer

€186M
DEPOSITS AT RISK
24% of the book

≈€4.6M
REVENUE AT RISK / YR
~2.5% NIM (illustrative)

Why these: churn is the north-star; balance- and revenue-at-risk put it in euros; engagement and cross-sell are the levers we can pull. Success = churn ≤ 15% and retention ≥ 85% within a year.

Revenue figures assume a 2.5% net-interest margin on deposits — illustrative, as the dataset has no revenue field.

Data Preparation & Assumptions

- **Source:** one Excel workbook, two sheets (Customer_Info + Account_Info), joined on CustomerId.
- **Standardised geography** — France was split across 'France/French/FRA' → unified.
- **Fixed types** — stripped '€' from Balance & EstimatedSalary (text→number); Yes/No → 1/0.
- **Removed duplicates**, imputed 3 missing ages (median), reconciled a duplicated Tenure column.
- **Filters/assumptions:** snapshot data (no time dimension); full customer base analysed, no sampling.

Data-quality catch

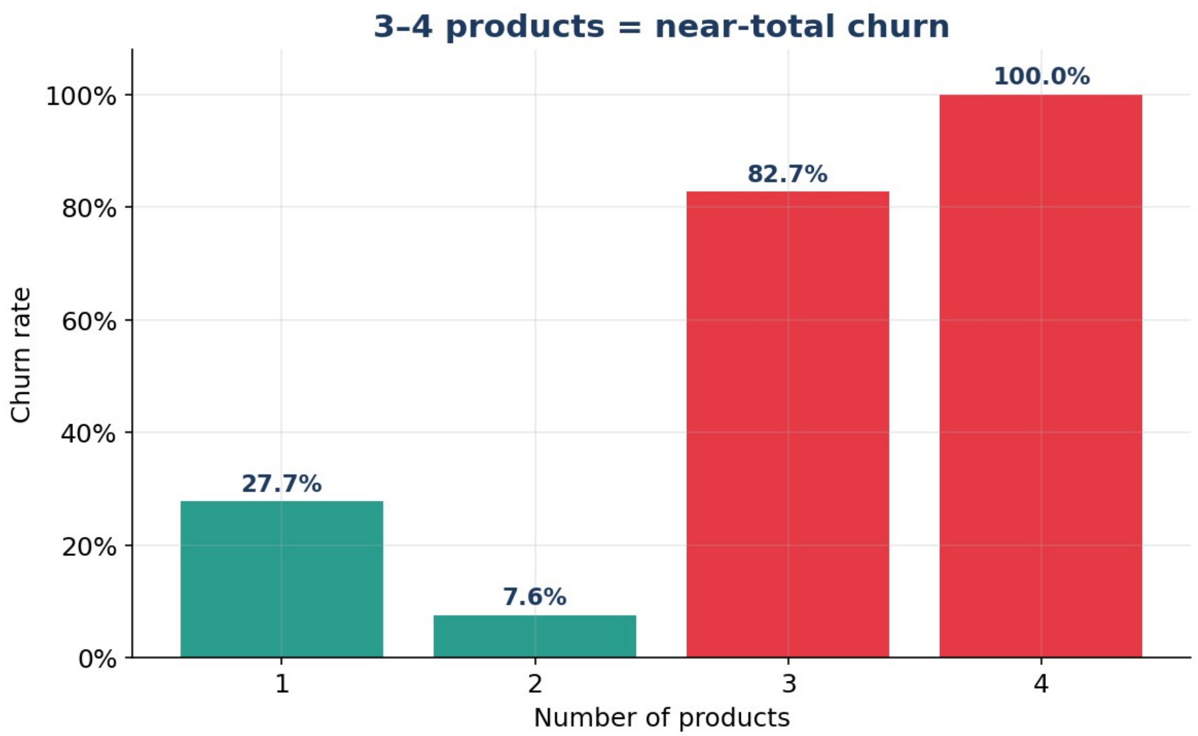
'HasCrCard' was identical to 'IsActiveMember' for every row — a corrupted column. Detected and restored to authentic values.

Validation vs. published reference

Rows	10,000 ✓
Missing values	0 ✓
Churn rate	20.37% ✓
Geography mix	match ✓
Total balance	€0.77bn ✓

The Dashboard — One Page, Six Lenses

Insight 1 — The Product Paradox

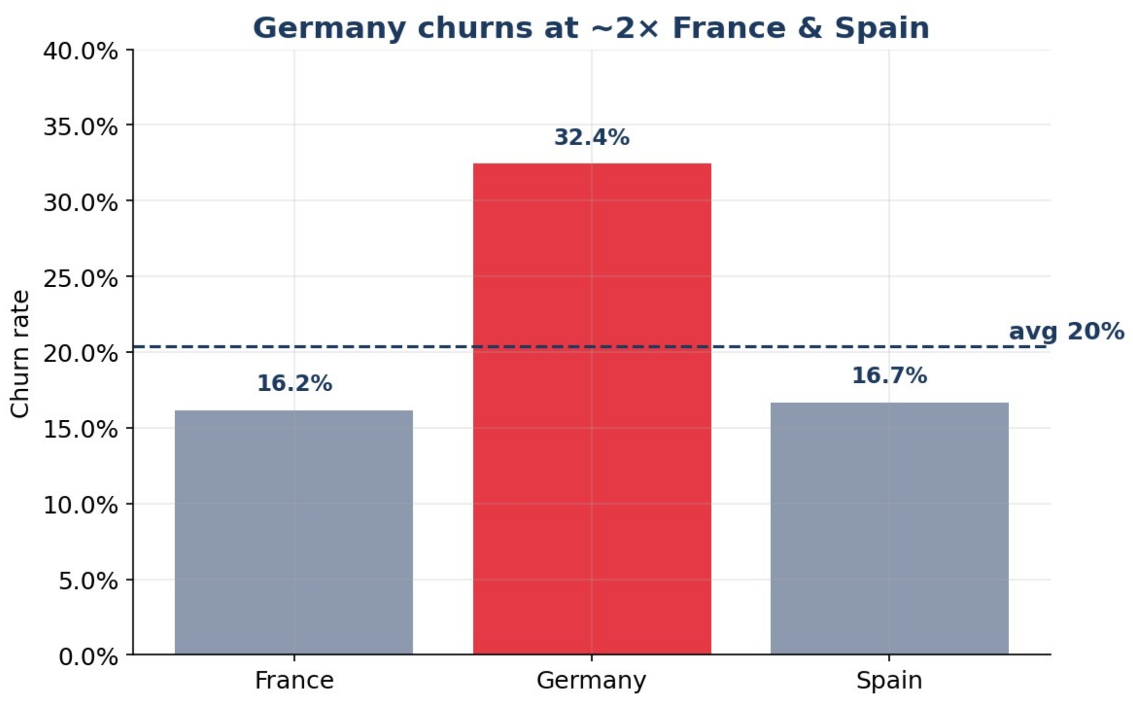


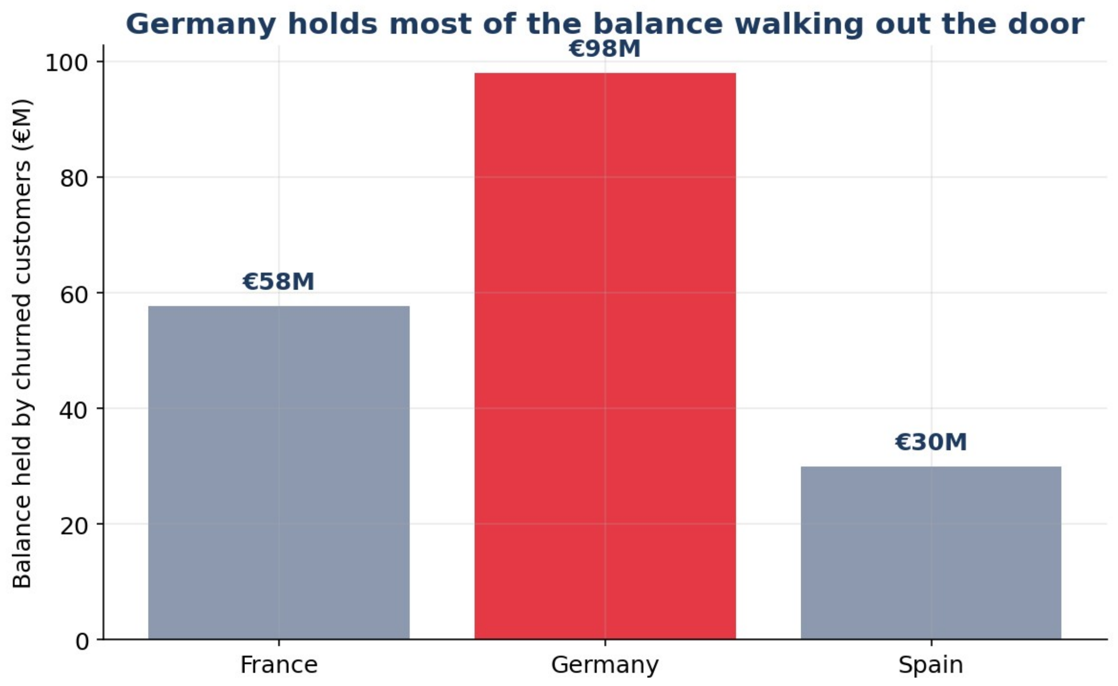
- **2 products is the sweet spot** — just 7.6% churn. These customers are engaged and sticky.
- **3–4 products = near-certain exit** — 83% and 100% churn. The 326 customers here are almost all gone.
- **Half the base (51%) holds a single product** and churns at 27.7%.
- **Read:** piling products onto unhappy customers backfires; the goal is the right second product, not more products.

1 → 2 products

moving single-product customers to two is the biggest retention prize.

Insight 2 — Germany & the Deposit Drain

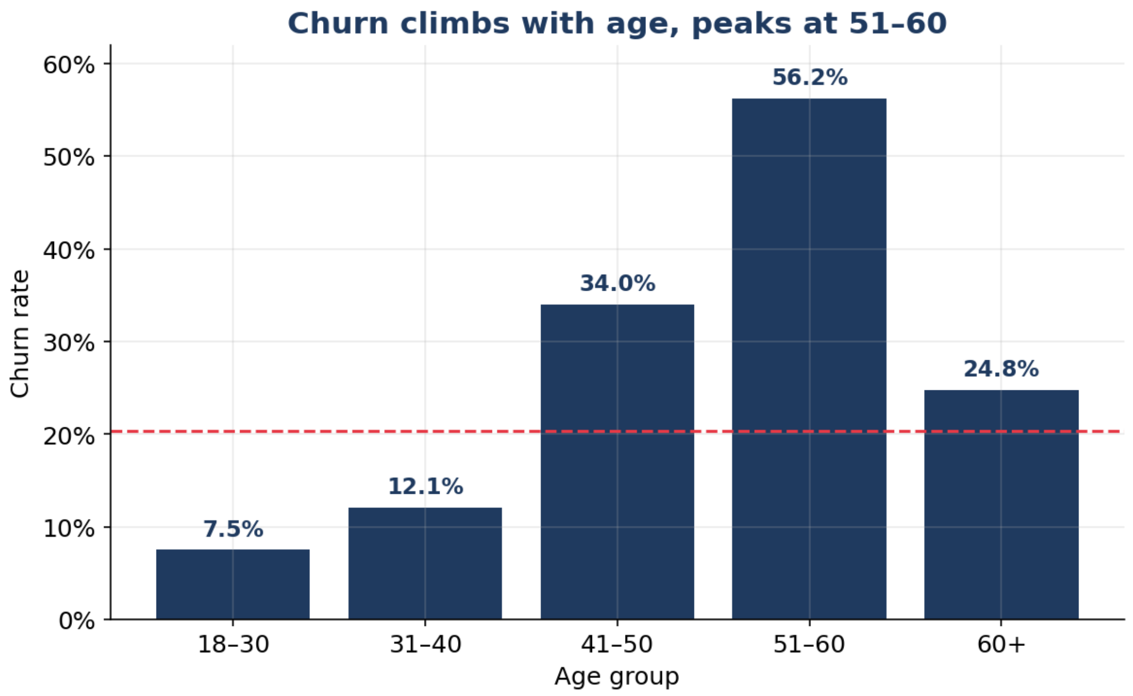


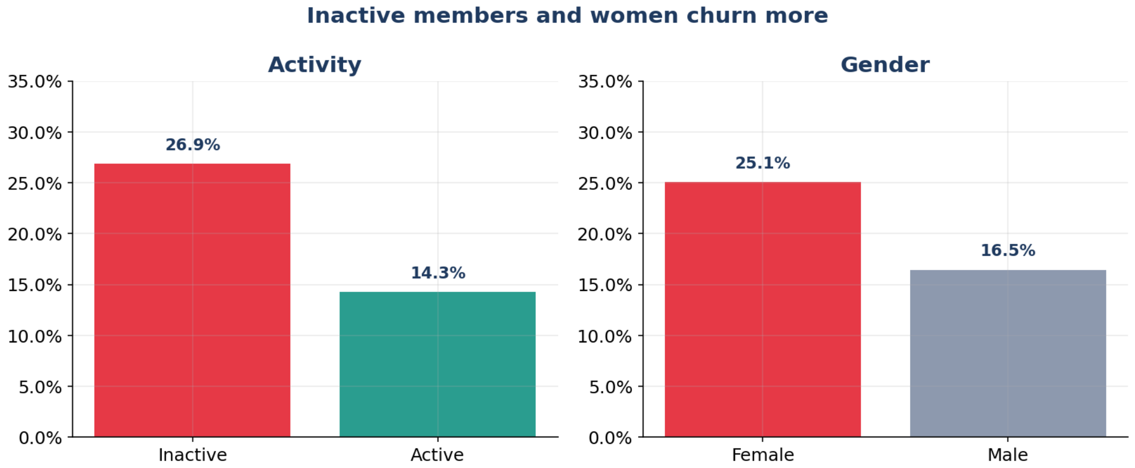


Germany: 32% churn • €120k avg balance • €98M walking out the door

Germany churns at twice the rate of France & Spain, yet holds ~2× the average balance — so it is both our biggest leak and our most valuable one. Priority market #1.

Insight 3 — Age & Engagement





2,521 customers are BOTH inactive and single-product — and 37% of them churn

Age 51–60 churns at 56%; inactive members at 27% (vs 14% active); women at 25% (vs 17%). The inactive + single-product overlap is the single most actionable at-risk segment.

Equally Useful — What Does NOT Drive Churn

Three things the bank might expect to matter — but the data says don't:

Tenure

≈ 19–21% churn at every tenure

Loyalty length is flat — long-tenured customers leave just as often.

Credit score

22% (poor) vs 19% (good)

Only a faint signal — not a useful targeting variable.

Has credit card

20.8% vs 20.2%

No effect. (This is also where we caught the corrupted column.)

Focus the retention budget where it counts

products, geography, age and engagement — not tenure, credit score or card ownership.

Recommendations

1

Launch a Germany retention task force

32% churn + high balances → review pricing, product fit and local service. Biggest single opportunity.

2

Fix the multi-product problem

Audit why 3–4-product customers leave (fees? mis-selling?) before any further cross-sell to them.

3

Move single-product customers to two

Targeted, value-led second product — 2 products is the 7.6%-churn sweet spot. Largest reachable group.

4

Re-activate the inactive

Engagement campaign for the 2,521 inactive single-product customers churning at 37%.

5

Protect the 45–60 segment

Proactive relationship outreach for older, higher-churn, higher-balance customers (and women).

CONCLUSION

1 in 5 customers leave — but the churn is concentrated and addressable.

- Churn is driven by product fit, geography, age and engagement — not by tenure or credit history.
- Germany, multi-product and inactive single-product customers are the clear priority segments.
- Cutting churn from 20.4% to 15% would retain ~537 more customers each cycle and protect tens of €M in deposits.

Target: churn ≤ 15% · retention ≥ 85%

Questions?

Thank you · Bank Churn — A Business Perspective

Noy Levy, David Zeff, Danielle Ab, Sagi Gutin, Shira Meriash · Data Analyst Program, Hebrew University of Jerusalem