

EXCERPT

# PIG E. BANK

A theoretically well-known global bank seeks analytical support for its anti-money laundering compliance division and is determined to improve services to increase customer retention.

## OBJECTIVE

Contribute to the development and optimization of models to enhance the efficiency of the bank's compliance program in identifying client loss risk factors and flagging suspicious transaction behavior.

## PROJECT & DATA

- [Project Brief](#)
- [Client Dataset](#) | *provided by CareerFoundry*

## LIMITATIONS

- Customer demographics are limited to gender, age, and country with records of their account balance, estimated salary, membership status, etc.

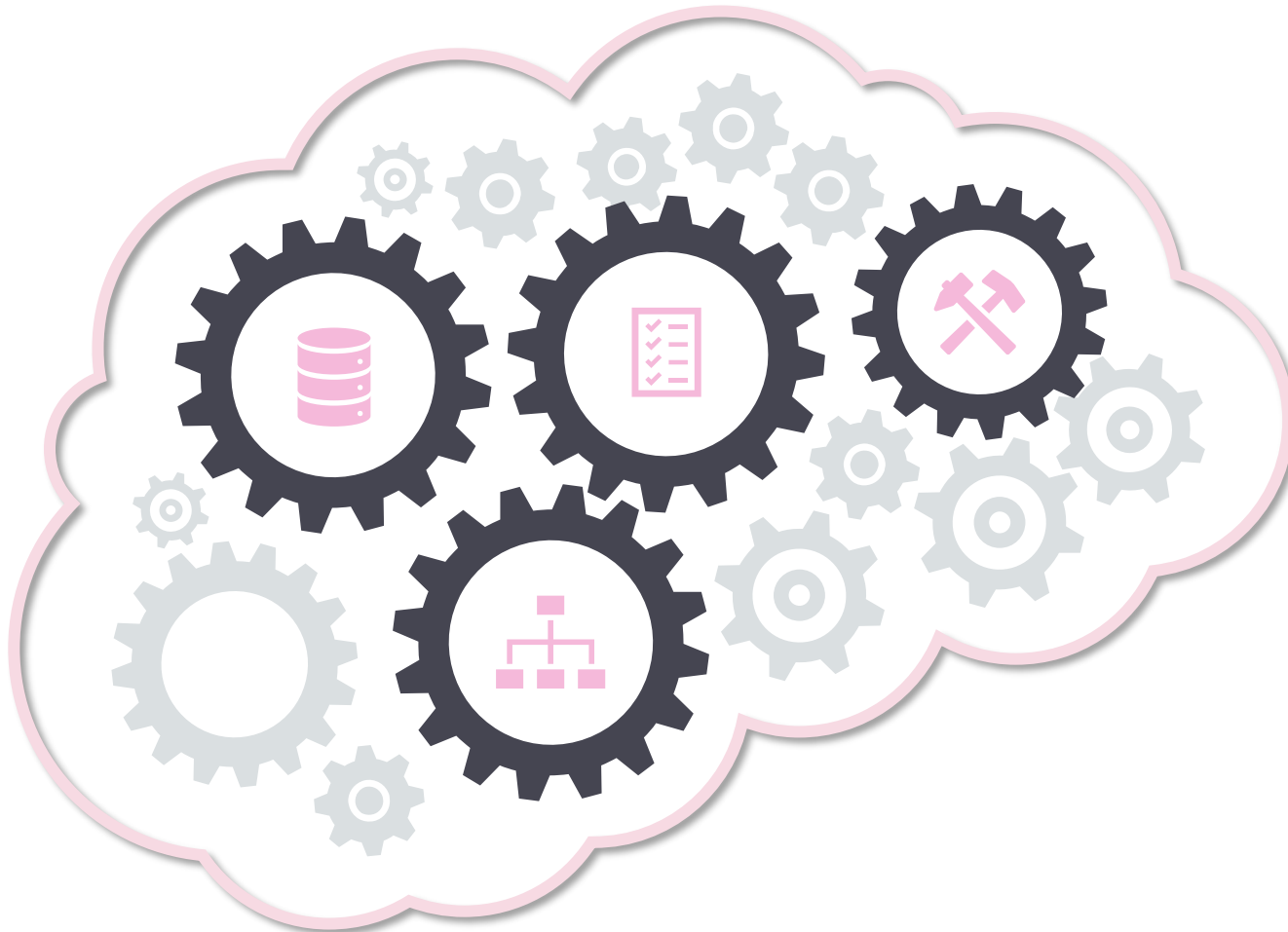
## TECHNIQUES APPLIED

- Big Data Management
- Data Ethics
- Data Mining
- Predictive Analysis
- Time Series Analysis and Forecasting

## TOOLS



# DATA MANAGEMENT



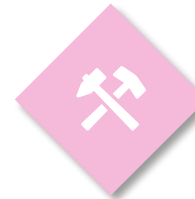
## **BIG DATA**

Defining the data characteristics (structured and unstructured) and recognizing its applications and limitations. Identifying software tools appropriate for handling big data.



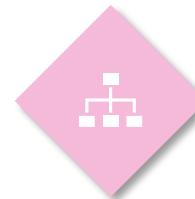
## **DATA ETHICS**

Identifying ethical dilemmas in managing big data in compliance with security and privacy laws.



## **DATA MINING**

Performing data cleaning and descriptive statistics using pivot tables that will be utilized in generating a decision tree modeling for testing outcomes of the analysis.



## **PREDICTIVE, TIME SERIES ANALYSES AND FORECASTING**

Optimizing linear regression models through testing correct predictive prototypes in classifying risk factors that may have contributed to customer loss with the application of different scenarios.

# CUSTOMER RETENTION ANALYSIS



ANALYTICAL TOOLS APPLICATION

There is a **notable percentage** of customers that have **closed** bank accounts.

EXIT STATUS DISTRIBUTION

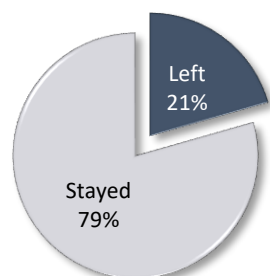


FIG. 5a

**Non-active** customers are likely to **exit**.

TOTAL AVERAGE EXIT STATUS BY MEMBERSHIP STATUS

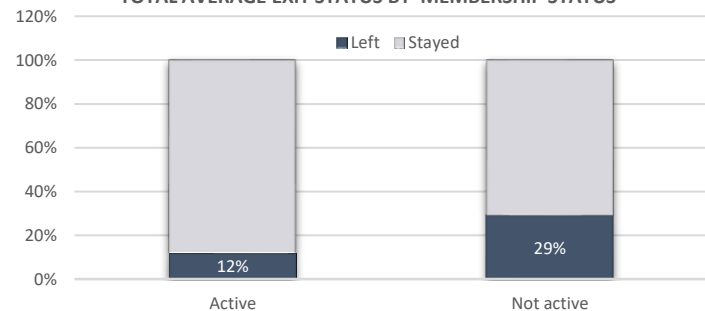


FIG. 5b

**18%** of the clients with **1-2** products have **left**.

OVERALL DISTRIBUTION

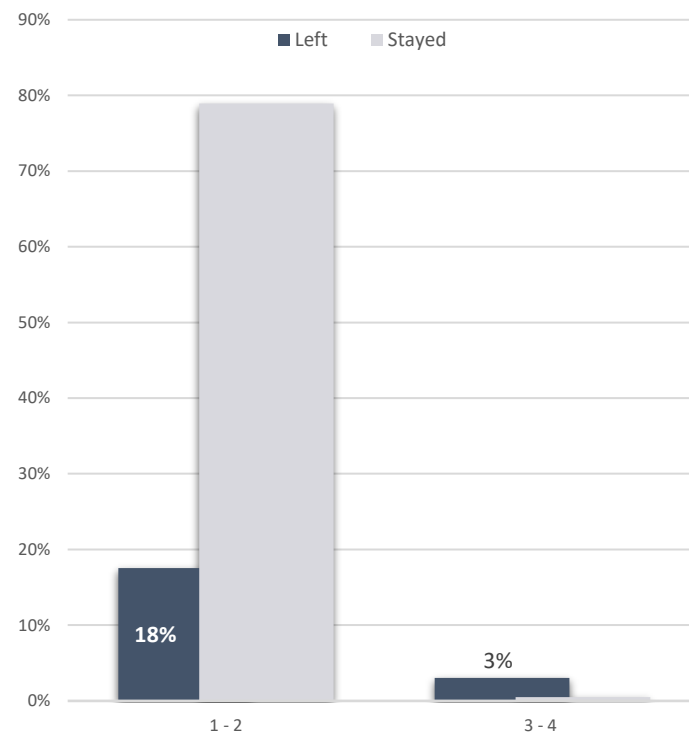


FIG. 5c

Clients residing in **Germany** have a significant proportion of **withdrawing** services.

TOTAL AVERAGE EXIT STATUS BY COUNTRY

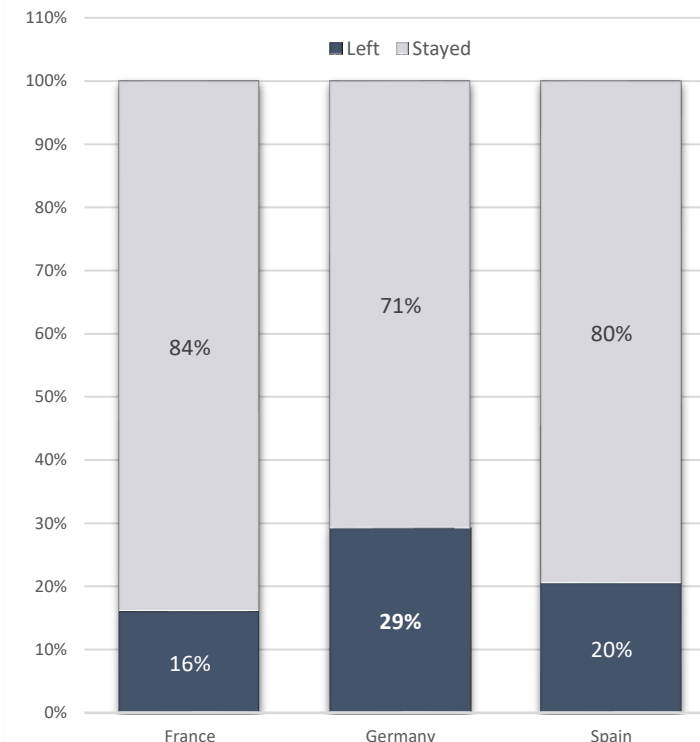


FIG. 5d

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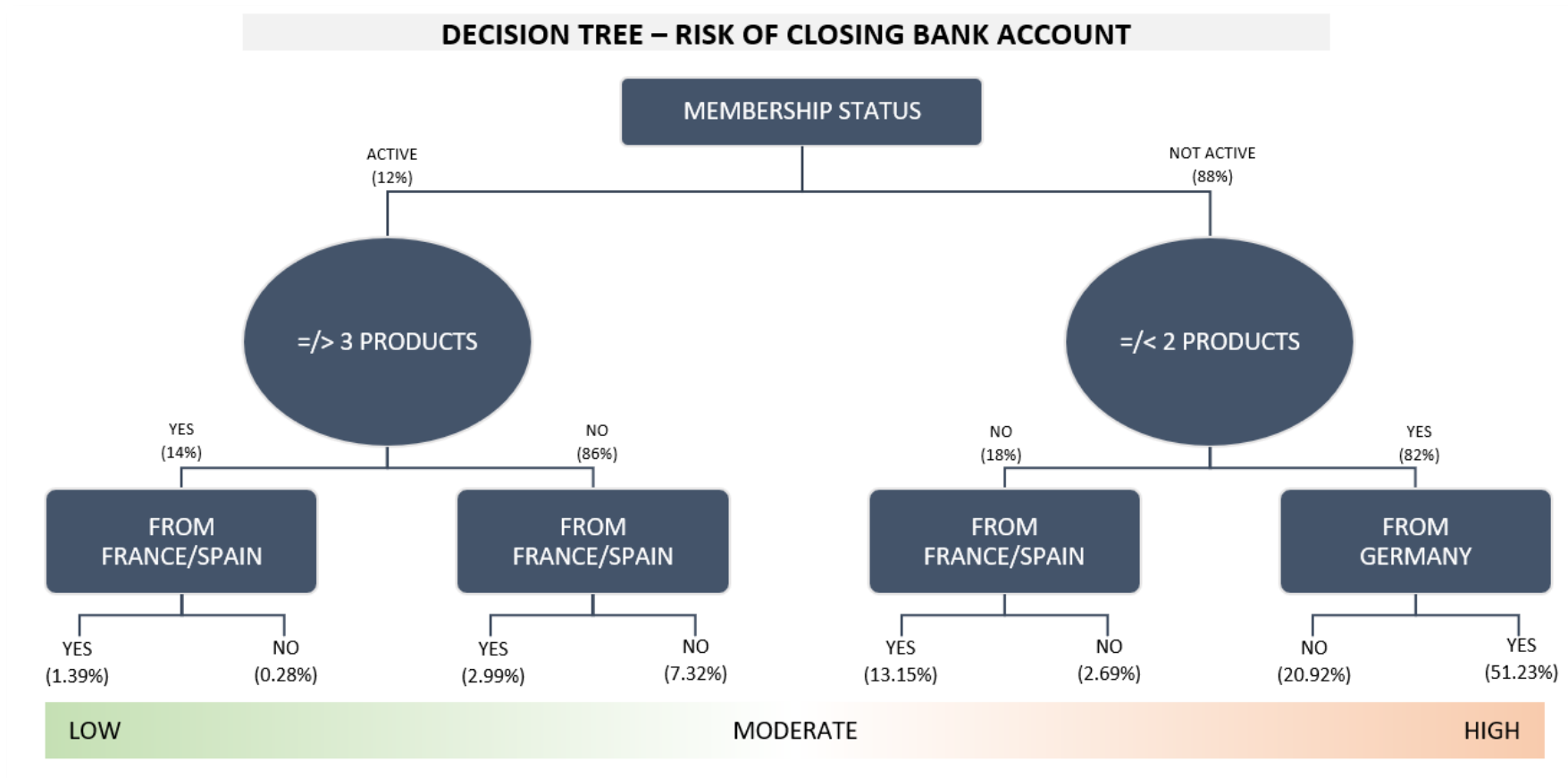
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# PREDICTIVE MODEL ANALYSIS



ANALYTICAL TOOLS APPLICATION

The **factors** that have a **substantial impact** on customer attrition are **non-active members** that had **one to two products**. Additionally, the residential location, specifically the **German** market, poses a **higher risk** of customers terminating their relationship with the bank, even when demographic information is not taken into account.



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Final Report

# RECOMMENDATIONS

## CUSTOMER PERSERVATION

### BUSINESS DEVELOPMENT

Implement banking strategies aimed at driving product sales within the target markets of France and Spain, targeting potential clients and business communities.

### PRODUCT EVALUATION

Examine the products and services provided to various demographic groups to enhance and develop innovative solutions aimed at converting non-active members.



### CUSTOMER BEHAVIOR ANALYSIS

Undertaking a survey to gain insights into the specific needs of customers, including those who are planning to terminate their accounts, with the aim of addressing their concerns and improving customer retention rates.

### RESEARCH & DEVELOPMENT

Perform a marketing research analysis on the German market to delve deeper into the factors contributing to the elevated customer attrition risk.

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Final Report