



Customer Churn Analysis & Segmentation

AN END-TO-END DATA SCIENCE PROJECT
(ACCENTURE-BASED USE CASE)

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Project Context



- **Client Industry:** Telecommunications (Accenture Use Case)
- 🧩 **Objective:** Help the client understand why customers are churning and how to segment customers to take targeted actions
- 🏢 **Consulting Partner:** Accenture
- 🛠️ **Approach:** Industry-standard data-driven framework used by Accenture teams

Excelmax is now part of Accenture

Excel File Structure

- 📄 **Raw Data** – Original dataset provided by client
- 🛠️ **Feature Engineering** – New variables like tenure group, encoded churn
- 📊 **Churn Analysis** – Labeled dataset with churn status
- 🧠 **Segmentation** – Cluster-based customer profiles






Python Workflow

- Load & Explore Data using Pandas & Matplotlib
- Data Preprocessing & Feature Engineering
- Churn Prediction Model
- Customer Segmentation
- Output Export to Excel for Power BI visualization



Power BI Dashboard Highlights

-  **KPI Cards:**
 - Average Risk
 - Total Average Spend
 - Total Churned
-  **Visuals:**
 - Pie Chart: Cluster Proportion
 - Column Chart: Spend by Tenure Group
 - Scatter Plot: Risk Score vs Spend
-  **Slicers:** Filter by Segment, Churn Status, and Tenure

Insights From Accenture Lens



- ▼ Customers with **high risk** and **low tenure** are likely to churn
- 💰 High spenders in **low-risk** groups are most profitable
- 🎯 Churn is more prevalent in **Segment 1** (New & High Risk)
- 📊 Strategic visual storytelling via Power BI enabled dynamic decision-making



Business Recommendations

- 🎯 Run retention campaigns for high-risk customers
- 💡 Use risk score monitoring as a churn early warning system
- 🚀 Design **targeted offers** for different customer segments
- 💼 Embed Power BI dashboard for business stakeholder review (as Accenture would do)



Conclusion

- ☒ Built end-to-end solution reflecting real Accenture consulting approach
- ☒ Integrated Excel + Python + Power BI in one pipeline
- ☒ Delivered predictive and strategic segmentation models
- ☒ Dashboard-ready for client-facing presentations





THANK YOU



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Bold Idea 2025 Corporate Partner

Thank You

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-  THIS CASE STUDY REFLECTS AN ACCENTURE-STYLE DELIVERY FOR ENTERPRISE USE