Case Study: Banking Client Insights & Relationship Analysis

# Project Title

Banking Client Insights & Relationship Analysis

# Domain

Financial Analytics, Customer Relationship Management

# Tools Used

Python, MySQL, Power BI, Jupyter Notebook, Canva

# Author

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# 1. Background

In a highly competitive banking environment, financial institutions need a deep understanding of their clients to drive retention, cross-sell financial products, and optimize advisor performance. This case study explores how raw client data was transformed into strategic insights through a multi-tool, full-stack data analytics approach.

# 2. Problem Statement

The client data was spread across multiple CSV files and lacked integration. There was no centralized database, and no consolidated view of clients, their relationship history, or advisor performance. The bank required a solution that not only unified the data but also presented it in a clear and actionable way through a dashboard.

# 3. Objective

To clean and consolidate raw client and advisor data, load it into a MySQL database, and use it to power an interactive Power BI dashboard designed using a Canva prototype. The goal was to uncover insights related to client engagement, advisor efficiency, and investment behavior.

# 4. Approach

- Cleaned and merged multiple CSV datasets in Python.

- Performed exploratory analysis using Pandas and Seaborn.

- Created a relational schema and uploaded the data into MySQL using SQLAlchemy.

- Designed a dashboard layout in Canva to guide Power BI development.

- Built a Power BI dashboard connected live to MySQL, with filters and visual insights.

# 5. Key Insights

- 70% of high-value clients are handled by only 25% of advisors.

- Female clients have longer relationships but invest in fewer product types.

- Clients from urban regions and higher income brackets tend to use more services.

- Clients with multiple advisor touchpoints showed greater year-over-year engagement.

# 6. Business Impact

The solution helped the bank:

- Identify advisor performance gaps and opportunities for workload balancing.

- Focus on under-engaged client segments for targeted outreach.

- Use demographic insights to personalize financial product offerings.

- Monitor relationship trends and act proactively on high-churn risk clients.

# 7. Challenges

- Data cleaning was needed to standardize inconsistent formats.

- Designing a schema that preserved relationship history and product mapping.

- Ensuring dashboard responsiveness with MySQL live connections.

- Keeping the visual design aligned with business expectations using Canva references.

# 8. Conclusion

This case study demonstrates the practical application of data engineering, analytics, and business intelligence in a financial services setting. By combining Python, MySQL, Power BI, and Canva, a comprehensive solution was built that empowers banking teams to make faster, more informed decisions.

# 9. Next Steps

- Implement scheduled ETL pipelines for real-time dashboard updates.

- Extend the solution to include behavioral and transactional data.

- Apply clustering and machine learning for client segmentation.

- Publish the dashboard through Power BI Service for enterprise-wide use.