



**BACHELOR OF INFORMATION TECHNOLOGY
(Data Science)**

FINAL YEAR PROJECT PRESENTATION (Minor – RRES3124)

**Developing Web-Based Competitive Analysis of Direct Mail
Marketing in US Financial Institutions**

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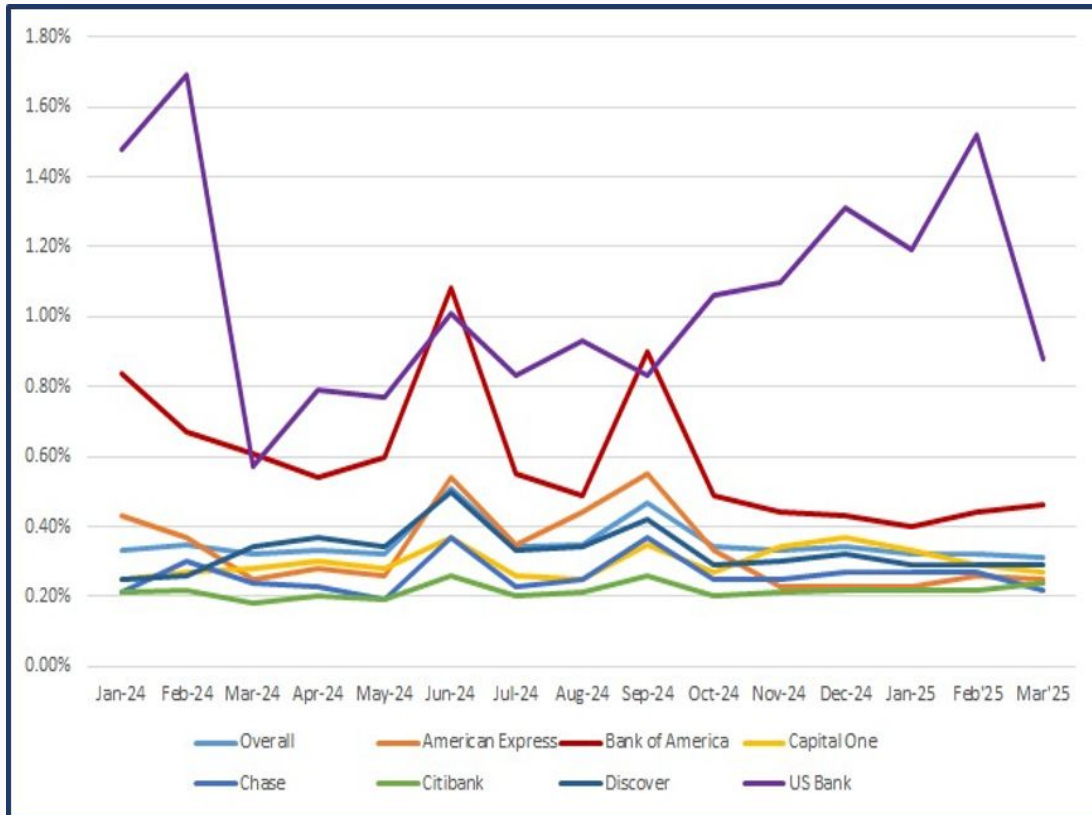


Developing a Web-Based DM Dashboard for US Financial Sector



INTRODUCTION

Building a **web-based analytics platform** to compare direct mail (DM) marketing trends among major financial institutions in the United States. The goal is to help banks improve their marketing strategies by analyzing patterns in monthly spending and mail volume. By using tools like **Python**, **MySQL**, and **Streamlit**, this platform allows marketing analysts to easily access, visualize, and interpret DM data. It aims to support better decision-making and give banks a competitive edge through data-driven insights



DM Response Rates (%) by FI

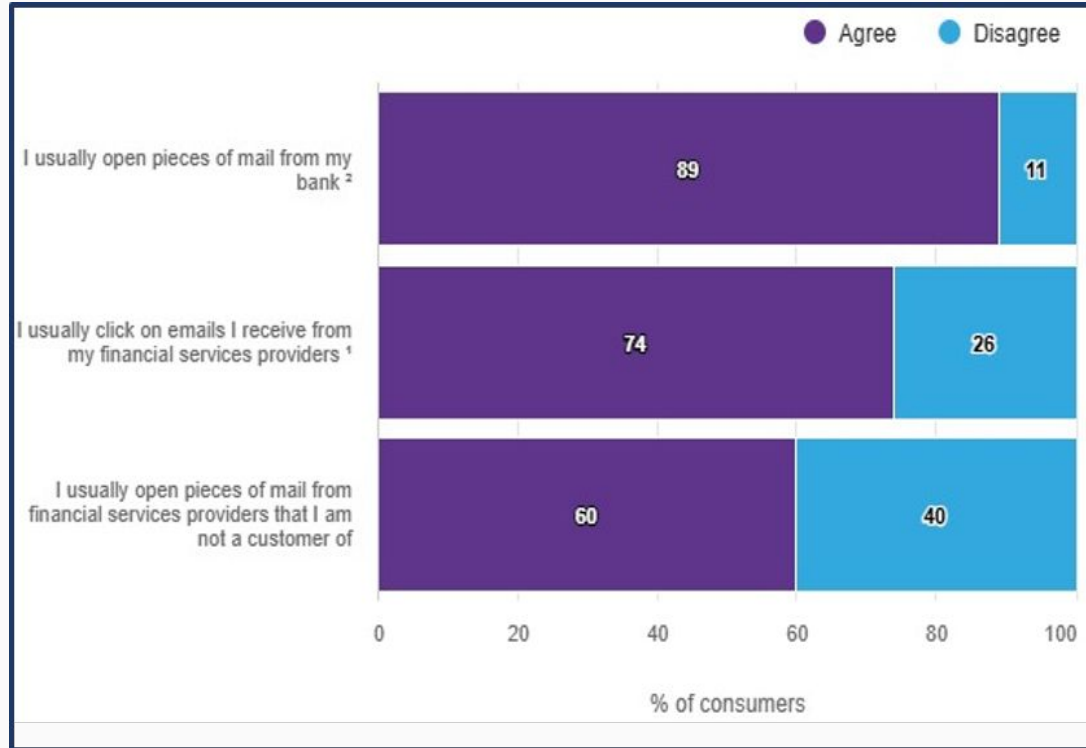
WHY THIS PROJECT MATTERS?

- Financial institutions rely heavily on data-driven decisions to optimize marketing and improve ROI.
- Direct Mail (DM) still plays a major role in customer acquisition, especially in highly regulated sectors like banking.
- DM boasts **80–90%** open rates and up to **112%** ROI, outperforming email and other digital channels (Media Logic, 2022).
- Despite its effectiveness, there is no centralized, real-time platform for comparing DM campaign performance across competing banks.
- Current tools are often costly, complex, or lack competitor benchmarking features.

RESEARCH AIM

To address the following problems:

- Financial institutions struggle to analyze direct mail campaigns effectively
- Marketing data is scattered and lacks centralized insights
- No existing tools to compare competitor strategies
- Urgent need for a simple, accessible web-based analytics platform
- Lack of time-based trend analysis across major banks
- Analysts need actionable insights to improve campaign performance

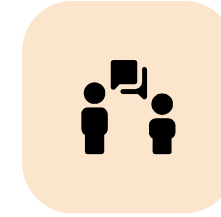


US Consumer Responses to DM vs. Email

RESEARCH OBJECTIVE



- Organizes DM data from major US banks into a structured, query-friendly format.
- Supports real-time insights for quicker, more informed decision-making.
- Enables CSV report downloads for extended offline planning.



- Visualizes marketing performance via interactive Streamlit dashboards.
- Empowers marketing analysts with intuitive, data-driven tools for strategic planning.
- Support marketing analysts with user-friendly and data-driven tools.



RESEARCH QUESTION

How can comparative analysis help financial institutions improve their marketing strategies?

What are the key direct mail marketing trends among major US banks?

How can web-based dashboards optimize data accessibility and decision-making?

Which tools and technologies are best suited for developing an intuitive, data-driven platform?

01



02



03



04



REVIEW SIMILAR SYSTEMS



MINTEL COMPEREMEDIA DIRECT

- **Purpose:** A platform for analyzing direct mail strategies and competitor performance.
- **Strength:** Gives full marketing data and insights on competitors.
- **Weakness:** Needs high cost and staff training to use fully.



TABLEAU MARKETING ANALYTICS

- **Purpose:** Visualizes marketing data like social media, ads, and customer journey.
- **Strength:** Strong data visualization for better decisions.
- **Weakness:** Can be hard to use for beginners without analytics experience.



DUN & BRADSTREET MARKETING ANALYTICS

- **Purpose:** Improves campaign targeting and tracks performance using business data.
- **Strength:** Offers wide business data and analytics.
- **Weakness:** Focuses more on B2B, not ideal for B2C marketing.



SALESFORCE MARKETING CLOUD (DM INTEGRATION)

- **Purpose:** Manages automated marketing journeys across email, social media, and direct mail.
- **Strength:** One platform for multi-channel campaigns.
- **Weakness:** Needs technical skills and resources to set up and use well.



METHODOLOGY

AGILE APPROACH

Purpose of Choosing Agile

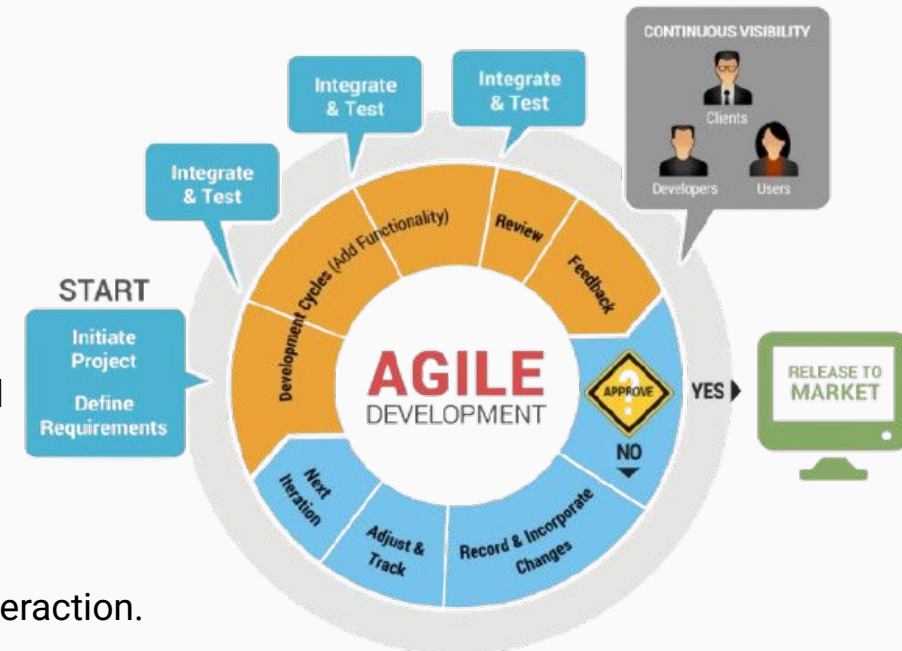
- To build the dashboard (Streamlit) in small, manageable steps.
- To align with the dynamic nature of data analytics and dashboard development.
- To ensure user needs are captured and reflected in real time.

Strengths of Agile

- **Iterative development:** Enables continuous improvement based on feedback.
- **Flexibility:** Easily adjust to changes or enhancements during development.
- **Collaboration:** Involves users (e.g., financial analysts) at each stage for better results.
- **Faster delivery:** Short cycles allow quicker testing, deployment, and value creation.
- **Risk management:** Early issue detection and task prioritization reduce overall risk.

How It's Implemented in the Project

- Development divided into phases - database, data processing, visualization, and user interaction.
- Regular user feedback gathered via paper prototypes and testing.
- Continuous updates made based on feedback to meet stakeholder needs.
- Clear visibility of progress helps maintain stakeholder engagement and satisfaction.



DATA COLLECTION TECHNIQUES

Interviews

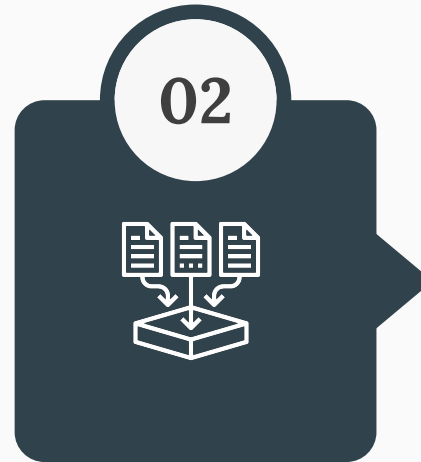
I interviewed marketing analysts, data analysts, and bankers I know to gather ideas and real-time needs for dashboards.



02

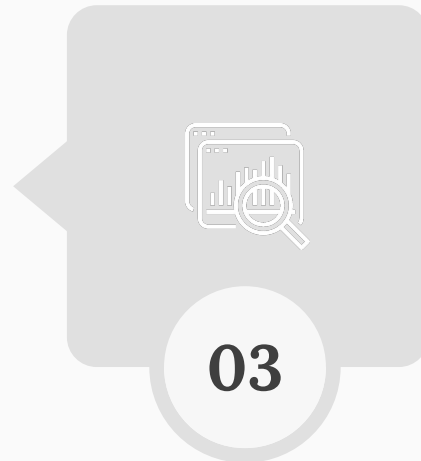
Questionnaires

I sent online surveys to people in finance to find out preferred features, visualizations, and user needs.



Observations

I observed users testing my prototype to identify problems, improve usability, and confirm the dashboard supports data analysis well.



04

Third-Party Data

I used data from Comperemedia Direct to provide real-world direct mail marketing trends for better analysis and benchmarking.



PROGRAMMING LANGUAGE USED



Python

A programming language used for data analysis and back-end logic.

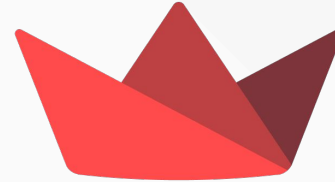
→ Helps process and analyze large datasets quickly.



MySQL Workbench

A tool to manage and design databases.

→ Stores and organizes data for easy access and queries.



Streamlit

A Python tool for building web dashboards.

→ Makes the dashboard interactive and easy to use.

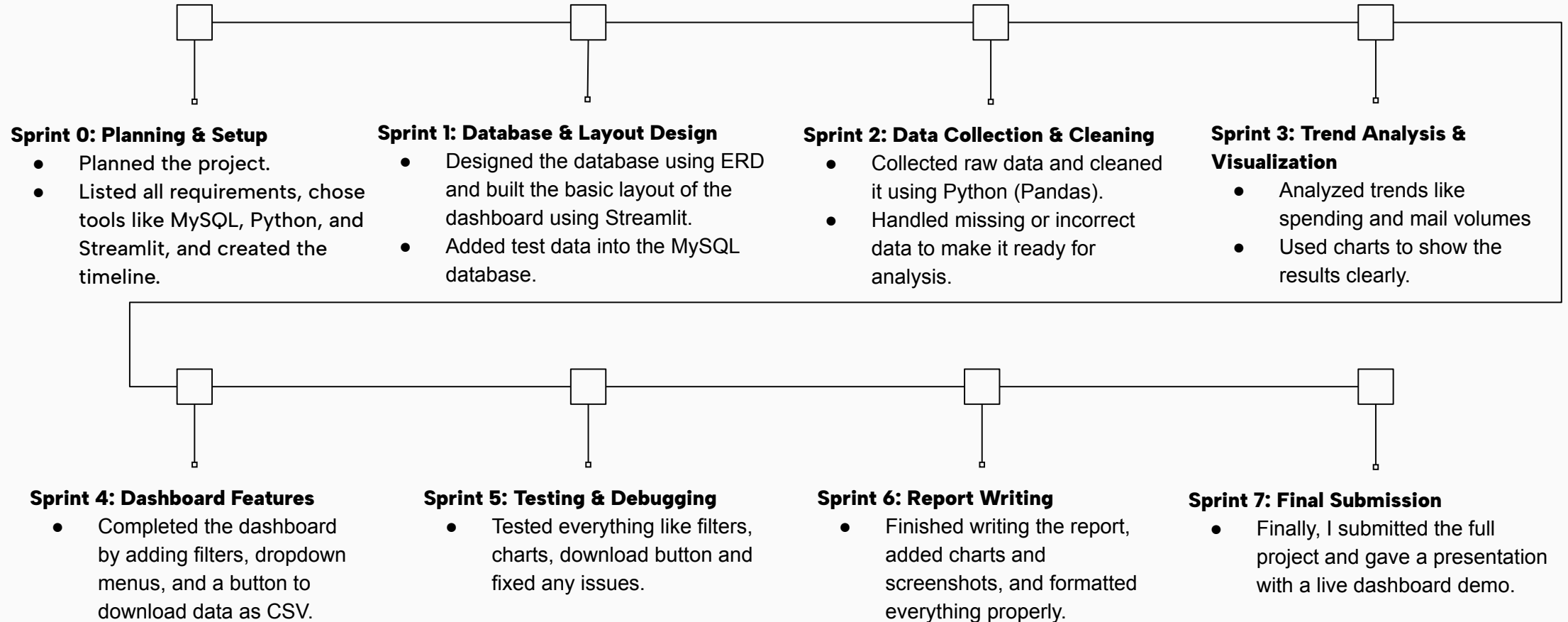


CSV Export

A file format for importing/exporting data.

→ Lets users download reports or upload raw data for analysis.

SPRINT PLANNING & EXECUTION



CONCLUSION

This project demonstrates how direct mail marketing data can be used to improve marketing strategies for financial institutions. By analyzing trends such as monthly spending and mail volume across US banks, useful insights can be gained to help banks stay competitive.

The dashboard developed using **Python**, **MySQL**, and **Streamlit** allows for easier access, understanding, and interpretation of the data. Overall, this project has helped enhance my skills in data analysis, dashboard development, and solving real-world problems. The platform has strong potential to support effective decision-making in actual marketing practices.

