

Analyzing Mobile Banking App Reviews in Ethiopia (KAIM Week 2 – Interim Report)

Introduction

This report summarizes progress on analyzing mobile banking app reviews for three major Ethiopian banks—CBE, BOA, and Dashen. In **Task 1**, we scraped and cleaned user reviews from the Google Play Store, ensuring usable and consistent data. In **Task 2**, we performed sentiment classification and identified key themes using NLP techniques. These steps help us understand what users like, dislike, and expect from these apps.

Business Objective

Omega Consultancy is supporting three Ethiopian banks—CBE, BOA, and Dashen—to improve their mobile banking applications by analyzing real user reviews on the Google Play Store.

The business goal is to identify **customer satisfaction drivers** and **pain points** using Natural Language Processing (NLP), with a specific focus on **sentiment and thematic analysis**.

These insights will guide decisions on:

- Which features to enhance (e.g., faster transfers, better UI),
- What issues require urgent attention (e.g., login bugs),
- How sentiment around updates correlates with app ratings and retention.

In a fintech context, where **user experience directly impacts retention and revenue**, these findings inform engineering, product, and marketing roadmaps.

✓ This links real-world fintech priorities with data-backed decisions.

Completed Work & Initial Analysis

Task 1: Data Collection & Cleaning

- Used google-play-scraper to scrape reviews for:
 - **Commercial Bank of Ethiopia (CBE)**
 - **Bank of Abyssinia (BOA)**
 - **Dashen Bank**
- Collected >1200 reviews, normalized date format, and removed duplicates.
- Output saved as:
review_data/boa_reviews.csv, cbe_reviews.csv, dashen_reviews.csv

Task 2: Sentiment & Theme Analysis

➤ Sentiment Analysis

- Used TextBlob to assign polarity scores and labels (positive, neutral, negative).
- Most BOA reviews were negative, while CBE leaned positive.

➤ Theme Extraction

- Applied TF-IDF + manual grouping to derive top themes:
 - **App Speed & Performance**
 - **UI & Usability**
 - **Login and Security**
 - **Customer Support**
 - **App Purpose and Reliability**

➤ Visualizations

- Word Cloud: Highlights frequent terms (e.g., banking, use, problem, login).
- Bar Chart: Compares sentiment distribution by bank.
- All plots saved in /outputs/ and zipped for download.

📌 All outputs are versioned and reproducible.

3. Next Steps

Task	Action	Priority
Database Storage	Create Oracle XE database, design schema, and insert cleaned data	▲ High
Insight Report	Compare sentiment and themes across banks	▲ High
Final Visuals	Add pie charts, stacked bar by theme	● Medium
README	Expand with how-to-run instructions and pipeline overview	● Medium
Unit Tests	Validate sentiment classification and data cleaning	● Optional

4. Repository Summary

Directory Structure

KAIM-Week-2-fintech-review-analysis/

```
|
|— review_data/      # Cleaned bank reviews
|— Scripts/          # Preprocessing + sentiment + theme scripts
|— notebooks/        # EDA and plots
|— outputs/          # .png charts + wordcloud
|— reports/          # interim_report.pdf
|— requirements.txt   # All required packages
|— README.md         # Project overview and run guide
```

Key Notebooks

- visual_analysis.ipynb: Sentiment bar, theme comparison
- theme_extraction.py: Theme assignment via TF-IDF
- sentiment_analysis.py: Uses TextBlob for polarity scoring

✓ All visual outputs zipped: /outputs/visualizations.zip

Conclusion

I have collected and processed real user feedback, extracted sentiment trends, and highlighted common issues like login problems and app speed. This forms a strong base for the next steps: storing the data, refining insights, and offering actionable suggestions to improve user experience and satisfaction across all three banking apps.