

BIG DATA ANALYTICS

FINAL PROJECT

Beat the market with

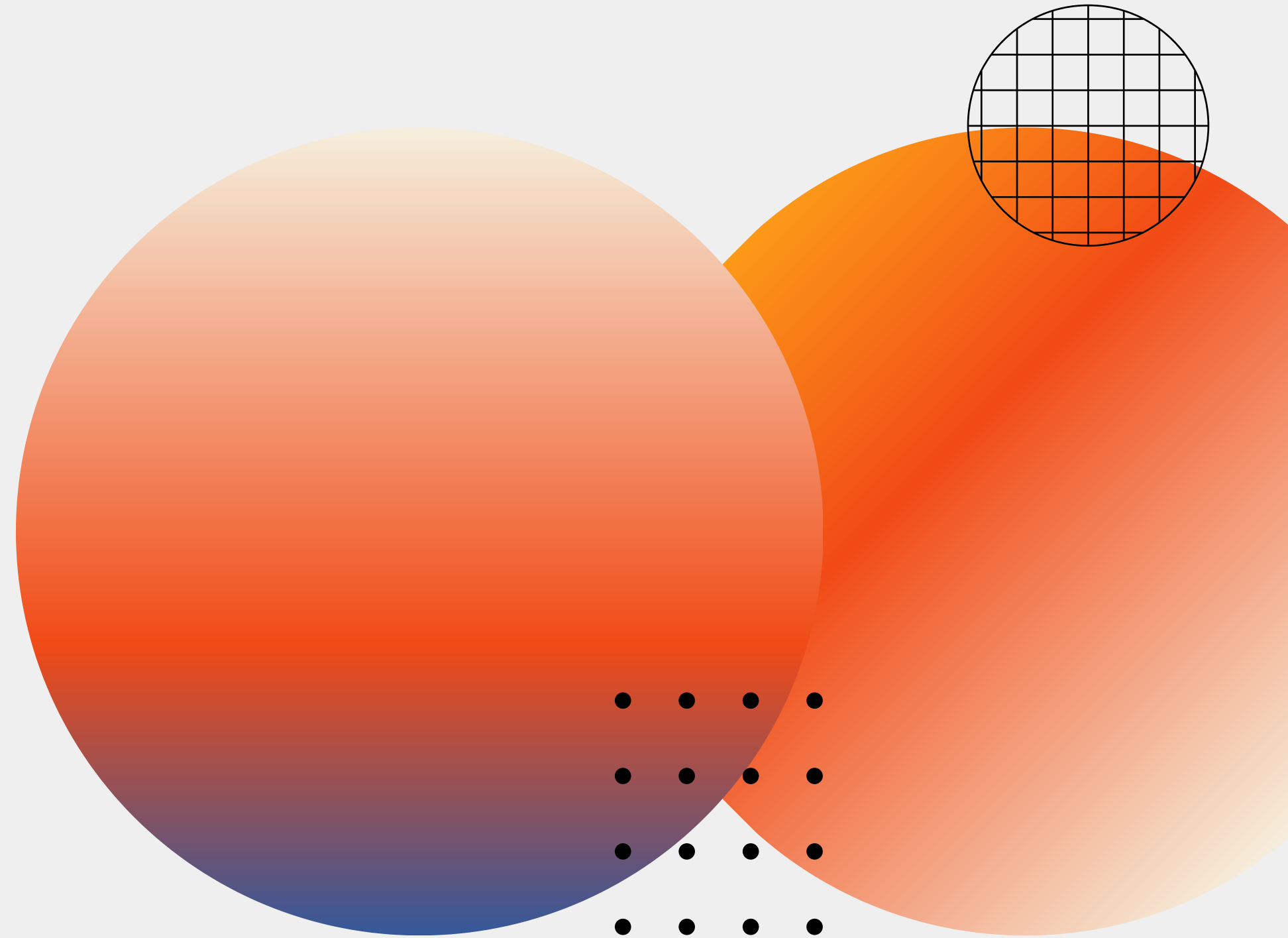
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AGENDA

Idea

Objective

Business Plan

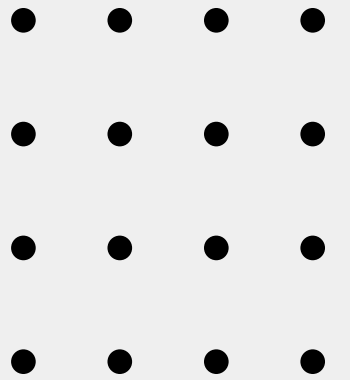
Business Model: Benefits

Data Analysis

Execution & Implementation

Challenges

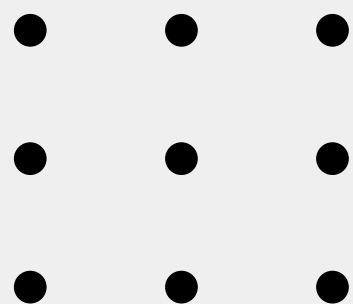
Next Steps



IDEA

Enable e-commerce sellers to optimize their product pricing based on real-time TikTok trends.

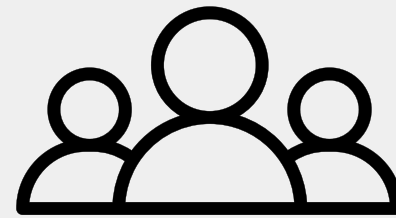
Leveraging TikTok trends for dynamic pricing, sellers can stay ahead of the curve, making more informed and strategic decisions that capitalize on market inefficiencies and enhance their competitive positioning.



OBJECTIVE



Utilize TikTok trend analysis to inform product pricing based on popularity and demand



Increase Customer Base



Increase Sales

BUSINESS INITIATIVE

Trend Monitoring and Analysis

Continuously track trending items, hashtags, and challenges on TikTok.

Use natural language processing and machine learning to analyze trend data.

Dynamic Pricing Engine

Develop an AI-powered pricing engine that uses trend data to recommend optimal product prices.

Provide real-time pricing updates and alerts to sellers.

Most Impactful Business Initiative

Dynamic Pricing Engine

This initiative is the most impactful as it directly influences the sellers' pricing strategies, leading to increased sales and profitability.



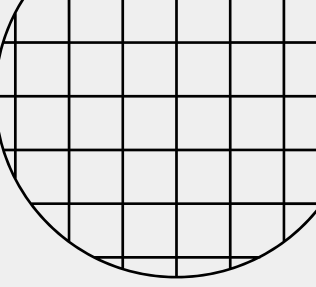
KEY METRICS:

- **Increase in Sales Volume:** Measure the percentage increase in sales volume for sellers using the pricing tool.
- **Profit Margins:** Track changes in profit margins before and after implementing the dynamic pricing recommendations.
- **Customer Retention Rate:** Monitor the retention rate of e-commerce platforms like Mercari.

HYPOTHESIS:

The dynamic pricing engine will increase sales volume by at least 15% within the first quarter of implementation.

Mechanism: By aligning product prices with current trends, sellers will attract more buyers and achieve higher sales.



1. Business Model

B2B Subscription
Service

2. Target Audience

Sellers on e-commerce
platforms, small
business owners, and
online retailers

BUSINESS PLAN

3. Revenue Potential

Businesses are more
willing to invest in
tools that can provide
a competitive edge
and improve
profitability.
This willingness can
translate into higher
subscription fees and
more stable revenue
streams.

BUSINESS MODEL: BENEFITS

1

Recurring Revenue

Provides a steady and predictable revenue stream.

Facilitates better financial planning and resource allocation.

2

Customer Loyalty

Encourages long-term relationships with customers.

Offers continuous value, with increased customer retention.

3

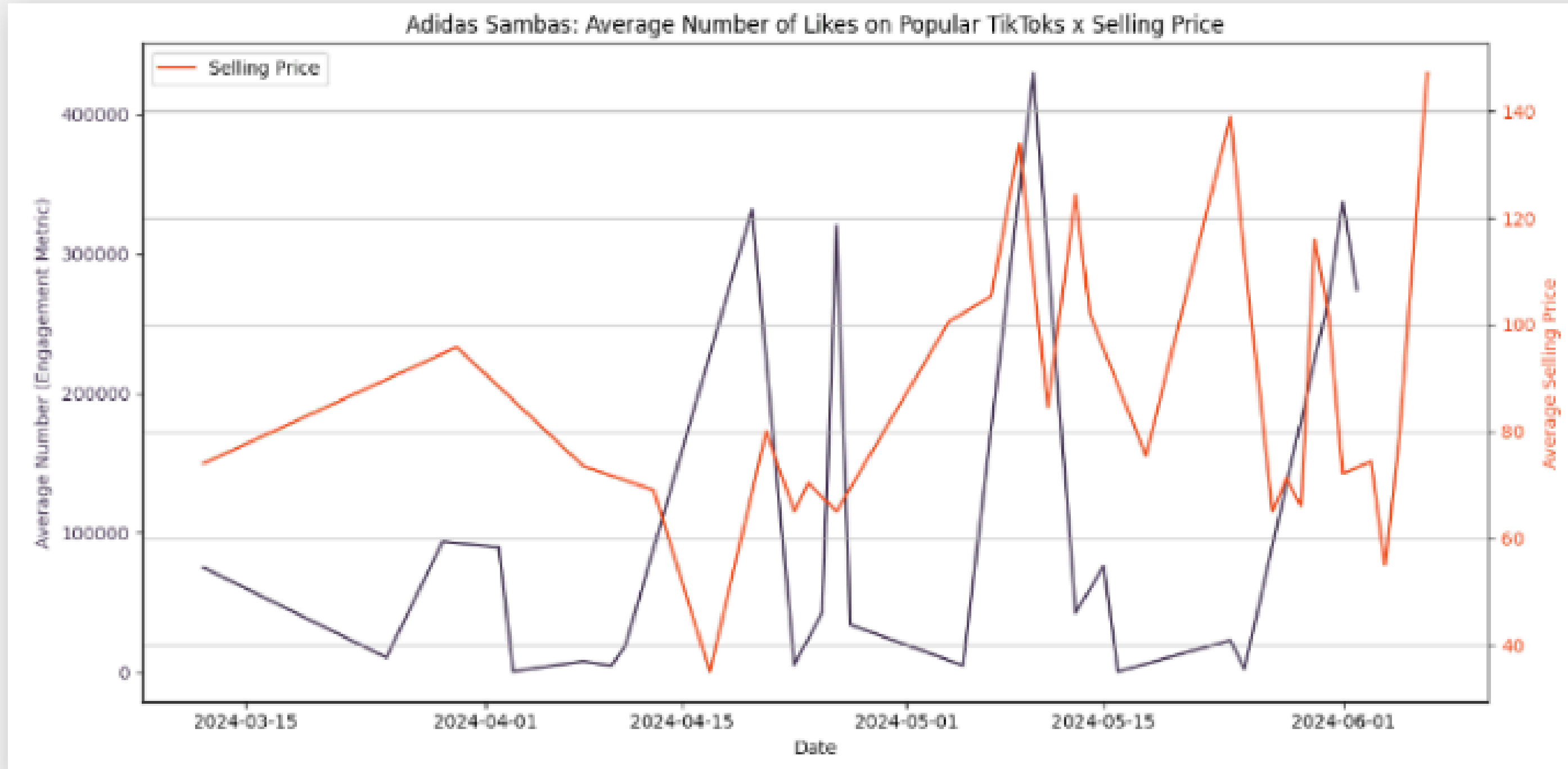
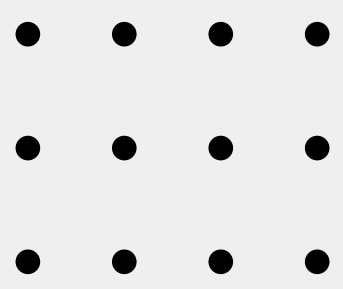
Market Adaptability

Enables frequent updates and improvements based on user feedback and market trends.

Provides flexibility in pricing tiers and service levels to cater to different customer needs.

TIKTOK ENGAGEMENT X SELLING PRICE

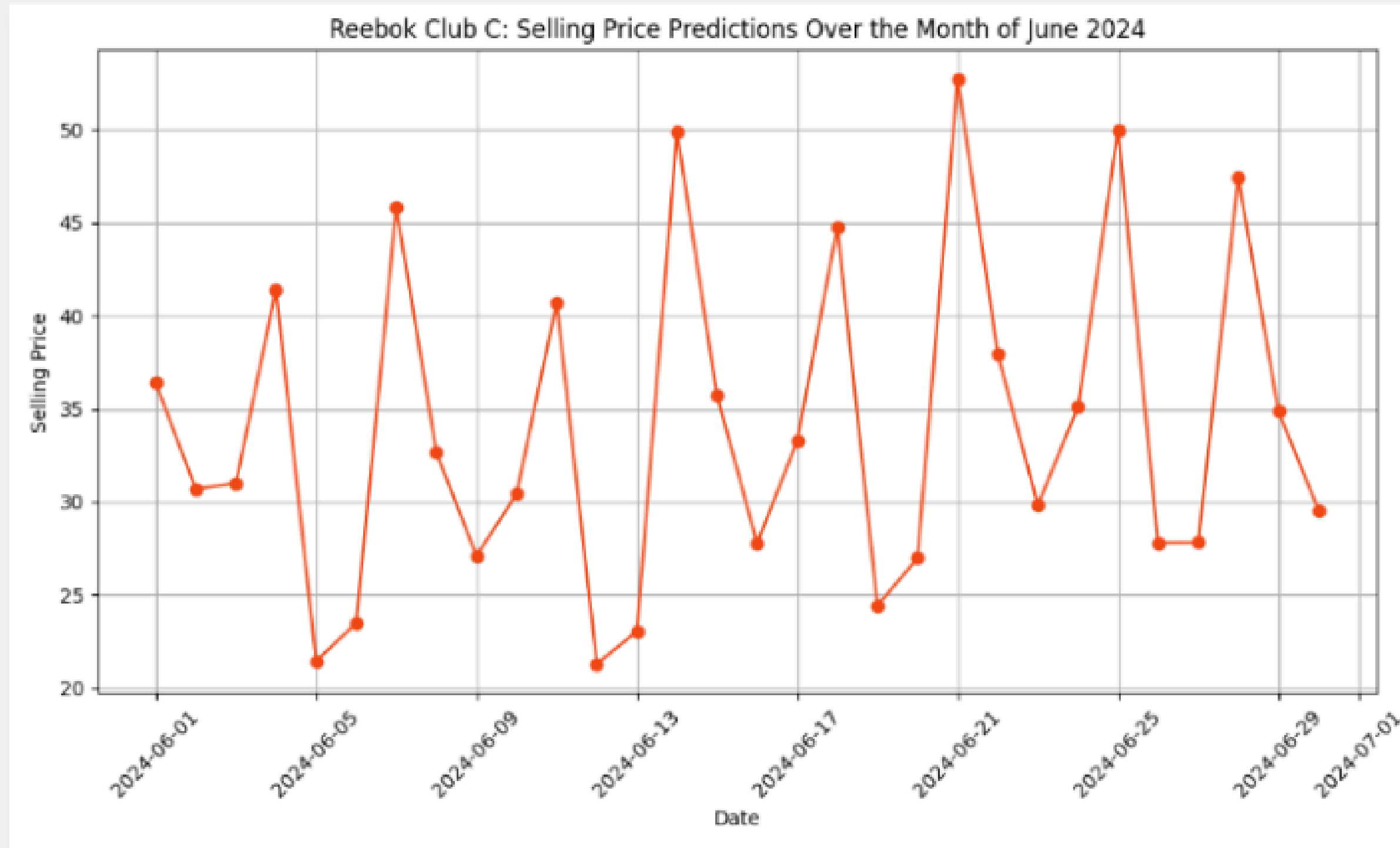
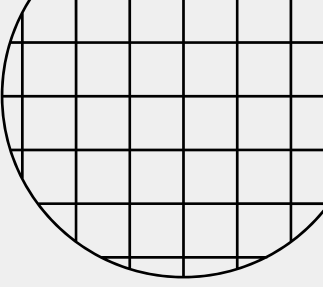
Adidas Sambas



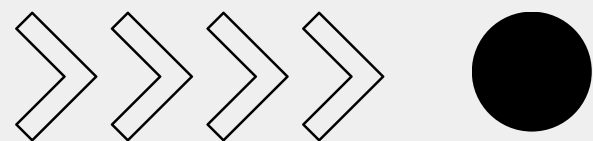
- Extreme volatility in both TikTok Likes and Selling Price
- Few instances where trends correlate (mid April-May 2024)
- Weak correlation overall

SELLING PRICE X DATE

Reebok Club C



- Predictions for the optimal selling price for Reebok Club Cs over the month of June
- Fluctuations may still be influenced by social media trends
- R-Squared: 0.77
- RMSE: 10.71



Data Team

Collects and preprocesses data (Data Engineers, Data Scientists).

Modeling Team

Develops and runs models (Data Scientists, ML Engineers).

EXECUTION
(Responsible teams)

Analytics Team

Implements and evaluates experiments (Business Analysts, Data Analysts).

DEFINING METRICS

Regular sessions with stakeholders to define key metrics and refine strategies.



Data Accessibility:

- Ensuring continuous, high-quality data flow.
- Handling large volumes of data and maintaining data integrity.

Solution:

- Propose partnerships with these companies.
- Collaborate to better promote trending products through targeted promotions or discounts.



CHALLENGES



FURTHER ANALYSIS

More Social Media Platforms:

- Instagram
- Pinterest
- Facebook

More E-commerce Websites:

- e-Bay
- Poshmark
- Craigslist

Larger Date Range:

- TikTok trends and listing data since 2020



IMPROVEMENT PLAN

Iterative Development:

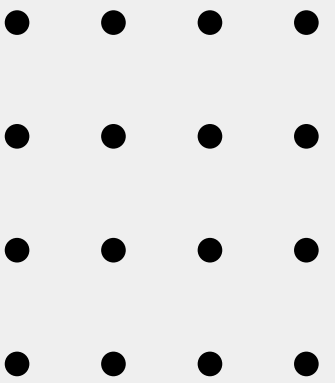
Regularly update models and algorithms to improve accuracy.

Incorporate feedback from users to refine and enhance the platform.

Monitoring and Evaluation:

Set up a robust system for monitoring key performance metrics.

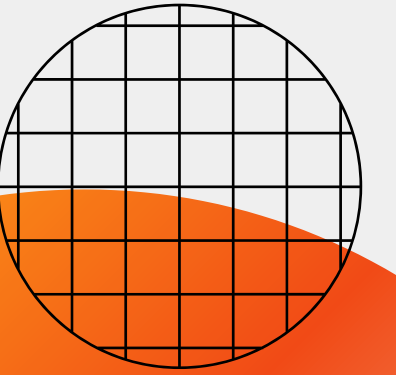
Regularly evaluate the impact of analytics on business outcomes and make adjustments as needed.

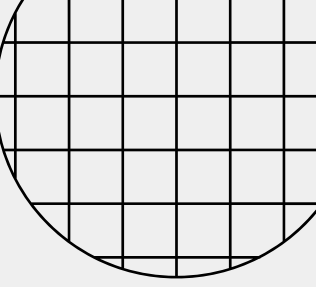


End

THANK YOU

Do you have any questions?





APPENDIX

DATA SOURCE

Mercari

<https://www.mercari.com/>

TikTok

<https://www.tiktok.com/>

