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ICT HUB
ENGAGE | INNOVATE | EVOLVE



SECTOR-BASED STOCK PERFORMANCE ANALYSIS IN NIGERIA (2020-2024).

DATE: 7th MAY 2025.





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INTRODUCTION.



The Nigerian stock market experienced notable fluctuations, influenced by both global shocks and domestic policy changes between 2020 and 2024.

This project examines the stock performance of four leading companies- Nestle, MTNN, GTCO and Dangote cement (Dangcem)representing key sectors of the economy.

Through the analysis of daily returns, cumulative returns, moving averages, and volatility, this study sheds light on sectorial trends, investment behaviors and the broader markets reaction to events such as the Covid-19 pandemic, 2023 Elections, fuel subsidy removal and Government policy (Cashless).

GOAL

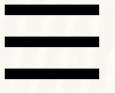
To understand how certain economic events influence investment outcomes.



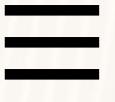
PROBLEM STATEMENT.

The Nigerian stock market has undergone major fluctuations due to events such as the COVID-19 pandemic, elections, cashless policy disruptions, subsidy removal, and monetary reforms.

This project investigates how these economic events affected the performance of selected companies across various sectors of the Nigerian economy, providing insights useful for real-world investment decisions.



METHODOLOGY.



01

Data Collection

- Collected historical stock price data (2020–2024) for four companies representing different sectors of Nigeria's economy . Dangcem (Manufacturing), GTCO (Banking), MTNN (Telecom), and Nestle(Consumer Goods).
- Data sourced from reliable financial platforms(investing.com) and cleaned for inconsistent values.

02

Data Processing & Metrics Calculation

Computed key performance indicators:

- **Daily Returns** to measure short-term performance.
- **Cumulative Returns** to track overall stock growth.
- **Volatility** (via standard deviation) to assess risks.
- **Moving Averages(20,50 &100 days)** to observe market trends.

TOOLS Used:

- Pandas: Importing data and for manipulation
- Matplotlib: For visualization.
- Jupyter Notebook
- ChatGpt: For Research
- Google Workspace: For Research & collaboration

03

Comparative Analysis

- Visualized each metric across all four sectors using line charts.
- Compared sector performance using cumulative return and volatility over time.

04

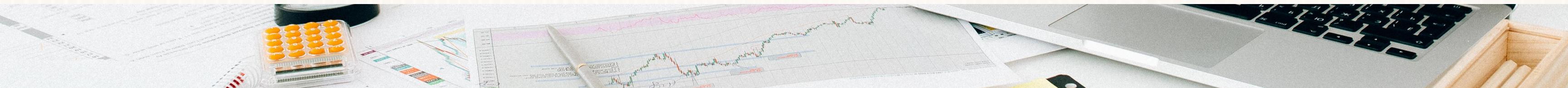
Economic Event Overlay

- Identified major economic events (COVID-19, Cash Crunch(Cashless Policy), Subsidy Removal, Elections) and overlaid them on cumulative return charts to evaluate their impact.

05

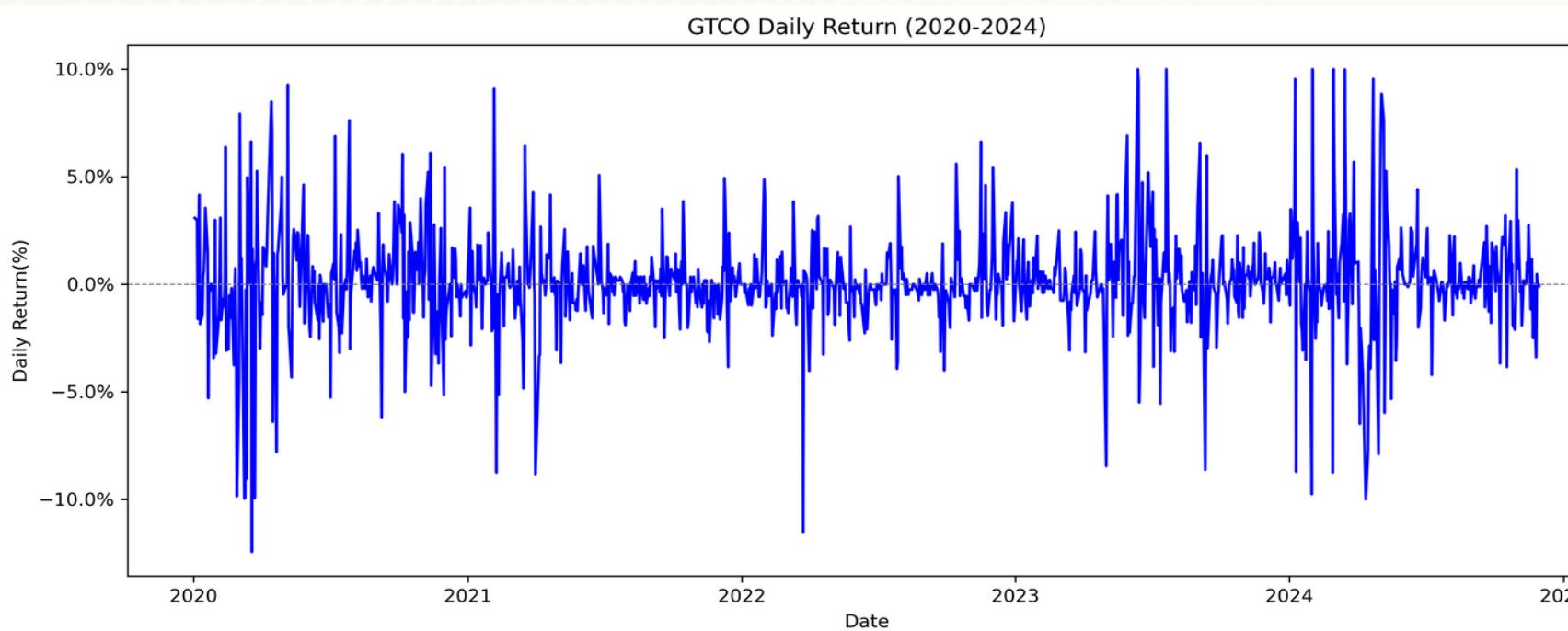
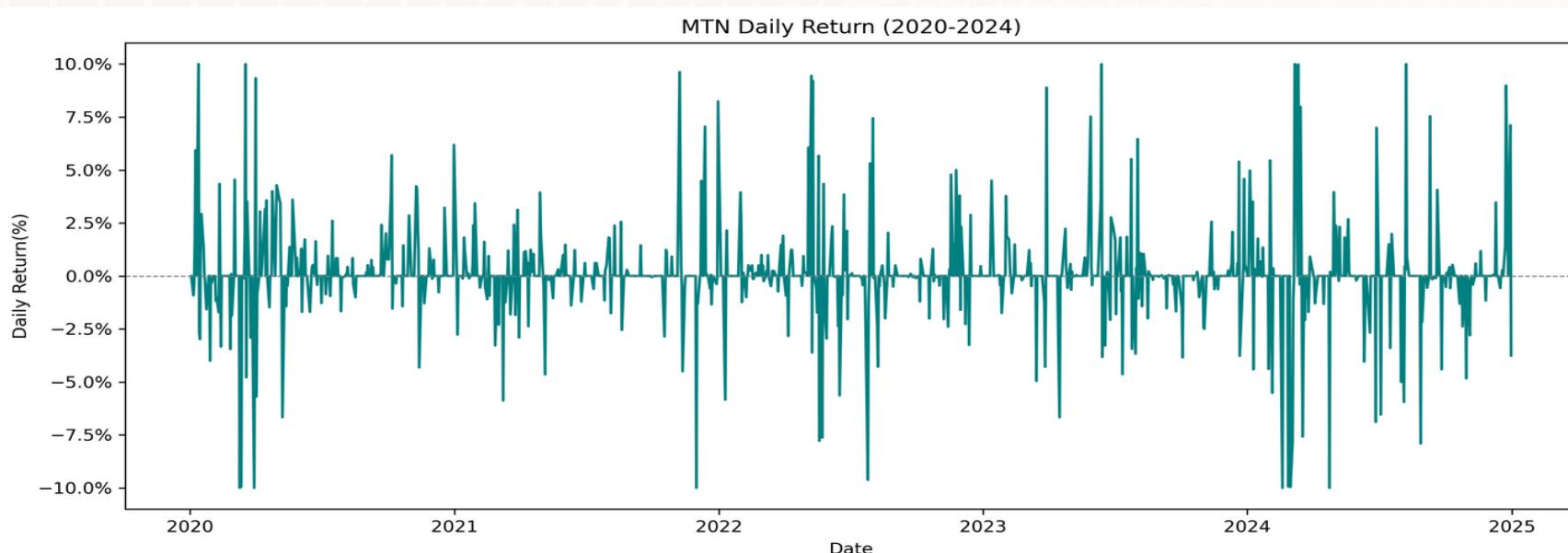
Visualization

- Used Python (Matplotlib) to create clean, readable visualizations for individual and comparative analysis.



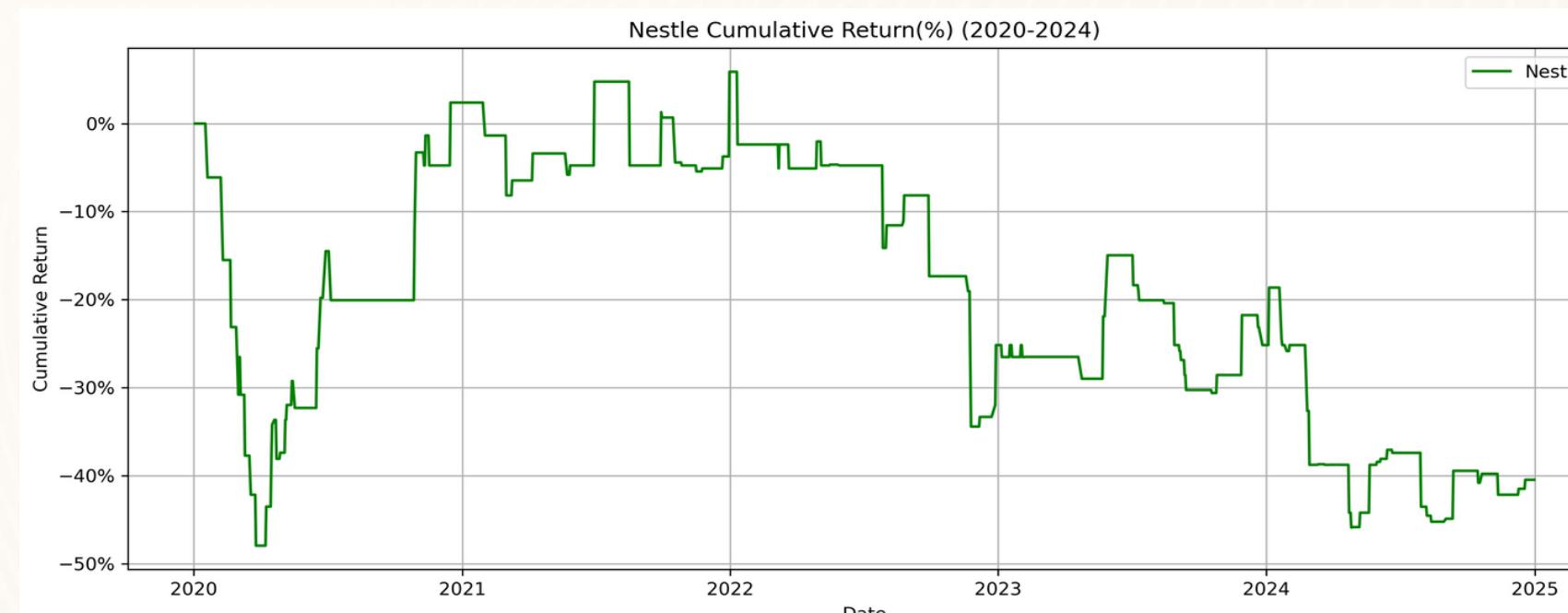
DAILY RETURN.

Daily Return measures the percentage change in a stock's price from one day to the next. It helps identify short term price movements and sometimes market volatility.



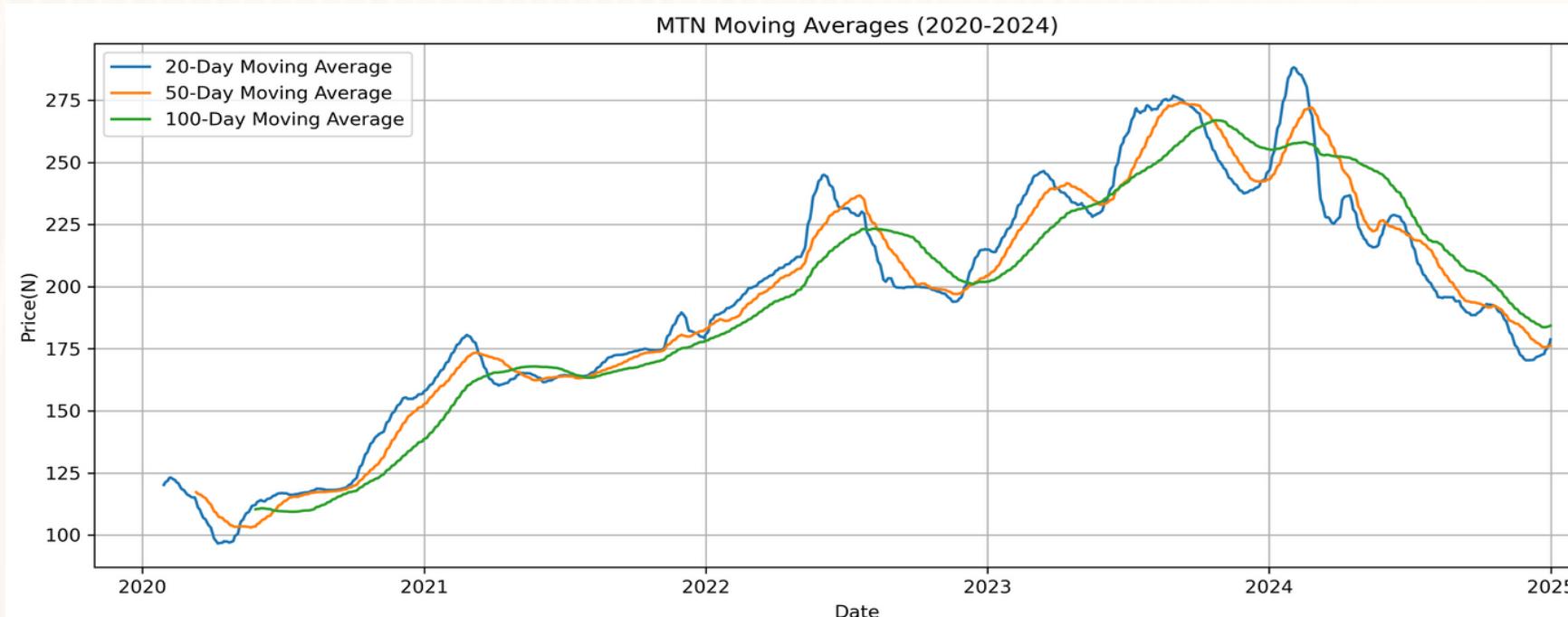
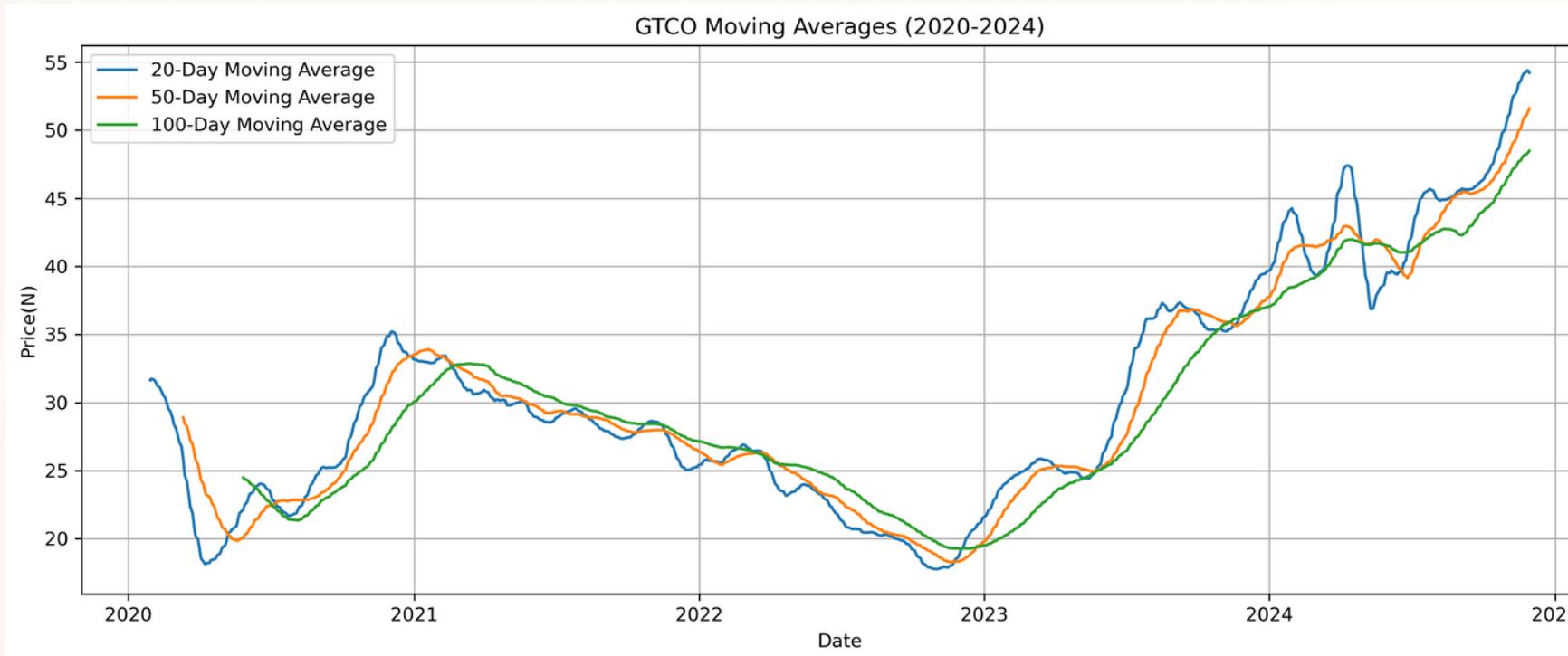
CUMULATIVE RETURN.

Cumulative return shows the total percentage change in stock price over a period of time. It helps assess the long term performance of an investment.



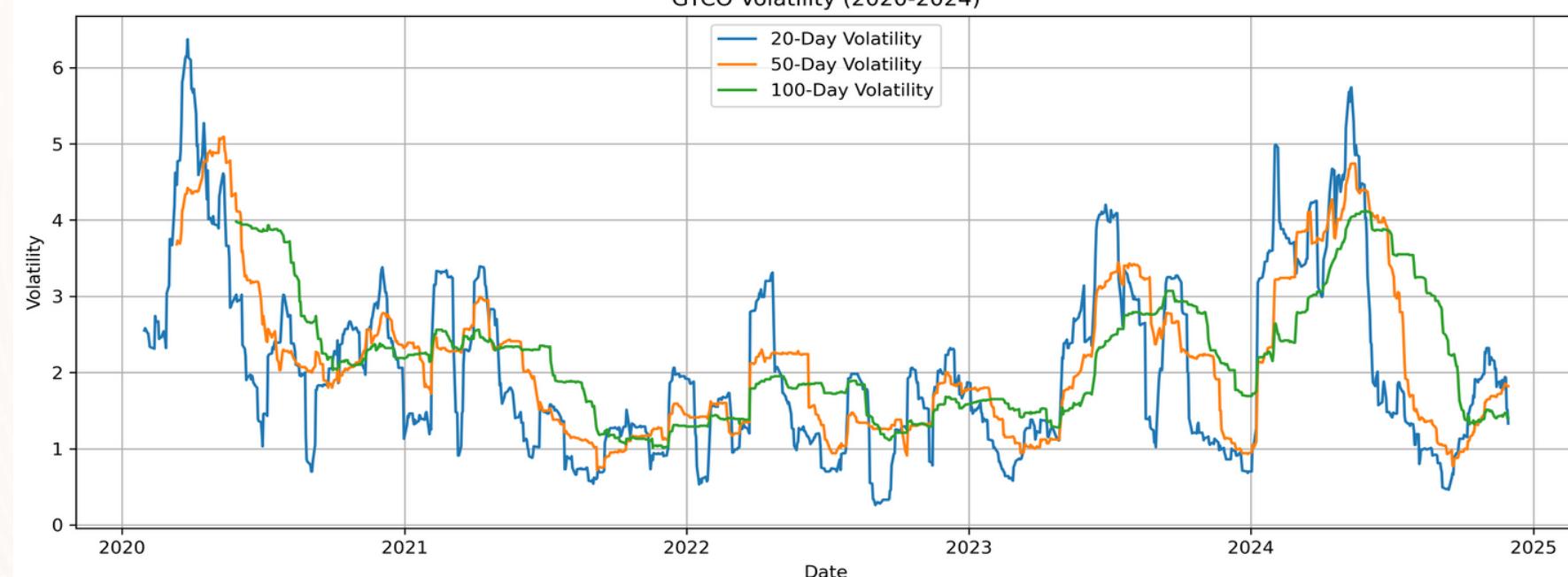
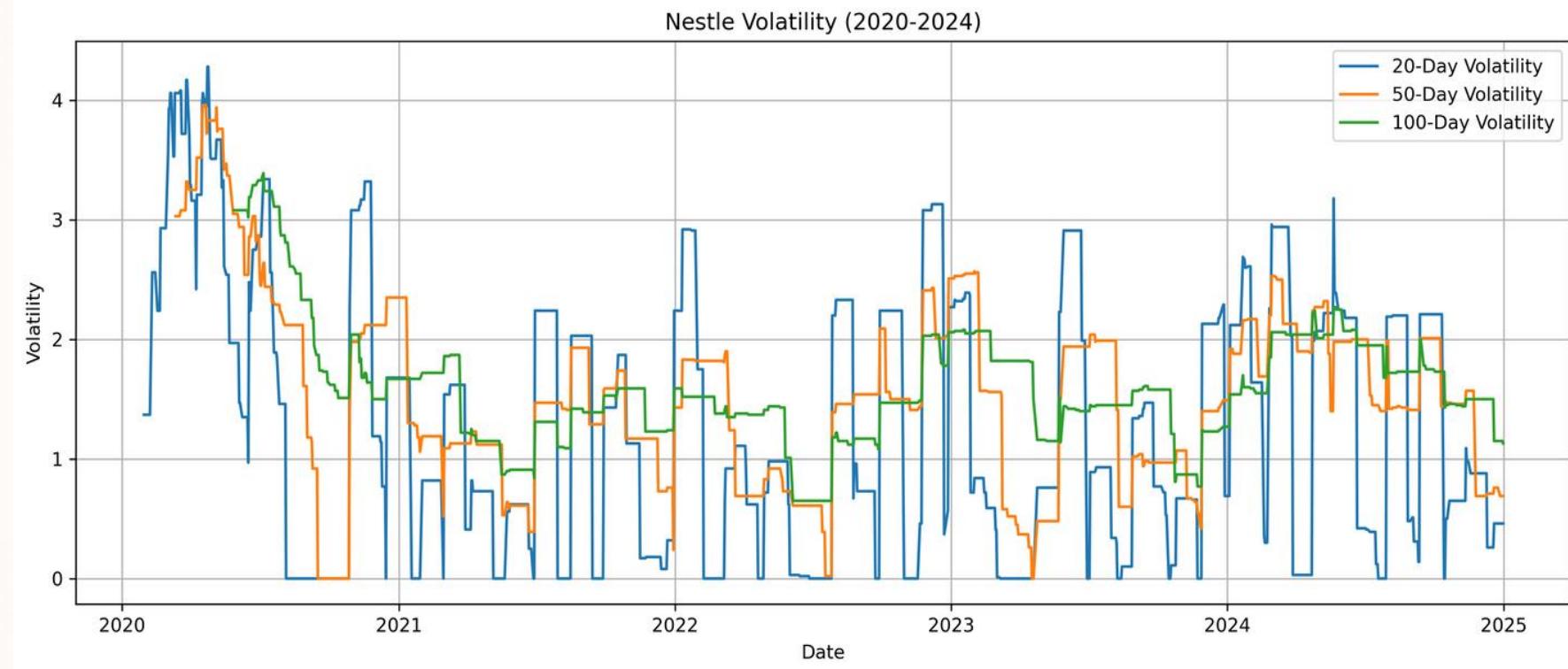
MOVING AVERAGE.

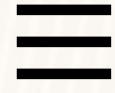
A Moving average smooths out price data to reveal overall trends over a specific period (Time). It helps identify overall trends and reduce short term noise. The short term (20- days) and long term (50 & 100 days) helps to identify when a stock is gaining or losing momentum.



VOLATILITY.

Volatility shows how much a stock's price fluctuates over time. Higher values suggests greater uncertainty or risks in return.



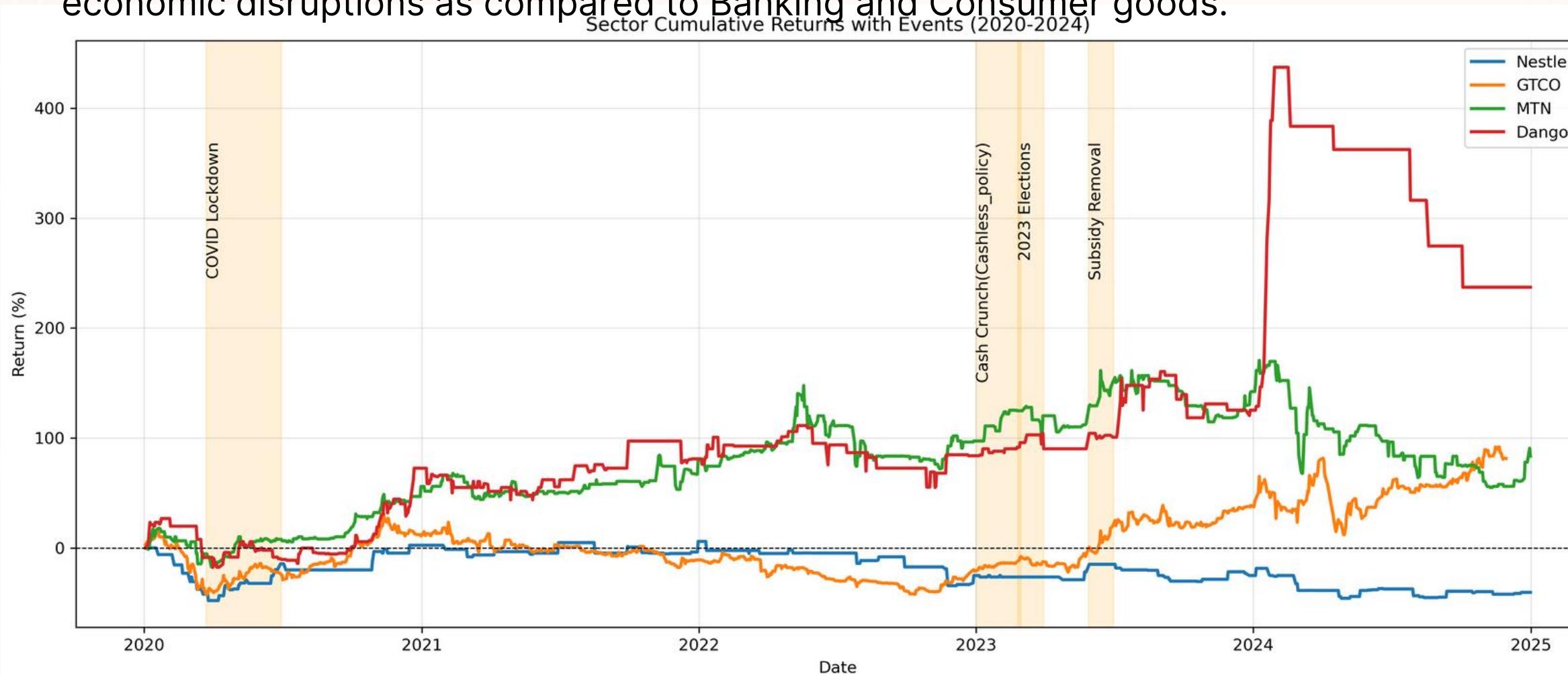


ECONOMIC EVENTS & STOCK MARKET PERFORMANCE

(2020-2024).

This chart tracks the cumulative returns of Dangote(DangCem), MTNN, GTCO and Nestle from 2020 to 2024, annotated with key economic events.

- **Dangote & MTN** stocks showed notable growth during Cash crunch(Cashless Policy),2023 Elections and Subsidy removal as compared to others.
- **GTCO & Nestle** maintained relatively flat or declining performance during these periods, but GTCO picked up post Subsidy removal while Nestle maintained low rates. These patterns suggests that the Manufacturing and Telecom sectors adapted more resiliently to economic disruptions as compared to Banking and Consumer goods.



VOLATILITY COMPARISON.

01

GTCO

GTCO exhibited the highest volatility, indicating greater fluctuations in the stock market.

02

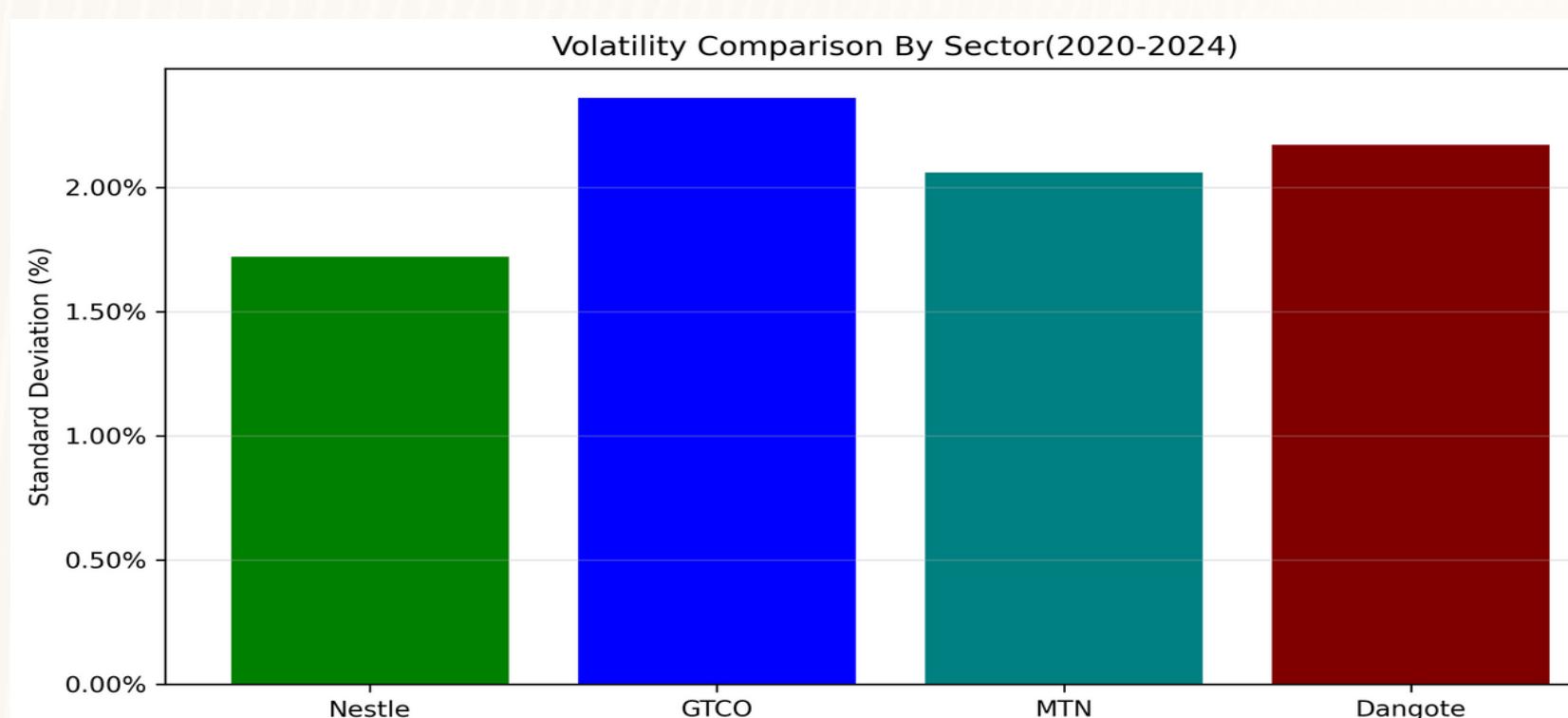
MTNN & Dangcem

MTN and Dangcem had moderate volatility, suggesting relatively stable performance with occasional shifts.

03

Nestle

Nestle had the lowest volatility showing a more consistent price movement.



FINAL CUMULATIVE RETURNS.

01

Nestle

Nestle showed the least growth, affected by economic shocks and investors trends.

02

GTCO

GTCO exhibited high volatility with mixed returns.

03

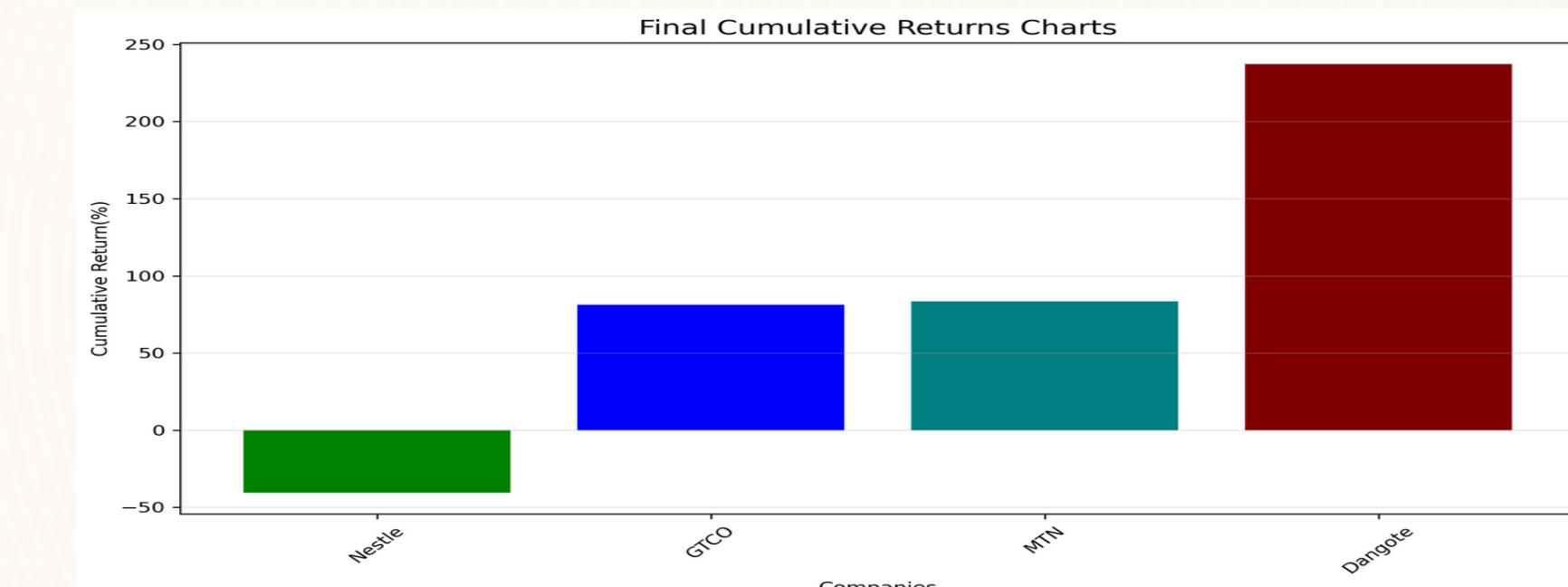
MTNN

MTN followed with consistent gains across the 5-year period.

04

Dangcem

Dangote had the highest overall returns, indicating strong long-term growth.



CHALLENGES.

01

Data Sourcing and Fetching:

- Getting the right data for free.

02

Data Cleaning:

- Data Inconsistency(some data's were mixed with texts and numbers).
- Couldn't call columns to preview.
- Data's didn't match Data type.
- Couldn't convert a specific column after converting to the right data.

03

Calculating metrics:

- Code debugging and notebook syncing across the team
- Miscalculated some metrics.
- Rounded off figures too early.
- Used .replace(isinf) to convert infns to NaN for easy dropping and to ensure data consistency.

04

Visualization:

- Had difficulty saving Visuals .
- Some of the charts were clustered In the visuals indicating data issues.

DAMAGE CONTROL.

01

Data Sourcing and Fetching:

- Found a source that suited our project scope.(Investing.com).

02

Data Cleaning:

- Removed texts.
- Removed spaces present in each column.
- Converted data to the right data types.
- Dropped column.

03

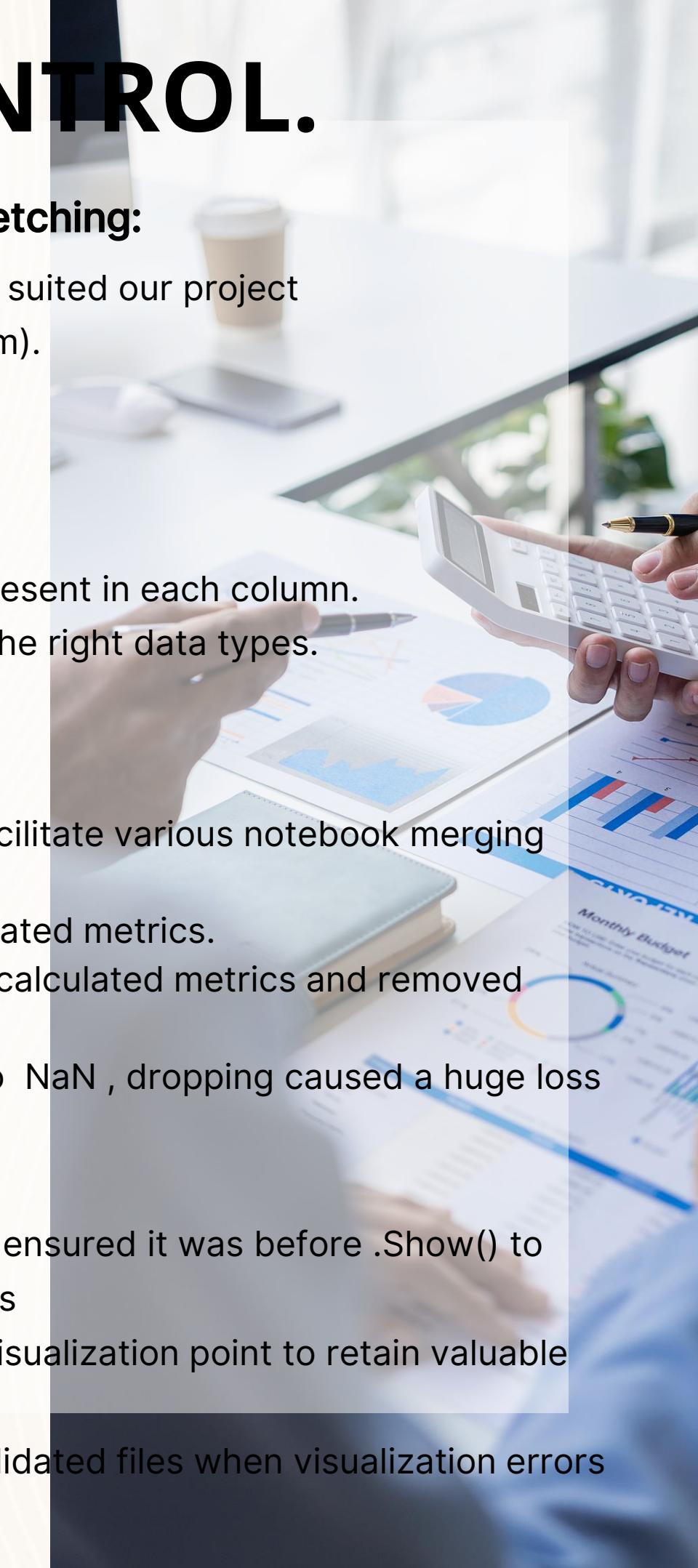
Calculating metrics:

- Installed .ipynb to facilitate various notebook merging into one notebook.
- Corrected miscalculated metrics.
- Refreshed kernel, recalculated metrics and removed round figures .
- Replaced only infns to NaN , dropping caused a huge loss to valuable data.

04

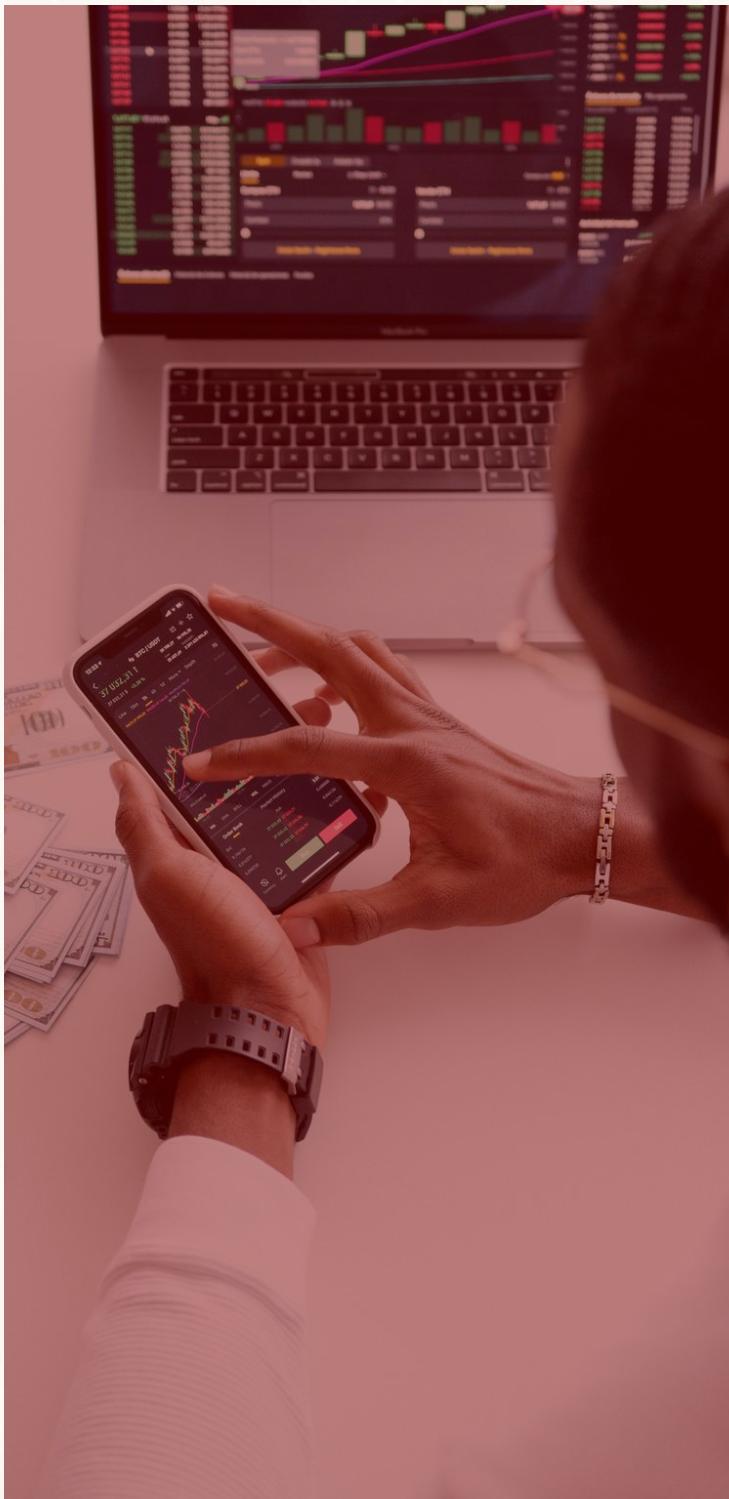
Visualization:

- Used .Savefig() and ensured it was before .Show() to enable saving visuals
- Used .dropna() at visualization point to retain valuable rows.
- Re-imported and validated files when visualization errors occurred.





RECOMMENDATIONS.



01

Monitor economic indicators and policy shifts, such as fuel subsidy changes and CBN rates as they affect stock performance.

02

Consider long term holding strategies for stocks like Dangcem, which showed strong cumulative returns over time.

03

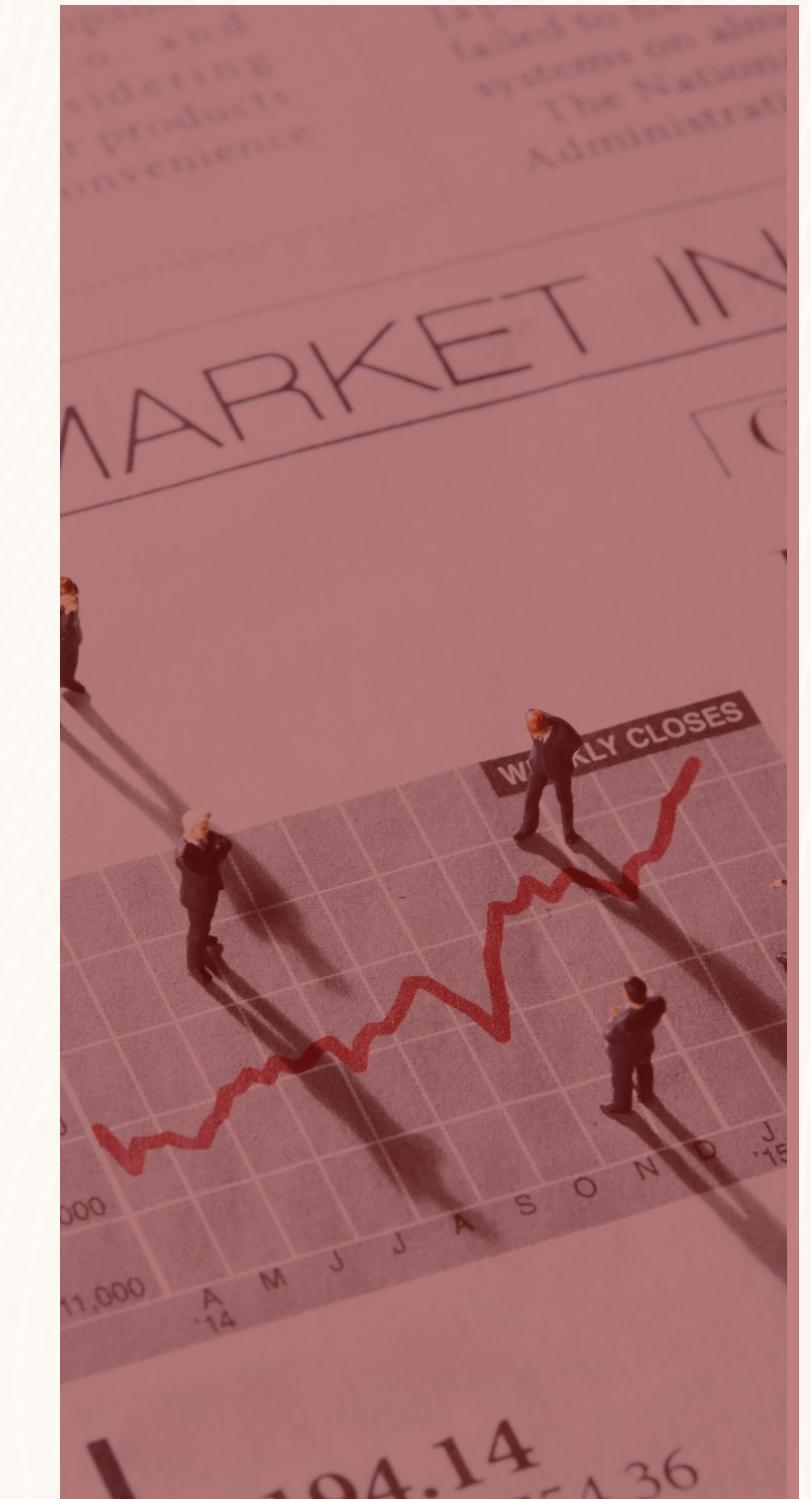
Diversify Investments across sectors helps manage risks, especially given GTCO's high volatility and Nestle underperformance.

04

Encourage retail investors to educate themselves on sector specific behaviors, especially in response to macroeconomic changes.

05

Use cumulative return and volatility metrics to guide entry and exit decisions in the market.



CONCLUSION.



01

Dangote cement had the highest cumulative returns, indicating strong performance and investor confidence in the manufacturing sector.

02

Nestle Nigeria recorded the lowest returns, suggesting slower growth or reduced investor sentiment in the consumer goods sectors.

03

GTCO showed high volatility, reflecting the banking sector's sensitivity to economic and monetary policies.

04

MTN Nigeria delivered moderate but stable returns, which shows its role in the digital economy.

05

Long-term investors in Dangote cement would have seen the most gain. Stocks in different sectors reacted uniquely to Nigeria's economic changes, highlighting the need for sector-based strategy in investing.





REFERENCES.



[Investing.com](#)

Historical stock data source



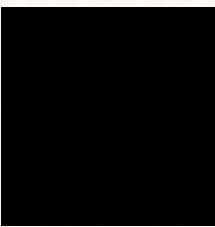
[Central Bank of Nigeria \(CBN\)](#)

Policy updates



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Economic event timelines



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Policy updates



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Jupyter Notebooks(Google Drive) — Personal
Python code and analysis



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**THANK YOU
FOR
LISTENING!!!**