

Project Title

Marketing performance analysis using Excel and Power BI

Objectives

To analyze marketing performance data for the year 2023/2024 to identify trends, monitor performance metrics, and provide actionable insights and/or recommendations.

Dataset Description

Source: Blinkit Marketing Data from Kaggle (March, 2023 to November, 2024).

Size: 5,400 rows and 15 columns

Key columns

- Campaign ID – Unique number assigned to a particular campaign post
- Campaign name – Name of the campaign
- Date – The date the campaign was posted
- Target Audience – Category of people the campaign was made for/intended to be for
- Channels – The various platforms the campaign was posted
- Impressions – Total Number of impressions gained from the campaign post
- Clicks - Total Number of clicks gained from the campaign post
- Conversions – Actual value of Impressions and Clicks
- Revenue – Actual monetary value gotten from the Impressions and/or clicks conversions
- Cost – Cost of making/putting up the campaign post

Initial observations

There were no missing values and no empty row nor column.

Data/tables were on three (3) separate sheets

Tools used

Microsoft Excel

- Data cleaning with power query (dataset/table formatting, removing duplicates and merging tables from different sheets into one)
- Performed some Excel aggregate functions to return columns like, revenue, cost and profit per conversion, and further prepare the data for analysis.

Power BI

- Interactive dashboards.
- Advanced data visualization (e.g., slicers, filters)
- Calculated measures using DAX for deeper insights

Methodology

Data cleaning and preparation

- Merged three (3) tables on separate sheets together using power query.
- Corrected 6 outliers in the 'Conversions' column by cross-checking source data.
- Returned the profit column using Excel aggregate functions

Exploratory Data Analysis (EDA)

- Used pivot tables in Excel to summarize Revenue by 'Channel' and 'Target Audience'.
- Detected low marketing performance on the second month (November) of the last quarter of 2024, with peak performance from the first month (April) of the second quarter of 2023, which remained considerably stable through to the first month (October) of the last quarter of 2024.
- Detected profit higher than the corresponding cost for the channel 'Email', unlike other channels (App, Social Media and SMS) where cost is higher than the corresponding profit.
- Detected higher impressions and lower clicks across all channels and target audience.
- Detected fewer campaigns in the second month (November) of the last quarter of 2024 resulting to low revenue within this period.

Visualization and insights

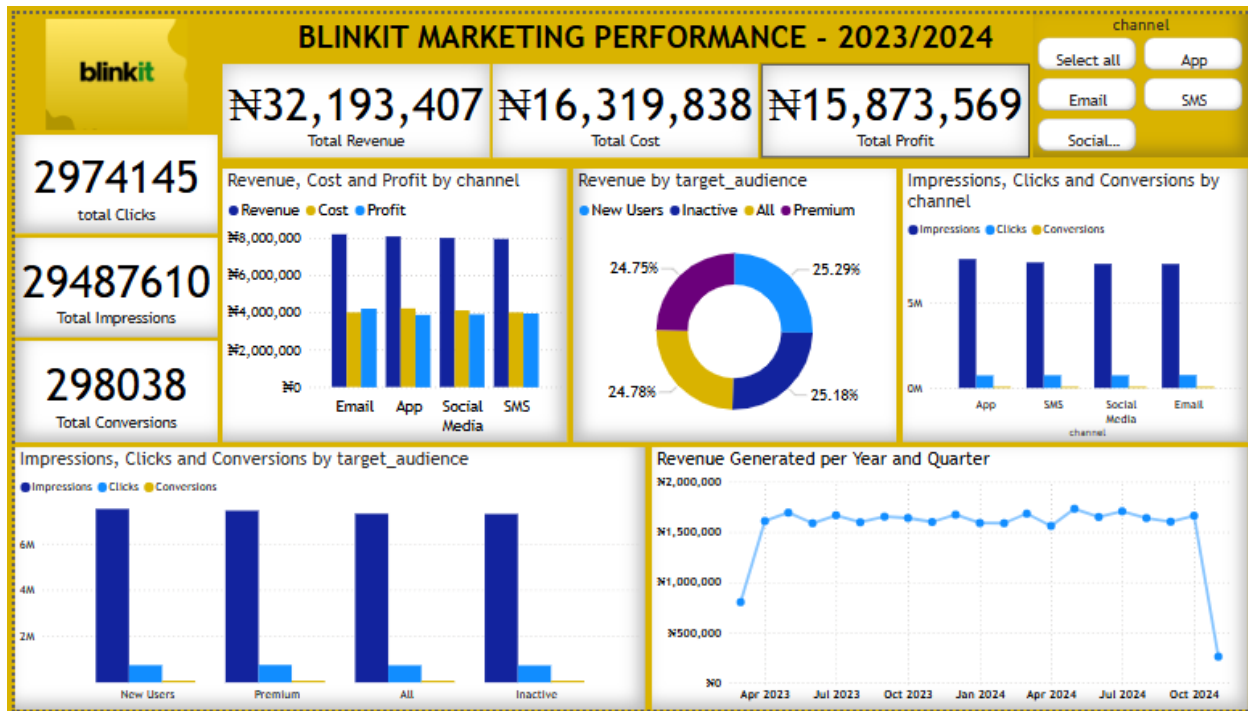
Created a Power BI dashboard with the following visuals:

- Revenue, Cost and Profit by Channel (Bar Chart)
- Revenue by Target Audience (Donut Chart)
- Monthly, Quarterly and yearly performance trend by Revenue generated (Line Chart)
- Impressions, Click and Conversions by Channel and by Target Audience (Bar Chart)

Recommendation

- Revenue/Profit from all channels were considerably high and almost at the same level but, efforts should be made to intensify/strengthen campaigns and make posts that are catchy and engaging.
- More marketing and campaign efforts should be focused on high-performing Target Audience (New Users and Inactive Users) to increase the number of these user categories either through awareness or new user recruitment.
- Campaigns should be made more often through 'Email' to increase/maximize profit since it yields profit greater than its corresponding cost.
- Measures should be put in place to also increase/improve clicks on campaigns on all channels and target audience to further increase revenue/profit.

Results and Insights



Marketing Performance:

- Overall marketing performance increased by 30% compared to the previous year
- Revenue generated from the several campaigns were considerably high and almost at the same range.

Channel Insights:

- All Channels performed considerably high in terms of revenue generated with 'Email' and 'App' being the top two (2), and contributing over 51% of the total revenue generated.
- Email generated profit higher than its corresponding cost unlike other channels (App, Social Media and SMS) that generated profit lower than their cost.

Insights from Target Audience:

- Revenue generated from all of the target audience was equally high and almost at the same range with top two (2) performing audience being 'New Users' and 'Inactive users' contributing over 50% of the total revenue generated.
- High values of impressions observed across all channels and Target Audience, compared to low values of clicks indicated low engagement on the campaigns/posts on all channels and across all target audience.

Marketing Trends:

- Marketing performance peaked from the first month (April) of the second quarter of 2023, and remained considerably stable/high through to the first month (October) of the last quarter of 2024. This is driven by high number of campaigns made in these periods.
- Marketing performance dipped drastically in the second month (November) of the last quarter of 2024. This resulted from fewer campaigns made during this period.

Conclusion

The analysis identified Email as the most profitable Channel. It also pointed out that 'New users' and 'Inactive Users' engage more on campaigns. Marketing performance trends indicates the importance of regular campaigns/posts. It is recommended to focus marketing and campaign efforts more on high-performing Channels (Email and App), and Target Audience (New Users and Inactive Users) to increase the number of these user categories through awareness or new user recruitment to sustain growth and further increase revenue/profit.