

Market Capitalization Study

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1 Introduction

This report provides an in-depth analysis of four major technology companies: Apple, Amazon, Google, and Microsoft. The analysis includes an examination of historical stock prices, traded volumes, market capitalization trends, and risk metrics. Predictive modeling using Long Short-Term Memory (LSTM) is also employed for future stock price prediction. The dataset used in this analysis was retrieved from Kaggle at the following link: <https://www.kaggle.com/datasets/darshanprabhu09/stock-prices-for>.

2 Price and Volume Analysis

2.1 Price Analysis

An analysis of the stock prices of these four companies reveals certain trends and insights. Over the past decade, all companies have exhibited an overall upward trend, signaling strong growth in the technology sector.

2.2 Volume Analysis

Volume analysis shows that trading volume for these companies has been relatively steady, with occasional peaks reflecting key market events. The consistent volume suggests a high level of liquidity and interest from investors.

3 Stock Return Analysis

Stock return analysis is crucial in determining the profitability of an investment. The analyzed returns provide insights into the balance between positive and negative returns, which could guide investors in evaluating the risks and rewards associated with these stocks.

4 Market Cap Insights

4.1 Market Capitalization Trends

Market capitalization trends of Apple, Amazon, Google, and Microsoft reveal valuable insights into their growth and market volatility. The graph visually emphasizes the varying magnitudes of market capitalization, highlighting the dynamic nature and market dominance of these companies.

4.2 Market Capitalization Comparison and Growth

Among the companies, Amazon dominates the market with a 60.90% share, followed by Google (25.80%), Apple (10.51%), and Microsoft (2.79%). These shares signify the relative market sentiment for these companies.

4.3 LSTM-based Future Price Prediction for Apple Stock

The LSTM model predicts a future price of approximately \$95.33 for Apple stock. While these predictions are subject to market dynamics and model uncertainties, they can provide investors with a glimpse into potential future trends.

5 Risk Analysis

The risk analysis evaluates the volatility and market sensitivity of the stocks. With standard deviation as a measure of price variability and Beta as a measure of market sensitivity, this analysis assists in risk assessment and portfolio management.

6 Conclusion

The comprehensive analysis of the market capitalization trends of Apple, Amazon, Google, and Microsoft has provided valuable insights into their performance and market perception. These insights could serve as a valuable resource for investors and analysts, enabling them to make informed decisions.