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Big Data Analysis: Analyzing Stock Market in High-Tech Industry

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# Overview

The research that follows uses big data approaches to analyze the stock market for the high-tech sector. This analysis seeks to offer insightful information to investors and decision-makers in the technology sector by utilizing enormous amounts of financial and market data. To pinpoint prospective investment opportunities and trends in the high-tech sector, the research includes fundamental, technical, and sentimental analysis.

# Introduction

The high-tech sector is renowned for its fast development, fluid market conditions, and opportunity for substantial profits. But it also exhibits instability and ferocious competitiveness. We may find patterns, trends, and correlations in the enormous volumes of data that are available by using big data analysis, which provides investors with useful knowledge.

# Methodology

We gathered a sizable dataset for the analysis, which included historical stock prices, financial statements, news stories, social media data, and economic indicators for the high-tech sector. To generate insightful conclusions, we used a variety of analytical methods, including sentiment analysis, technical analysis, and fundamental analysis.

# Fundamental Analysis

Financial Health Assessment: For a sample of high-tech companies, we assessed important financial metrics such sales growth, earnings per share, profit margins, and debt levels. This evaluation gave a quick overview of their performance and financial health.

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b. Growth Potential: We evaluated the growth potential of the chosen companies by looking at variables including research and development investments, new product launches, and market share. This study assisted in identifying businesses with a competitive advantage and promising future growth.

c. Valuation: We evaluated various high-tech businesses' valuation indicators, such as price-to-earnings ratios, price-to-sales ratios, and price-to-book ratios. We were able to discover stocks using this study that can be undervalued or overvalued in comparison to their peers.

Technical Analysis: We used historical stock price data to identify trends, support and resistance levels, and probable entry or exit points. We did this by using a variety of technical indicators and chart patterns. Investors may now grasp short-term price changes and make wise trading selections thanks to this analysis.

Sentiment analysis: We looked at market sentiment indicators, social media data, and news stories pertaining to the high-tech sector to perform sentiment analysis. We saw possible market shifts, sentiment-driven price movements, and sentiment-driven investment possibilities by tracking positive or negative sentiment patterns.

Risks and Limitations: It's important to be aware of the dangers and restrictions that come with stock market analysis in the high-tech sector. These include pressure from competitors, technological disruptions, legislative changes, and market volatility. Big data analysis is additionally vulnerable to problems with data quality, potential biases, and the inherent unpredictability of financial markets.

In conclusion, big data analysis offers a potent instrument for studying the high-tech stock market. Investors can learn a lot about market patterns and prospective investment opportunities by combining fundamental, technical, and sentimental analysis. To make wise investment decisions, it is essential to combine data-driven analysis with prudent judgment and risk management techniques.

Recommendations: In light of our study, we advise conducting more thorough investigation and due diligence on the suggested investment prospects. In order to properly manage their investment portfolios, investors need also think about diversification techniques and routinely evaluate market circumstances, industry trends, and company-specific aspects.