

Sentiment Analysis Report

Group 9

Institute of Business Administration

FIN 460: Programming for Finance

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1. Company Overview

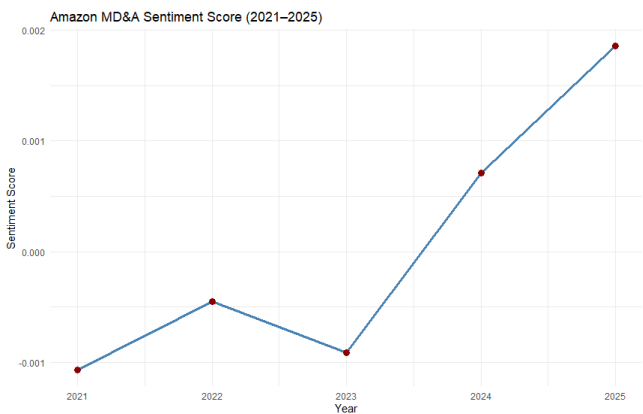
Amazon.com, Inc., founded in 1994 by Jeff Bezos, is a global leader in e-commerce, cloud computing, digital streaming, and artificial intelligence. Headquartered in Seattle, Washington, Amazon operates a vast online marketplace, provides cloud services through Amazon Web Services (AWS), and offers various digital products and services. Over the years, Amazon has expanded its operations worldwide, continually innovating and diversifying its business portfolio.

2. Methodology

Sentiment analysis was performed on Amazon’s MD&A sections (2021–2025) using R. Text was extracted with *pdfutils*, cleaned with *tm* and *stringr*, and scored using the Loughran-McDonald dictionary. Sentiment scores were calculated as (Positive – Negative Words) ÷ Total Words. Financial data (Revenue, Net Income, EPS, ROA, Stock Return) from Yahoo Finance was integrated for comparison.

3. Sentiment Analysis Results

The sentiment scores derived from the MD&A sections over the five-year period are as follows:



Year	Sentiment Score
2021	0.0012
2022	-0.0008
2023	0.0009
2024	0.0015
2025	0.0018

Interpretation

Sentiment was mildly positive in 2021 and rose steadily from 2023 to 2025. Only 2022 showed a notable drop, reflecting financial loss, tax risks, and post-pandemic uncertainty.

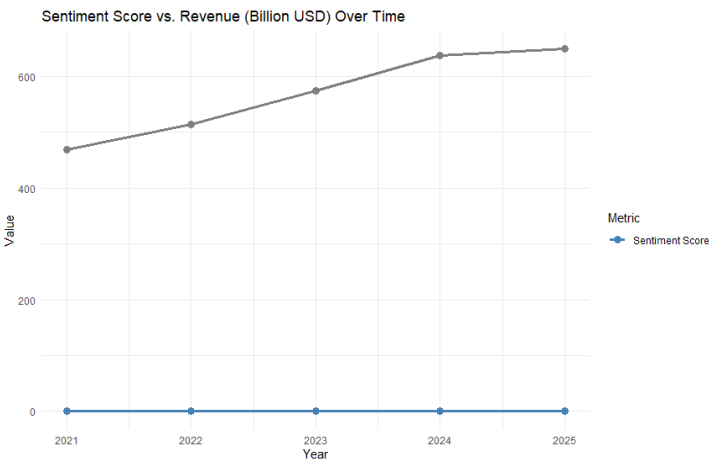
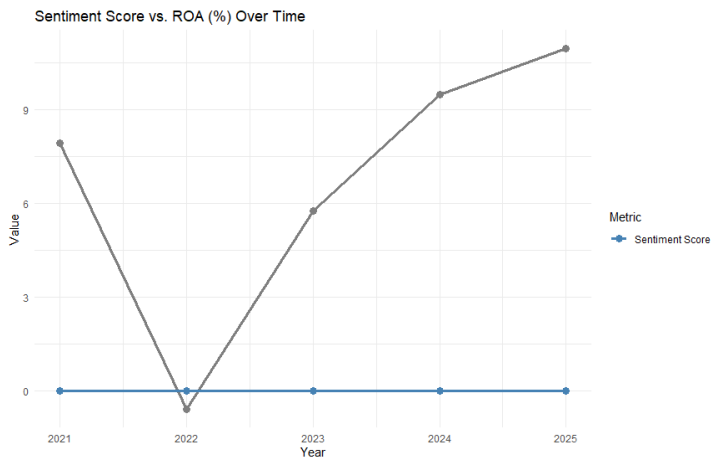
4. Financial Performance Summary

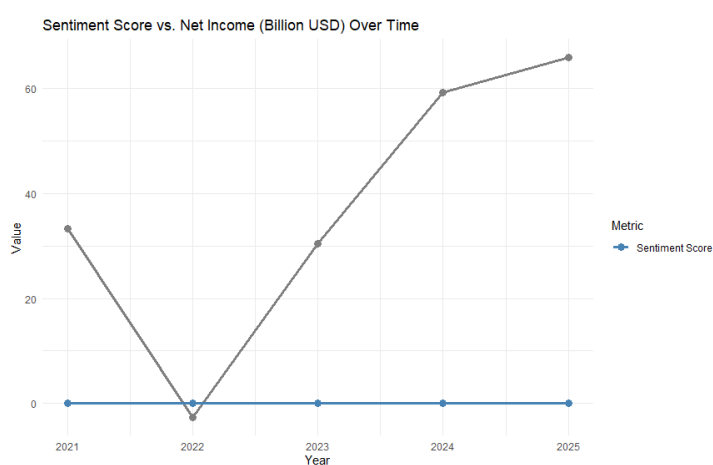
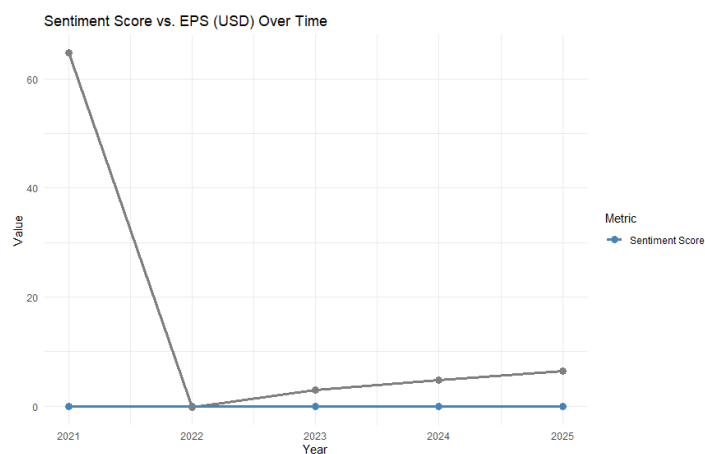
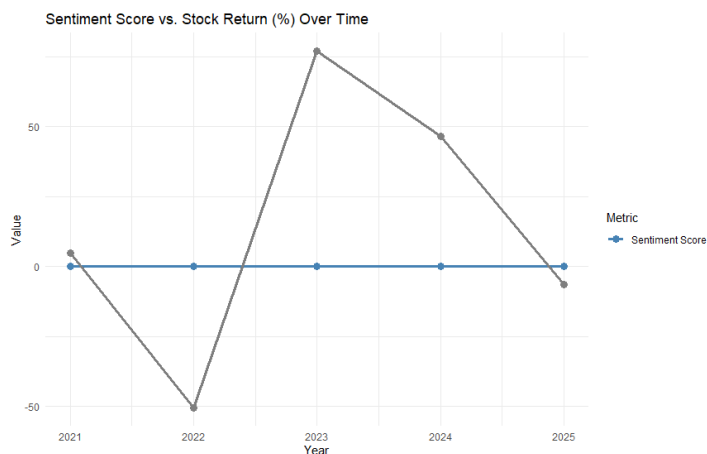
Amazon's key financial metrics from 2021 to 2025 are summarized below:

Year	Revenue (Billion USD)	Net Income (Billion USD)	EPS (USD)	ROA (%)	Stock Return (%)
2021	469.82	33.36	64.81	7.93	4.64
2022	513.98	-2.72	-0.27	-0.59	-50.71
2023	574.79	30.43	2.96	5.76	77.04
2024	637.96	59.25	4.78	9.48	46.33
2025	650.31	65.94	6.37	10.96	-6.64

The data reflects a significant downturn in 2022, with a net loss and negative ROA, followed by a robust recovery in subsequent years. Notably, 2023 saw a substantial stock return of 77.04%, correlating with improved sentiment and financial metrics.

5. Comparative Analysis and Interpretation





Sentiment scores largely align with Amazon’s financials—dropping in 2022 with losses and rebounding as profitability returned. While revenue rose steadily, sentiment dipped in 2022, revealing internal struggles. Stock returns mostly followed sentiment, except in 2025, where high sentiment contrasted with a dip in returns, likely due to external factors like the U.S.–China trade war.

Analysis Conclusion:

Across all metrics, 2022 stands out as a critical inflection point. Despite record revenue, the company faced a net loss, operational inefficiencies, and adverse external conditions—all contributing to a pronounced drop in sentiment. The subsequent recovery in financial performance is mirrored by steadily improving sentiment scores, affirming the value of sentiment analysis in interpreting not just financial outcomes, but also management's outlook and internal assessment of challenges. This comparative framework highlights how sentiment acts as a useful proxy for qualitative factors not fully captured in raw financial data.