

# Comparative Analysis of Three Technology Companies

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**Abstract.** Three of the top tech companies—Apple, Tesla, and Lenovo—are carefully examined financially in this essay. These three businesses are also involved in various sectors of the technology sector. Apple is in the software and hardware business, Tesla is in the electric vehicle business, and Lenovo is in the computer business. The purpose of this study is to offer professional and insightful information on these three firms' successful investment strategies. This study includes a review of these firms' most current financial indicators, including an examination of the significance of various data points, as well as a study of the difficulties that different investor types—such as Value, Income, PEG, Index, and Momentum investors—face when choosing assets. Additionally, this research has shown that different investor types are open to purchasing different kinds of equities. Furthermore, value investors tend not to purchase the stocks of all three firms. The analysis's conclusions aid in the creation of precisely customized investment plans, which ultimately seek to maximize financial benefits in the tech sector.

**Keywords:** Tech; Risk; Profitability; Ratio.

## 1. Introduction

Investing has several benefits that can assist people in reaching their financial objectives and give a means of gradually increasing their wealth. People need to invest their assets since they are depreciating due to inflation [1]. With returns that outpace inflation, investors may safeguard or grow their real wealth. It seems sense that the majority of people would choose to invest in the stock market due to its greater stability. In addition, the stock market offers low investment thresholds and quickly makes its data accessible to the broader public [2]. Investors want to use scientific techniques to forecast stock market movements because of the market's characteristics of high risk and great potential return [3].

For any investor, there are various benefits that can be derived out of investing, which makes it possible for individuals to accumulate more wealth over time. It means that when investors achieve return levels above the rates of inflation then their real wealth can be either maintained or enhanced. That is why it is logical that with growth of the stock market's stability, the majority of people prefer to invest in it.

Furthermore, the technology industry is defining the future course for the advancement of computers, communications, automation, and other technologies. These are coupled with some of the hottest subjects of the day, such as artificial intelligence, 5G connectivity, renewable energy systems, and driverless cars. In order to grow and stay competitive, companies are investing in new goods and seeking for new sources of income. Naturally, the abundance of enormous potential in artificial intelligence has led to a trend in recent years: adopting a wide range of machine learning approaches. These techniques are being used in many different sectors to find complex patterns and improve decision-making processes [4]. Massive volumes of realistic, high-quality material can be produced more effectively, more quickly, and at a lower cost thanks to AI's usage of generative algorithms, which can either supplement or completely replace human labor in this regard. As they develop, they reimagine industries and society at large, positioning the technology sector at the forefront of market expansion and economic prosperity. To accomplish these goals, this approach makes use of user-provided prompts [5]. The IT sector is becoming a major force behind market potential and economic

advancement as new innovations continue to transform businesses and society. Conversational agents, for instance, are the real-world use of AI technology in companies or sectors [6].

Due to this, this research has selected just three example businesses from among hundreds in the IT sector, and it has meticulously examined the investing behaviors represented by five distinct investor profile types, all based on financial data and models. Investments in a variety of assets with low correlations to one another are the basis of portfolio diversification, a commonly used strategy designed to minimize risk and maximize profits [7].

## **2. Profiles**

Although Apple, Tesla, and Lenovo are three well-known tech businesses, their product offerings, target audiences, and areas of concentration are different.

Apple is a technological company which focuses on producing and offering technological products and services. Apple began as a personal computer firm that introduced its first computers known as Apple I and the Apple II. Apple started in the year 1984 with Macintosh, audio and video in the year 2001 with iPod, communication in the year 2007 with iPhone and from a computer to a media tablet in the year 2010 with iPad. Products that make up Apple's ecosystem include the Macs, iPads, the Apple Watch, Air Pods and many others while software and services include iOS, macOS, iCloud, Apple Music, the App Store, among others.

Tesla, Inc. is an illustration of an American electric vehicle and clean energy firm that is leading the mission of adjusting the world to sustainable energy systems. Tesla's existing products include electric cars, automotive batteries for home, commercial and utility-scale storage, rooftop solar, and solar panels. The company came to limelight after coming out with Tesla Roadster followed by Model S, Model X, Model 3 and Model Y. Tesla is also famous for its self-driving technology and supercharger stations.

Lenovo is a company that deals in technology both globally and locally and is so renowned for its production of personal computers, laptops and smart devices. Lenovo was originally established in Beijing; the firm itself was rechristened as Lenovo in 2003, and the company came into the global spotlight with its acquisition of IBM's PC wing in 2005. Lenovo is the largest PC manufacturer worldwide and also has products like smart phones and tablets, work stations, servers, storage products, as well as IT management software.

## **3. Financial Indicators**

The financial metrics used in this financial study are taken from each company's financial statements, with the year 2024 as the designated time period.

### **3.1. Risk**

Risk is the possibility that, while making investments in stocks, bonds, real estate, or other financial instruments, you will lose money or suffer other unfavorable outcomes. Using agent-based technology, most stock market risk research focuses on creating virtual stock markets and evaluating price movements [8]. The total market value of a company's outstanding shares is referred to as market capitalization. A measure called beta shows how a stock's price changes in reaction to changes in a larger market index. The percentage of a company's total assets that are supported by debt is shown by the total debt ratio, which assesses the financial soundness of the business. This metric offers useful data on the amount of leverage a company use to support its investment and operational initiatives. The following data of Market Cap, Beta and Total Debt Ratio are displayed in the Table 1 below.

**Table 1. Risk**

Risk	Market Cap	Beta	Total Debt Ratio
Apple	3.44 trillion	1.21	78.01%
Tesla	749.53 billion	1.77	40.33%
Lenovo	135.37 billion	1.07	84.3%

The table indicates that all of these businesses are large ones because their market value exceeds \$100 billion. With the highest beta of 1.77, Tesla represents the largest investment risk. The Apple has an average value of 1.21. Lenovo's beta value of 1.07 indicates that it has the lowest investing risk. On the other hand, the three corporations' total debt ratios varied significantly. Lenovo has a higher market share of 84.3% than Apple (78.01%). Tesla has the lowest overall debt ratio of any company, at 40.33%.

### 3.2. Profitability

The capacity to produce a profit or provide favorable financial returns from company activities is referred to as profitability. It offers perceptions into the business's capacity to create value for its investors and maintain operations over the long haul. The financial ratio known as profit margin is calculated as the difference between revenue and cost. The financial ratio known as return on assets, or ROA, gauges a company's capacity to generate profits. A financial statistic called return on equity (ROE) gauges a business's performance in accordance to its shareholders' ownership stakes. The following data of Profit margin, ROA, and ROE are displayed in the Table 2 below.

**Table 2. Profitability**

Profitability	Profit Margin(year)	ROA	ROE
Apple	26.31%	22.07%	147.25%
Tesla	14.37%	4.72%	23.74%
Lenovo	1.78%	3.21%	18.18%

With the greatest profit margin of 26.31%, Apple is the company to watch. Tesla's profit margin is 14.37%. Lenovo's profit margin, at 1.78%, is the lowest of all. With a ROA of 22.07%, Apple has the highest of all companies. Tesla has a ROA of 6.27%. Lenovo's return on assets (ROA) is the lowest at 3.21%. With a ROE of 147.25%, Apple has the highest of all companies. Tesla has a 23.74% ROE. Lenovo's ROE of 18.18% is the lowest of all. In terms of profit margin, return on equity, and return on assets, Apple leads the competition. All things considered, Apple makes more money than Tesla and Lenovo together.

### 3.3. Market ratio

The term "market ratio" describes a variety of ratios that are applied when assessing the performance and market worth of a business. A metric used to assess a company's worth is the price-to-earnings (P/E) ratio. The Price-to-Book (P/B) ratio is one way to measure book value. A financial metric known as dividend yield shows how much yearly dividend income, relative to the stock's present market value, an investor may anticipate from a particular investment. The Price/Earnings to Growth (PEG) ratio is a financial metric that evaluates the correlation between a firm's price-to-earnings (P/E) ratio and its anticipated rate of profit expansion. The Table 3 below shows the following P/E, P/B, dividend yield, and PEG ratio data:

**Table 3. Market Ratio**

Market Ratio	P/E	P/B	Dividend yield	PEG
Apple	28.6	44.09	0.5%	2.5
Tesla	67.3	16.5	0%	1.9
Lenovo	12.5	1.67	3.3%	0.7

Due to their high PE and PB ratios, all of the firms on the graph above are growth stocks. For each of the three corporations, the dividend yield is less than 4%. PEG ratios are higher than one for Tesla and Apple. However, Lenovo's PEG ratio is less than 1.

#### **4. Asset Selection**

The five different investor categories that were chosen for this paper's examination of these three equities are shown in the Table 4 below.

**Table 4. Investing Selection**

	Apple	Tesla	Lenovo
Value	No	No	No
Income	No	No	Yes
PEG	No	No	Yes
Index	Yes	Yes	Yes
Momentum	Yes	Yes	Yes

A company's profits and dividends are examined as part of fundamental analysis, which also takes interest rate forecasts into account and evaluates the degree of risk associated with the business [9]. Making investment selections gets considerably more difficult in the banking industry, where a multitude of factors impact the market [10].

The table indicates that these three firms are overpriced due to their high PE and PB ratio, making them unappealing to value investors. Due to their below 3% dividend yield, Apple and Tesla are unlikely to pique the interest of income investors. Because Apple and Tesla have a PEG ratio of less than 1, PEG investors will not be interested in them. Because Lenovo is included in the Hang Seng Corporate Sustainability Index, investors will purchase it, as do Apple and Tesla in the US 500. Momentum investors would invest in all three firms since their 50-day moving averages are higher than their 200-day moving averages.

#### **5. Conclusion**

This essay examines the finances of three well-known tech firms: Lenovo, Tesla, and Apple. Each of the three is involved in a distinct industry category. By analyzing financial data for August 2024 and exploring the difficulties encountered by five investor profiles, this study seeks to provide insightful investing ideas for a variety of investors. These profiles include a range of strategies, including momentum, value, income, PEG, and index. According to the analysis, investors who follow Index and Momentum are more likely to buy all three equities. The investigation yielded valuable insights that are utilized to create portfolios with tailored investing strategies for five distinct investor types.

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