

Software Industry Insights: A Financial Dive into Airbnb, Uber, and Lyft

Mengyuan Yang *

College of Arts and Science, New York University, USA

* Corresponding Author Email: my2443@nyu.edu

Abstract. This paper's topic is related to the software industry's investment potential and risks, and it focuses on three prominent technology companies: Airbnb, Uber, and Lyft. The paper also provides a comprehensive analysis of these companies through various financial indicators, including risk, profitability ratios, and market ratios. It assesses the financial stability and market performance using metrics such as market capitalization, beta, debt ratio, and current ratio, revealing each company's risk profile. The profitability part contains the profit margin, return on assets (ROA), and return on equity (ROE), showing companies' earning capabilities. Furthermore, market ratios such as price-to-earnings (P/E), price-to-book (P/B), dividend yield, PEG, and momentum offer insights into the companies' valuation and investor sentiment. The paper concludes with an investment selection table that categorizes the companies based on the preferences of different types of investors, including value, income, PEG, index, ratio analysis, and momentum, providing a strategic overview for making informed investment decisions in the dynamic software industry landscape.

Keywords: Software; Risk; Profitability; Market ratios; Investors.

1. Introduction

In today's economic environment, investment is becoming increasingly important. Firstly, investment is not only an important way to get personal wealth growth, but also a key factor in business development and economic growth. Second, Investing can help individuals achieve their financial goals. By investing, individuals can turn idle funds into assets, thereby gaining capital appreciation and income. For example, investing in assets such as stocks, funds, and real estate can generate substantial returns over the long term, helping individuals achieve wealth accumulation and financial freedom.

Nowadays, people are in an era driven by technological innovation. The software industry reinforces the digitization of various industries and brings new vitality into the global economy [1]. Moreover, the software industry is ushering in unprecedented growth opportunities. Investors' focus on the software industry is centered on its sustained growth potential, strong innovation capabilities, and relatively high industry barriers to entry. This article aims to provide investors with a comprehensive understanding about the investment benefits and risks in the software industry.

2. Profiles

Airbnb is a global community-driven platform that connects millions of hosts and guests from around the world. It is a tourist home rental community where users can upload, search for vacation home rentals and finish the online booking process with the website or mobile app. It allows individuals to rent or lease short-term housing, including apartments, homestays, or hotel rooms. The company's impact on the hospitality industry is reflected in enabling people to monetize unused space and providing travelers with appropriate options.

Uber is a leading technology company that operates a platform providing peer-to-peer ridesharing, ride service, food delivery, and courier services. It started with the simple idea of tapping a button, getting a ride, and has since expanded across more than 600 cities worldwide. Uber has transformed urban transportation by offering a convenient, on-demand alternative to traditional taxis. Its mobile



app allows users to request rides and track their drivers in real-time. Beyond ridesharing, Uber has ventured into other areas such as Uber Eats, which connects users with local restaurants for food delivery, and Uber Freight, which facilitates logistics and trucking services.

Lyft is a peer-to-peer transportation company that operates in the United States and Canada, offering a platform for drivers to provide rides to passengers through a mobile app. Lyft is known for its distinctive pink mustache that was once displayed on the front of driver vehicles, symbolizing the company's friendly and approachable brand image. The company has been a key player in the shift towards sustainable and shared transportation solutions, with a target to improve people's lives with the world's best transportation.

3. Financial Indicators

The financial indicators are key metrics used to evaluate a company's financial health and performance. This paper collected relevant data from Yahoo Finance.

3.1. Risk

Risk analysis in stock evaluation involves assessing the financial safety and market performance of a company to determine the potential for loss or volatility [2]. Key metrics in this analysis include market capitalization, which reflects the company's total value and can indicate its size and investor confidence; the current ratio, which measures companies' abilities to deal with its short-term liabilities with their most liquid assets, providing insight into its liquidity and short-term solvency; the debt ratio, which compares a company's total debt to its assets or equity, revealing the degree of leverage and financial risk undertaken by the company [3]; and beta, which quantifies the stock price volatility relative to the whole stock market, with a higher beta suggesting greater risk and potential for higher returns. The relevant indicators of Airbnb, Uber, and Lyft are shown in Table 1 below.

Table 1. Risk.

	Airbnb	Uber	Lyft
Market cap	93.58B	140.65B	4.98B
Beta	1.19	1.36	2.07
Debt ratio	17.12%	66.26%	42.41%
Current ratio	1.44	1.21	0.82

From these data, Uber has the most market cap among the 3 technology companies, but it also has the biggest debt ratio. Uber's large market capitalization reflects its significant global presence and the expansive reach of its ridesharing, food delivery, and logistics services, which are highly valued by investors for its potential growth and market dominance. However, its high debt ratio may be attributed to aggressive expansion strategies, substantial investments in new technologies and markets, and the capital-intensive nature of its operations, which have led to increased borrowing to fund these initiatives and sustain its competitive edge. Meanwhile, Airbnb has the least beta and debt ratio, which means it has the least risk, it may be a good choice for stable investing. However, Lyft has the biggest beta and relatively big debt ratio, its current ratio is even less than 1. People will probably not buy Lyft because its low ability to deal with debt and liability.

3.2. Profitability

Profitability analysis is a critical component of stock evaluation that focuses on assessing the ability of a company to get profits from its operating activities and assets. In this study, several indicators, such as total asset turnover ratio, profit margin, ROA, and ROE, were selected to reflect profitability [4]. The total asset turnover helps investors and analysts understand how well a company is utilizing its assets to produce income and whether it is operating efficiently. The profit margin reveals the percentage of sales that a company retains as profit after all expenses are deducted, showcasing the

company's pricing strategy and cost management. The return on assets (ROA) illustrates the profit a company can earn from its assets, providing a sense of how well the company uses its assets to generate earnings. Similarly, the return on equity (ROE) measures the return on investment for shareholders, reflecting the company's ability to generate profits from the capital advanced by its shareholders [5]. The relevant indicators of Airbnb, Uber, and Lyft are shown in Table 2 below.

Table 2. Profitability.

	Airbnb	Uber	Lyft
Total asset t/o	0.09	0.74	0.67
Profit margin	48.23%	3.60%	-3.94%
ROA	4.56%	2.68%	-2.63%
ROE	74.91%	15.59%	-42.19%

From the above data, Airbnb has the largest Profit margin, ROA, and extraordinarily high ROE, which means it is the most profitable. Uber is just in the middle, with relatively small profit margin and ROA ROE compared to Airbnb. However, Lyft is the most special. Since it has all 3 negative data, it might not be a good choice for most people. In many technology cases, it is usual to have negative profits because they need time and money to develop their technology.

3.3. Market ratios

Market ratio analysis is an essential method for investors to assess a stock relative to its market price and other companies within the same industry. In this paper, P/E, P/B, PEG and other indicators were selected to reflect the market ratios [6]. The Price-to-Earnings (P/E) ratio is a measure of a stock's price relative to earnings per share (EPS), offering insights into the expectations for a company's future growth. The Price-to-Book (P/B) ratio measures the stock's price in relation to its book value, indicating how much investors wish to pay for each dollar of the company's net assets [7]. Dividend yield provides a way to calculate the annual dividend income as a percentage of the stock's current market price, which is particularly important for income investors. The Price/Earnings to Growth (PEG) ratio combines the P/E ratio with the company's earnings growth rate, helping to identify stocks that may be undervalued or overvalued relative to their growth prospects [8]. Momentum, typically measured by the price change over a specific period, reflects the stock's recent performance and can indicate the strength of the trend. The relevant indicators of Airbnb, Uber, and Lyft are shown in Table 3 below.

Table 3. Market Ratios.

	Airbnb	Uber	Lyft
P/E	19.81	106.84	0.9
P/B	11.90	12.72	10.13
Dividend Yield	0	0	0
PEG	13	1.36	1.76
Index Y/N	Yes	Yes	No
Ratio Analysis	Yes	Yes	No
Valuation Investor $P=D1/R-g$	NA	NA	NA
Current Stock Price	147.7	67.35	12.36
Momentum (200 days average)	144.75	64.99	14.52

From the above table, PE and PB of Airbnb and Uber are larger than 10 and 1. This could be due to expectations of high future growth, the companies' strong market positions, or the perception of their innovative capabilities and competitive advantages within the technology-driven sectors they operate in. The P/E ratio of Lyft is less than 10, indicating that its stock price is relatively low compared to its earnings per share. This could be due to market expectations of lower future growth, a reflection

of the company’s current financial struggles, or a perception of higher risk among investors. Because all these 3 companies has no dividend yield, which means they do not pay any dividend. In addition, the PEG of Uber is the most close to 1. When comparing the current stock price to the 200 days average, the current price is greater in Airbnb and Uber, which indicates that the market perceives these companies to be undervalued in the long term, as their recent stock prices have exceeded the average price over the past 200 days. This upward momentum may suggest positive investor sentiment, reflecting expectations of continued growth and performance improvement.

4. Asset Selection

Fundamental analysis serves as a cornerstone of finance, providing investors with a systematic approach to dissect a company’s financials, including its earnings, dividends, and risk profile. It enables a deeper understanding of a company’s intrinsic value, which is important for making valid investment decisions in the complex landscape of financial markets, where a myriad of factors continuously influence stock prices and investment strategies [9].

There are various investors, and they will depend their own indicators to choose stocks. Value investors hunt for companies that are undervalued by the market, focusing on fundamentals like low price-to-book ratios and high dividend yields. Income investors, on the other hand, are drawn to stocks with a history of consistent and generous dividend payments, aiming to produce a stable stream of income. PEG investors look beyond traditional valuation metrics by considering a company's price-to-earnings ratio in relation to its earnings growth rate, seeking stocks that are not only affordable but also poised for growth. Index investors take a more hands-off approach, investing in a broad spectrum of stocks through index funds to track the overall market performance, spreading risk across many companies. Then, ratio analysis investors delve into financial statements to scrutinize ratios such as price-to-earnings, debt-to-equity, and return on equity, using these metrics to uncover companies that are financially sound and potentially undervalued. Finally, momentum investors will make investment decisions according to the related data. Each of these investment styles caters to distinct investor profiles. Table 4 are the results of the investing selection.

Table 4. Investing selection.

Types of investors	Airbnb	Uber	Lyft
Value			√
Income			
PEG		√	
Index	√	√	
Ratio Analysis	√	√	
Momentum	√	√	

Depending on this research, value investors will not buy Airbnb and Uber because of their high PE and PB ratio, which means they are overvalued. Income investors will not choose all of three companies because they have no dividend yield. PEG investors will not buy Airbnb and Lyft since their PEG are too large [10]. Airbnb and Uber are in US500 so index investor will buy them. Ratio analysis investors will buy Airbnb and Uber since ROA and ROE of them are relatively large. The current stock price of Airbnb and Uber is greater than 200-days average price so momentum investors will buy the companies.

5. Conclusion

The paper provides a multifaceted analysis of the software industry through an in-depth examination of Airbnb, Uber, and Lyft. By analyzing financial indicators such as risk, profitability, and market ratios, the study offers a nuanced perspective on the companies’ financial health and market standing. The findings underscore the importance of fundamental analysis in evaluating investment

opportunities within the software industry. The paper's investment selection table further aids investors in aligning their investment strategies with their individual preferences. Ultimately, this comprehensive assessment provides investors with useful insight to navigate the complexity of the software industry, enabling them to make informed decisions that are in line with their financial goals and risk tolerance.

References

- [1] L. Huimin. Research on high reliability software: investing into the future of information technology. *Bulletin of the Chinese Academy of Sciences*. (2002).
- [2] C. Alexande. *Market Risk Analysis, Boxset*. John Wiley & Sons. (2009).
- [3] E. Hamid. Analysis of Financial Ratio in Assessing Financial Performance. *International Journal of Education, Information Technology, and Others*. 4 (2021) 550-556.
- [4] S. S. Usman, I. M. Ishak, S. Selvi. Do profitability ratio and market ratio contribute to explain the movement of stock prices of transport companies? *Jambura Science of Management*. 2 (2020) 46-50.
- [5] C. P. Manoppo. The influence of ROA, ROE, ROS, and EPS on stock price. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi*. 3 (2015).
- [6] M. G. Danielson, T. D. Dowdell. The return-stages valuation model and the expectations within a firm's P/B and P/E ratios. *Financial Management*. (2001) 93-124.
- [7] M. A. Trombley. Understanding the peg ratio. *Journal of Investing*. 17 (2009) 22-25.
- [8] D. Nissim, S. H. Penman. Financial statement analysis of leverage and how it informs about profitability and price-to-book ratios. *Review of accounting studies*. 8 (2003) 531-560.
- [9] L. H. Chan. A More Intuitive Formula for the PEG Ratio. *Journal of Risk and Financial Management*. 16 (2023) 214.
- [10] C. J. Lee. Fundamental analysis and the stock market. *Journal of Business Finance & Accounting*. 14 (1987) 131-141.