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# Enhancing Financial Valuation Through DCF Model

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## Abstract
*Financial modelling is a dynamic process that involves creating mathematical representations of financial situations to make informed business decisions. This study aims to predict a margin sentiment advisorys limited company's future financial performance over the next five years through financial modelling, specifically employing Discounted Cash Flow (DCF) valuation. The analysis encompasses two scenarios: optimistic and pessimistic cases. By integrating DCF, which discounts future cash flows to present value, the study provides a nuanced evaluation of potential outcomes, offering a comprehensive understanding of the company's financial trajectory under various circumstances. In the optimistic scenario, the project yields favourable outcomes, with substantial increases in revenues reflecting positive overall growth and financial health. Conversely, in the worst-case scenario, the project results in decreased revenues, working capital, and a decline in enterprise value. In conclusion, employing discounted cash flow analysis for financial forecasting provides a comprehensive and forward-looking approach. By factoring in the time value of money, it enhances decision-making for sustainable business growth.*

***Keywords:*** *Financial Modelling, Discounted Cash Flows, Working Capital, Optimistic Case, Pessimistic Case.*

## 1. Introduction
Financial modelling is a sophisticated analytical technique employed to project a company's financial performance, incorporating complex mathematical and statistical tools. It involves creating comprehensive mathematical representations of financial scenarios, facilitating strategic decision-making by assessing potential outcomes [1]. This dynamic discipline is crucial for various financial endeavours, such as valuation, budgeting, and scenario analysis. The discounted cash flow (DCF) model is a sophisticated financial valuation method employed to ascertain the intrinsic value of an investment [2]. It hinges on forecasting future cash flows and then discounting them back to their present value using a predetermined discount rate [3]. This meticulous approach facilitates a nuanced understanding of an asset's true worth, accounting for the time value of money [4].

### 1.1. Purpose of the Study
The present study aims to predict the future financial landscape involves employing discounted cash flow (DCF) modulation to assess organizational performance over the next five years. This analysis will explore scrutinizing data across three distinct scenarios, facilitating a comprehensive understanding of potential trajectories and enabling informed decision-making. The study confined to DCF (Discounted Cash Flow) modulation to forecast the next five years of financial data (Profit and Loss A/C, Balance sheet) for Margin Sentiment Advisorys Limited Company.

### 1.2. Objectives of the Study
- To explore financial model using DCF modulation to project financial data, taking into account various financial parameters and assumptions [5].
- To analyse and interpret the projected financials.
- To evaluate the impact of different scenarios and assumptions on the financial outlook.

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### 1.3. Methodology

This study employs an exploratory approach by utilizing discounted cash flow models to delve into future data scenarios. The sample pertains to data extracted from Margin Sentiment Advisory Limited, encompassing financial records spanning the previous three years. This dataset comprises information from both income statements and balance sheets. This study employs Microsoft Excel for data analysis, utilizing its functionalities to analyse and interpret research findings effectively.

## 2. Literature Review

**E. Y. Selezneva, Y. Y. Rakutko, O. S. Temchenko, D. V. Skalkin, and V. Belik (2021)** emphasize the critical importance of enhancing Russia's investment climate for fostering international cooperation. They advocate for the utilization of discounted cash flow (DCF) analysis to evaluate the viability of investing in a company. Addressing concerns about the evaluation standards in Russia, the authors propose enhancements to the DCF methodology to better assess corporate attractiveness. Investors, aiming to achieve their financial objectives, view this strategy as most suitable. In the DCF technique, cash flow, rather than profit, serves as the basis for estimating a company's revenue.

**Hiren Patel (2018)** in his research focused on the concept of target price in financial markets, typically set by analysts or advisors. Patel's study delved into various financial factors, market demand, and expectations to evaluate the accuracy of these target prices. The study aimed to achieve two main objectives: constructing a model for target price attainment and another for target price accuracy assessment. Specifically, Patel examined the National Stock Exchange (NSE) banking stocks within the Indian context. Through rigorous modelling, Patel identified key indicators for assessing target price accuracy in Indian banking firms, notably emphasizing financial performance metrics and the price-to-book ratio.

**Marek Capinski's (2006)** studied the direct approach, that relies on two key factors: shareholder cash flow and the equity rate of return. The analysis is typically conducted over multiple periods, with intervals of one year between them. The final value is determined by discounting the perpetuity of cash flows beyond the forecast horizon, assuming a constant structure.Capinski's methodology assumes an unlevered business's cost of capital, while the initial investment cost is assumed to be known.

## 3. Result Analysis

### 3.1. Assumptions

- The revenues were assumed through difference between last year revenues.
- Cost of goods sold, operating expenses, D&A are assumed as percentage of revenues.
- PP&E and other liabilities are assumed as percentage of revenues.
- Trade payables are calculated based on debt payable period.
- Trade receivables are calculated based on debt collection period.
- Tax rate was calculated based on historical tax.

**Interpretation**

The revenue growth of the company from FY21 to FY28 shows a consistent upward trend, reflecting a strong and steady expansion in its business operations. In FY21, the company's revenue stood at INR 2,50,000, which grew to INR 4,15,000 in FY22, marking a significant increase. This growth continued in FY23, with revenues reaching INR 5,00,000, showcasing a continued upward trajectory. The forecasted revenues for FY24, FY25, FY26, FY27, and FY28 further illustrate the company's anticipated growth. The revenue is expected to increase to INR 6,25,000 in FY24, representing a notable growth rate. This growth is projected to continue, with revenues forecasted to reach INR 7,81,250 in FY25, INR 9,76,563 in FY26, INR 12,20,703 in FY27, and INR 15,25,879 in FY28.The consistent growth in revenues over the years indicates the company's effective strategies in capturing market opportunities, expanding its customer base, and increasing its market share. The forecasted revenue figures demonstrate the company's optimistic outlook and its ability to capitalize on future growth prospects is show in Table 1&2, Figure 1.

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### 3.2. Optimistic Case

**Table 1 Projected Profit and loss accounts for next 5 years**

| | FY21 Actual | FY22 Actual | FY23 Actual | FY24 Forecast | FY25 Forecast | FY26 Forecast | FY27 Forecast | FY28 Forecast |
|---|---|---|---|---|---|---|---|---|
| Revenues | 2,50,000 | 4,15,000 | 5,00,000 | 6,25,000 | 7,81,250 | 9,76,563 | 12,20,703 | 15,25,879 |
| **Total revenues** | **2,50,000** | **4,15,000** | **5,00,000** | 6,25,000 | 7,81,250 | 9,76,563 | 12,20,703 | 15,25,879 |
| Cost of goods sold | (75,000) | (1,24,000) | (1,50,000) | (1,56,250) | (1,95,313) | (2,44,141) | (3,05,176) | (3,81,470) |
| **Gross margin** | **1,75,000** | **2,91,000** | **3,50,000** | 4,68,750 | 5,85,938 | 7,32,422 | 9,15,527 | 11,44,409 |
| Operating expenses | (4,02,000) | (4,35,300) | (4,58,920) | (5,31,250) | (6,64,063) | (8,30,078) | (10,37,598) | (12,96,997) |
| **EBITDA** | **(2,27,000)** | **(1,44,300)** | **(1,08,920)** | (62,500) | (78,125) | (97,656) | (1,22,070) | (1,52,588) |
| D&A | (86,177) | (40,194) | (21,866) | (18,750) | (23,438) | (29,297) | (36,621) | (45,776) |
| **EBIT** | **(3,13,177)** | **(1,84,494)** | **(1,30,786)** | (81,250) | (1,01,563) | (1,26,953) | (1,58,691) | (1,98,364) |
| **EBT** | **(3,13,177)** | **(1,84,494)** | **(1,30,786)** | (81,250) | (1,01,563) | (1,26,953) | (1,58,691) | (1,98,364) |
| Tax rate | -3% | -1% | 0% | -2% | -2% | -2% | -2% | -2% |
| Taxes | 8,611 | 1,604 | 442 | 1,625 | 2,031 | 2,539 | 3,174 | 3,967 |
| **Net income** | **(3,04,566)** | **(1,82,890)** | **(1,30,344)** | **(79,625)** | **(99,531)** | **(1,24,414)** | **(1,55,518)** | **(1,94,397)** |

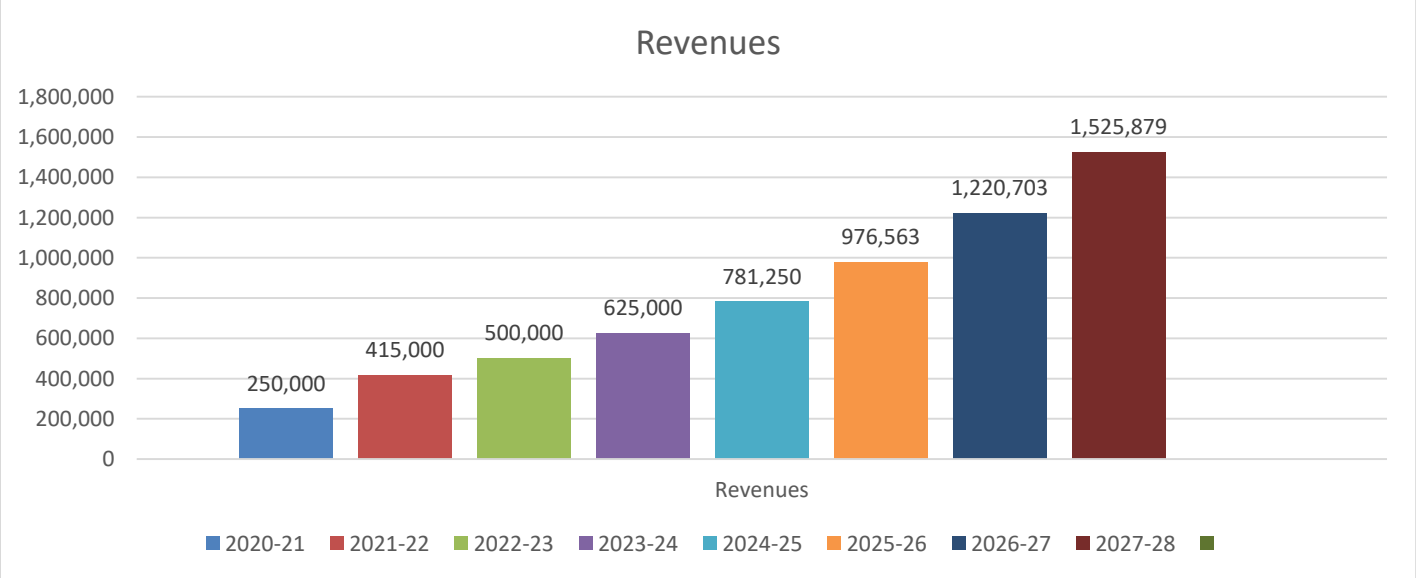


**Figure 1 Yearwise Revenues**
**Source: Extracted From Profit and Loss Account**

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**Table 2 Projected Balance Sheet for Next 5 Years**

| | 31Dec16 Actual | 31Dec17 Actual | 31Dec18 Actual | 31Dec19 Forecast | 31Dec20 Forecast | 31Dec21 Forecast | 31Dec22 Forecast | 31Dec23 Forecast |
|---|---|---|---|---|---|---|---|---|
| PP&E | 1,06,324 | 65,409 | 43,543 | 1,39,582 | 1,74,478 | 2,18,097 | 2,72,621 | 3,40,777 |
| Trade receivable | 25,000 | 30,000 | 12,500 | 15,625 | 19,531 | 24,414 | 30,518 | 38,147 |
| Other assets | 12,000 | 13,200 | 10,000 | - | - | - | - | - |
| Cash and equivalents | 67,472 | 7,870 | 10,281 | (17,692) | (14) | 22,083 | 49,705 | 84,232 |
| **Total Assets** | **2,10,796** | **1,16,479** | **76,324** | **1,37,515** | **1,93,995** | **2,64,594** | **3,52,843** | **4,63,155** |
| Trade payable | 81,750 | 1,04,050 | 1,40,320 | 1,46,167 | 1,82,708 | 2,28,385 | 2,85,482 | 3,56,852 |
| Other liabilities | 2,33,611 | 3,01,103 | 3,55,907 | 4,94,127 | 6,17,658 | 7,72,073 | 9,65,091 | 12,06,364 |
| Shareholders' equity | (1,04,565) | (2,88,674) | (4,19,903) | (5,02,778) | (6,06,372) | (7,35,864) | (8,97,729) | (11,00,061) |
| **Total Liabilities & Equities** | **2,10,796** | **1,16,479** | **76,324** | **1,37,515** | **1,93,995** | **2,64,594** | **3,52,843** | **4,63,155** |

### 3.3. Pessimistic Case:

**Table 3 Projected Profit and Loss Accounts for Next 5 Years**

| | FY21 Actual | FY22 Actual | FY23 Actual | FY24 Forecast | FY25 Forecast | FY26 Forecast | FY27 Forecast | FY28 Forecast |
|---|---|---|---|---|---|---|---|---|
| Revenues | 2,50,000 | 4,15,000 | 5,00,000 | 5,75,000 | 6,61,250 | 7,60,438 | 8,74,503 | 10,05,679 |
| **Total revenues** | **2,50,000** | **4,15,000** | **5,00,000** | 5,75,000 | 6,61,250 | 7,60,438 | 8,74,503 | 10,05,679 |
| Cost of goods sold | (75,000) | (1,24,000) | (1,50,000) | (2,01,250) | (2,31,438) | (2,66,153) | (3,06,076) | (3,51,988) |
| **Gross margin** | **1,75,000** | **2,91,000** | **3,50,000** | 3,73,750 | 4,29,813 | 4,94,284 | 5,68,427 | 6,53,691 |
| Operating expenses | (4,02,000) | (4,35,300) | (4,58,920) | (5,46,250) | (6,28,188) | (7,22,416) | (8,30,778) | (9,55,395) |
| **EBITDA** | **(2,27,000)** | **(1,44,300)** | **(1,08,920)** | (1,72,500) | (1,98,375) | (2,28,131) | (2,62,351) | (3,01,704) |
| D&A | (86,177) | (40,194) | (21,866) | (28,750) | (33,063) | (38,022) | (43,725) | (50,284) |
| **EBIT** | **(3,13,177)** | **(1,84,494)** | **(1,30,786)** | (2,01,250) | (2,31,438) | (2,66,153) | (3,06,076) | (3,51,988) |
| **EBT** | **(3,13,177)** | **(1,84,494)** | **(1,30,786)** | (2,01,250) | (2,31,438) | (2,66,153) | (3,06,076) | (3,51,988) |
| Tax rate | -3% | -1% | 0% | -4% | -4% | -4% | -4% | -4% |
| Taxes | 8,611 | 1,604 | 442 | 5,760 | 6,912 | 8,294 | 9,953 | 11,944 |
| **Net income** | **(3,04,566)** | **(1,82,890)** | **(1,30,344)** | **(1,38,240)** | **(1,65,888)** | **(1,99,066)** | **(2,38,879)** | **(2,86,654)** |

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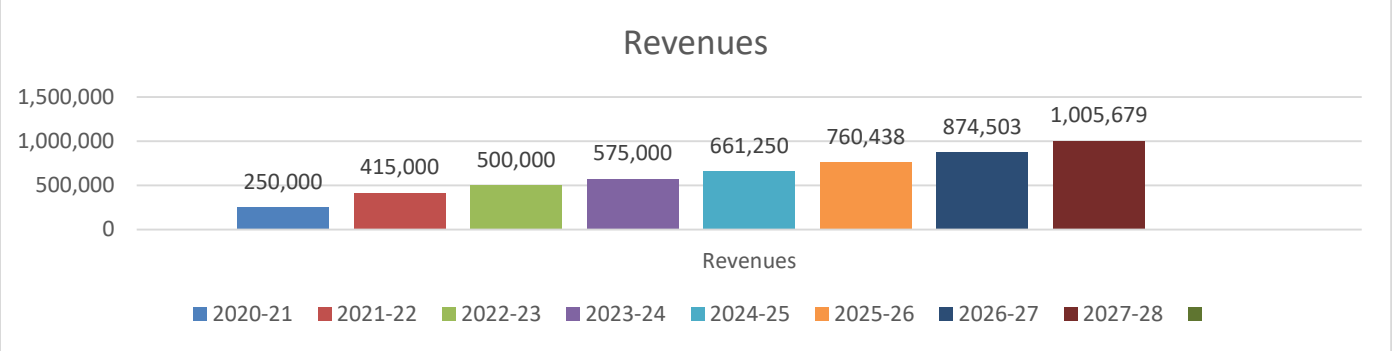


**Figure 2 Revenues**
**Source: extracted from profit and loss account**

**Interpretation:**
The financial data provided shows a consistent growth pattern in revenues for Margin Sentiment Advisory S Limited over the past years and forecasts a continued increase in the coming years. The company's revenue grew from 2,50,000 in FY21 to 4,15,000 in FY22, and further to 5,00,000 in FY23. The forecast suggests a steady growth trajectory, with revenues expected to reach 10,05,679 by FY28. The growth in revenues could be attributed to various factors, such as an increase in the client base, expansion into new markets, or the introduction of new products or services. The company's ability to maintain this growth will depend on its ability to adapt to changing market conditions, manage costs effectively, and continue to innovate. It is essential for the company to monitor its financial performance closely and make strategic decisions to sustain its growth momentum in Table 3&4, Figure 2.

**Table 4 Projected Balance Sheet for Next 5 Years**

| | 31Dec21 Actual | 31Dec22 Actual | 31Dec23 Actual | 31Dec24 Forecast | 31Dec25 Forecast | 31Dec26 Forecast | 31Dec27 Forecast | 31Dec28 Forecast |
|---|---|---|---|---|---|---|---|---|
| PP&E | 1,06,324 | 65,409 | 43,543 | 1,28,416 | 1,47,678 | 1,69,830 | 1,95,304 | 2,24,600 |
| Trade receivable | 25,000 | 30,000 | 12,500 | 14,375 | 16,531 | 19,011 | 21,863 | 25,142 |
| Other assets | 12,000 | 13,200 | 10,000 | - | - | - | - | - |
| Cash and equivalents | 67,472 | 7,870 | 10,281 | (1,25,109) | (2,86,165) | (4,71,380) | (6,84,376) | (9,29,322) |
| **Total Assets** | **2,10,796** | **1,16,479** | **76,324** | **17,681** | **(1,21,956)** | **(2,82,539)** | **(4,67,210)** | **(6,79,581)** |
| Trade payable | 81,750 | 1,04,050 | 1,40,320 | 1,88,263 | 2,16,502 | 2,48,977 | 2,86,324 | 3,29,273 |
| Other liabilities | 2,33,611 | 3,01,103 | 3,55,907 | 4,54,596 | 5,22,786 | 6,01,204 | 6,91,384 | 7,95,092 |
| Shareholder s' equity | (1,04,565) | (2,88,674) | (4,19,903) | (6,25,178) | (8,61,244) | (11,32,720) | (14,44,918) | (18,03,945) |
| **Total Liabilities & Equities** | **2,10,796** | **1,16,479** | **76,324** | **17,681** | **(1,21,956)** | **(2,82,539)** | **(4,67,210)** | **(6,79,581)** |

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## 4. Observations

In all three scenarios—optimistic, base, and pessimistic—the company's revenue is projected to increase. This suggests that the company is expected to experience growth in its top-line income across a range of potential future outcomes. In all three scenarios, operating expenses are projected to be higher, indicating potentially increased costs across various operational aspects such as administration, marketing, and maintenance. In both cases, the cost of goods sold is increasing, which suggests higher expenses related to producing or acquiring goods for sale, impacting profitability and financial performance. In the optimistic scenario, the net worth of Margin Sentiment Advisory S Limited is projected to grow, reflecting strong financial performance and positive future prospects.

## Conclusion

Margin Sentiment Advisorys Private Limited is experiencing positive revenue growth but faces challenges in managing operating expenses, working capital deficits. To address these challenges, the company should focus on revenue growth strategies to sustain and enhance its increasing revenue trend. Implementing cost-cutting measures or efficiency improvements can help manage and reduce operating expenses. In nut shell, Margin Sentiment Advisory S Limited should prioritize revenue growth, cost management, working capital management, and enterprise value enhancement to ensure long-term financial sustainability and resilience in the face of changing market conditions.

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