Financial Modelling and Valuation - An Empirical Investigation on Indian Hotels Company Ltd, Vijayawada, AP

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Abstract

Financial modelling is one of the most sought-after but poorly understood talents in financial analysis. In order to estimate a company's future performance, financial modelling combines accounting, finance, and business measurements. In order to forecast a company's financial performance into the future, a financial model is just a spreadsheet, typically created in Microsoft Excel. A three-statement model, which includes an income statement, balance sheet, cash flow statement, and supporting schedules, is required to create the forecast, which is often based on the company's previous performance and future projections. The construction of advanced models, such as discounted cash flow analysis (DCF model), leveraged buyout (LBO), mergers and acquisitions (M&A), and sensitivity analysis, can then be started using the company's historical financial data to forecast its future performance

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KEY WORDS: Financial Analysis, valuation, Risk Management**,** Compound Annual Growth Rate. Net Asset Value

1. INTRODUCTION:

Financial modelling is the process of compiling a spreadsheet-based overview of a company's costs and profits that can be used to estimate the effects of a potential event or choice. For business executives, a financial model has various applications. Financial modelling is a technique whereby we forecast future performance and help the stakeholders, including investors, management, employees, consumers, and many others who are connected to that specific organization. This will assist the stakeholders in

making their individual decisions in accordance with their roles as they relate to the business. By utilizing a variety of tools, methodologies, and strategies, financial modelling will also assist in determining the company's valuation. The methods, tools, or strategies will be employed depending on the company and the predicted financial statements, such as the balance sheet and the profit and loss accounts.

2. Review of literature

Financial modelling often entails simulating the traits, tendencies, and financial ramifications of a single financial asset or a portfolio of assets, ranging from loan and lease agreements to different securities and derivatives. The traditional models, such Markowitz portfolio choice and Black-Scholes option pricing, are covered in most university curricula. A significant amount of literature is devoted to the modelling of financial assets as time series, employing stochastic mathematical tools as well as neural network architectures, given that "time and uncertainty are the central elements that influence financial behaviour. By definition, equity securities do not include pre-determined cash flows to holders that are suited for modelling, in contrast to a number of other asset classes. Instead, equity modelling goal is to determine a security's worth using one of two basic methods: technical analysis for listed securities or fundamental analysis for ownership stakes that are not publicly traded. Technical theory primarily focuses on market data time series (prices and volumes of traded assets), under the premise that "market value is solely determined by the interaction of supply and demand." Fundamental theory, in contrast, "believes that each security has an intrinsic value that depends upon its earning potential and is primarily interested in the underlying company and economic factors that influence its financial results.". The fundamental analysis was previously limited to a company's past and present but has since been expanded to include estimates of future business success. It was first conceptualized in the 1930s. Decomposing a firm into factors, duplicating its past, and projecting its future using a quantified model are the main tools and prerequisites for this kind of study. The same modelling methods, which were developed particularly quickly in tandem with computer technology in the 1970s and 1980s, are used for internal corporate business planning in addition to investment goals. At the same time, operational researchers paid it a lot of attention. As a result, a useful technique for creating and applying corporate planning models (business plans), which are also sometimes referred to as firm financial

models, evolved. The name "Company Financial Model" (CFM) is used later in the text to set it apart from other kinds of financial models.

3. **Need of Research Investigation :**

Agency managers assess financial announcements to determine the best course of action. Small business owners need financial information to determine their profitability, and stockholders need financial information to assess an employer. Their agency investments are guided by economic assertion analysis. If an employer can make their payments on time, creditors want to know. To anticipate a company's future performance, financial modelling combines accounting, finance, and business measurements. Modeling can be helpful for valuing businesses and deciding whether to raise finance, expand organically, or buy other businesses.

4. **Objectives Of Study:** This research aims to examine the main goal of financial modelling, which is to accurately project a company's future financial performance ,the following are specific objectives of the study:

1. To predict the future performance of the business from the past financial statements.

2. To evaluate company's performance by comparing with competitors.

3. To take the investment decisions in the company.

4. To estimate the additional income expected by the investor.

5. To understand how company share is affected with the market fluctuations.

5. **Data source:**

Secondary data is vital for financial modelling since we will project financial statements based on historical data. Financial statements from numerous websites are the main secondary data sources for this research.

6. **Common uses of Financial Modelling**:

➢ **Valuation:** It estimates a company's value or an investment, such as stocks, bonds, or real estate.

➢ **Forecasting:** You can also use it to forecast line items such as future revenue, expenses, and cash flows.

- ➢ **Budgeting:** Financial modelling helps build budgets and allocate resources based on projections.
- ➢ **Risk management:** Financial modelling also assesses market, credit, or operational risks.

7. Empirical analysis of the Study:

The study period is taken from the Financial Year 2015-16 to Financial Year 2019-20. As, there was an abnormal situation in Financial Year 2020-21 and Financial Year 2021-22 these two years are not considered. To have the accuracy while projecting the financial statements we not consider the past two financial statements. From these past financial statements, we will project next 4 years balance sheets and profit and loss a/c. The projection is done by the Compounding Average Growth Rate (CAGR). From the projected balance sheet and P&L a/c we will value the company. The company valuation will determine the proper value of the company. The company value is determined by the Discounted Cash Flows model (DCF), Comparable Competitors Model (CCM).

Beta will be used to help us understand the risk involved in investing in the firm. The capital asset pricing model will help us determine if the firm is cheap or overpriced. The investor will have the proper understanding about the company where there will have a proper analysis to the company and decide whether to invest in this company or not. The investors will have the understanding on the investment period or holding period in the company. The total analysis was done on excel.

Use compound annual growth rate to forecast balance sheet and income statement (CAGR).

Where sales and other tools will be examined based on market demand.

$$\text{CAGR} = ((\text{BV}/\text{EV})1/n - 1) \times 100$$

Where:

EV=Ending value,

BV=Beginning value,

n=Years

NAV: A fund's net asset value indicates its share price (NAV). Investors buy and sell fund shares at this price (redemption price). A fund's NAV is calculated by dividing its cash and securities portfolio, less liabilities, by its outstanding shares.

NAV = (Assets - Liabilities) / Total number of outstanding shares

BETA: Beta indicates the projected stock movement relative to market movements.

$$\beta = \text{Covar}\ (r_e, r_m)/\ \text{Var}(r_m)$$

Where:

R_e = the return on an individual stock

R_m = the return on the overall market

Covariance = how changes in a stock's returns are related to changes in the market's returns

Variance = how far the market's data points spread out from their average value

7.1 PROJECTED INCOME STATEMENT

Table No: 1 Show Projected Operating Income:

Particulars	Projected Income Statement for the financial years				
	2020	**2023**	**2024**	**2025**	**2026**
Operating Revenue	4,241	4,326	4,413	4,501	4,591
Other Operating Revenue	222	231	240	250	180
Total Operating Revenue	**4,463**	**4,557**	**4,653**	**4,750**	**4,845**
Revenue Growth Rate		2%	2%	2%	2%

Inference: The Company's revenues and costs over the upcoming four years are displayed in the projected income statement. Based on the operating firm's average growth rate, the company is expected to perform very well over the next four years, with a sustainable growth rate of 2%.

Table No: 1 Show Projected Operating Expenditure:

Particulars		2020	2023	2024	2025	2026
Operating Expenses						
	Cost of Goods Sold	1,302.64	1,315.67	1,328.82	1,342.11	1,302.64
	Employee Benefit Expenses	1,494.60	1,509.55	1,524.64	1,539.89	1,494.60
Total operating expense (before depreciation)		2,797.24	2,825.21	2,853.46	2,882.00	2,797.24
EBIDTA		1,665.90	1,731.63	1,799.13	1,868.45	2,047.76
	EBIDTA Margin	37.33%	38.00%	38.67%	39.33%	42.27%
Depreciation & Amortisation		404.24	432.54	462.81	495.21	405.24
Total operating expenses		3,201.48	3,257.75	3,316.28	3,377.21	3,202.48
Operating Revenue		1,261.66	1,299.09	1,336.32	1,373.24	1,642.52
EBIT Margin		28.27%	28.51%	28.72%	28.91%	33.90%

Inference:

- According to projections, the firm is functioning extremely well and is expected to increase significantly in the future, as seen in the above table's Earnings Before Interest, Tax, Depreciation, and Amortization (EBITDA). In which it went up from 37.33% in 2020 to 42.27% in 2026.

- As of right now, the company's earnings before taxes (EBT) margin increased from 8.86% in 2020 to 16.03% in 2026, which bodes well for its future performance.

Table No: 3   Shows   Profit After Tax

Particulars	2020	2023	2024	2025	2026
Other income and expense					
Other Income	132.4	140.4	148.8	157.7	132.4
Interest Expense	(341.12)	(334.30)	(327.61)	(321.06)	(341.12)
Exceptional Items	41	40	40	40	40
Other Expenses	(698.37)	(677.42)	(657.10)	(637.38)	(697.37)
Total other income (expense)	(866.12)	(831.35)	(795.92)	(760.73)	(866.07)
Earnings before taxes	**395.54**	**467.74**	**540.40**	**612.51**	**776.45**
EBT Margin	*8.86%*	*10.26%*	*11.61%*	*12.89%*	*16.03%*
Income taxes	169.15	171.52	173.84	176.06	181.58
Deferred tax	(124)	(21.00)	60.00	(35.00)	(40.00)
Profit After Tax	**350.77**	**317.22**	**426.56**	**401.45**	**554.87**
Net Profit Margin	*7.86%*	*6.96%*	*9.17%*	*8.45%*	*11.45%*

Inference:

- According to the estimates, other costs will decrease from (866.12) to (866.07) in the preceding table, focusing more on profits. Other earnings are also mostly stable.

- From 8.86% to 16.03%, Earnings Before Taxes (EBT) increased.

- Net Profit, or Profit After Tax, is anticipated to rise from 7.86% in 2020 to 11.45% in 2026.

7.2 PROJECTED BALANCE SHEET

Table No: 4   PROJECTION CURRENT ASSET

Particulars	2020	2023	2024	2025	2026
Current assets					
Cash and equivalents	316	414.95	740.55	1,060.99	1,447.16
Accounts receivable, net	290	301.62	313.69	326.23	339.28
Inventory	94	374.44	385.67	397.24	409.16
Loans and Advances	5	4.91	5.06	5.21	5.37
Current Investment	436.24	458.05	480.95	505.00	530.25
Other current assets	297.09	311.94	327.54	343.92	361.11
Total current assets	1,437.31	1,865.92	2,253.46	2,638.60	3,092.34

Inference:

The projected balance sheet in the following table displays the performance of the company's present assets over the subsequent four years. A focus on cash and cash equivalents will also be expanded based on estimation from 1437.31 in 2020 to 2395.34 on an average of 45% may rise in accordance with the forecasts, as current assets are increased so that the firm is performing extremely well on current assets this will make the company more liquidate and have less risk in case of solvency.

Table No: 5 PROJECTION NON-CURRENT ASSETS:

Particulars		2020	2023	2024	2025	2026
Fixed assets						
	Tangible assets	6,854	7,128.09	7,413.21	7,709.74	8,018.13
	Intangible assets	590	602.15	614.19	626.47	639.00
	Goodwill	615	645.31	677.57	711.45	747.03
	Capital WIP	243	250.44	257.96	265.70	273.67
	Intangible Assets Under Development	1	0.98	1.03	1.08	1.13
Net fixed assets		8,302.93	8,626.96	8,963.96	9,314.44	9,678.96
Long Term Loans and Advances		16.65	16.32	15.99	15.67	15.36
Investments		990.35	930.93	875.07	822.57	773.21
Deferred Tax Assets [Net]		76.50	80.33	84.34	88.56	92.99
Other Non-Current Assets		694.52	757.03	825.16	899.42	980.37
TOTAL ASSETS		**11,518.26**	**12,277.48**	**13,017.98**	**13,779.26**	**14,633.22**

Inference:

The projected balance sheet in the table above displays the performance of the company's non-current assets over the following four years.

Since the corporation will have less cash and cash equivalent in the future, non-current assets are not expected to expand. It is 8302.93 in 2020 and 9678.96 in 2026.

Particulars	2020	2023	2024	2025	2026
Current liabilities					
Accounts payable	389.32	412.68	437.44	463.69	491.51
Short Term Borrowings	166.25	186.20	208.54	233.57	261.60
Other Current Liabilities	1,190.79	1,083.62	986.09	897.34	816.58
Short Term Provisions	154.46	160.64	167.06	173.75	180.70
Total current liabilities	**1,900.82**	**1,843.14**	**1,799.14**	**1,768.35**	**1,750.39**

Table No: 6   PROJCTED CURRENT LIABILITIES

Inference:

- The projected balance sheet in the following table displays the performance of the company's current obligations over the subsequent four years.

- Moving on to the obligations Current Liabilities do not rise further as predicted. From 2020 to 2026, current liabilities might drop from 1900.82 to 1750.39.

Table No: 7   PROJCTED NON-CURRENT LIABILITIES:

Particulars		2020	2023	2024	2025	2026
Other Liabilities						
	Long Term Borrowings	2,125.80	1,934.48	1,760.37	1,601.94	1,457.77
	Deferred Tax Liabilities [Net]	186.85	175.64	165.10	155.19	145.88
	Other Provisions	2,061.99	2,474.39	3,216.70	4,181.72	5,436.23
	Long Term Provisions	121.09	133.20	146.52	161.17	177.29
Total long-term liabilities		**4,495.73**	**4,717.70**	**5,288.70**	**6,100.02**	**7,217.17**
Total liabilities		6,396.55	6,560.84	7,087.84	7,868.37	8,967.55
Shareholders' equity						
	Equity Share Capital	118.93	118.93	118.93	118.93	118.93
	Reserves and Surplus	4,011.49	4,195.05	4,328.47	4,170.81	4,293.39
	Profit and Loss a/c	226	258	328	398	485
Total Shareholders' equity		4,356.81	4,571.68	4,775.43	4,687.65	4,896.97
	Minority Interest	764.90	1,144.96	1,154.71	1,223.24	768.70
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY		**11,518.26**	**12,277.48**	**13,017.98**	**13,779.26**	**14,633.22**

Inference:

- The projected balance sheet in the above table displays the company's non-current obligations as well as the performance of equity owners' money over the following four years.

- Non-Current Liabilities rose, rising from 4495.73 in 2020 to 7217.17 in 2026.

- According to the prediction, the corporation might not issue new shares for the ensuing four years, thus the equity share capital remains unchanged.

Company	Share Price Data			No of shares	Market Capitalisation	Enterprise Value	Multiples			
	3 months	6 months	12months				P/E	P/B	EV / EBITDA	EV/ Sales
West life Food world Ltd	366.22	328.07	353.05	16.09	5,278.65	5,459.38	-718.18	9.15	26.07	3.53
EIH Ltd	183.03	173.59	157.06	57.15	9,920.67	10,112.72	60.02	3.16	6.71	6.34
Lemon Tree Hotels Ltd	73.03	65.64	60.00	79.03	5,187.53	6,657.19	-755.10	6.30	26.88	9.94
Chalet Hotels	328.02	321.80	321.89	20.50	6,597.54	8,063.73	64.25	3.96	22.45	8.22
Mahindra Holidays and Resorts India	229.29	225.41	219.90	14.77	3,328.63	4,802.18	-25.20	71.89	11.22	2.02

Table No: 8 Valuation of the Company: Comparable Companies Multiple Method (CCM)

Average	*-274.84*	*18.89*	*18.67*	*6.01*
Median	*-25.20*	*6.30*	*22.45*	*6.34*
PAT	351			
Net Worth		4,357		
EBITDA			1,666	
Revenue				4,463
Enterprise Value			**37,397**	**28,275**
Add: Cash and Cash Equivalent			316	316
Add: Investments at Market Value				
Less: Debt			2,292	2,292
Equity Value	**-8,840**	**27,462**	**35,421**	**26,299**
No. of Shares	119	119	119	119
Value per Share	*-74.3*	*230.9*	*297.8*	*221.1*

Median:

Take the median value in consideration than the average because average will be affected on the values in all the businesses. If there are highest value the average will be affected, if there is extremely low value the value will not be accurate. So, we will consider the median value which is accurate.

Enterprise Value:

The Enterprise Value of the firm is determined by 2 multiples those are EV / EBITDA, EV / Sales

If we calculate the enterprise value by using EV / EBITDA we will get 37,397.

If we calculate the enterprise value by using EV / Sales we will get 28,275.

Equity Value:

Equity value can be calculated by using Enterprise Value.

If we calculate the equity value by using enterprise value calculated by EV / EBITDA we will get 35,421.

If we calculate the equity value by using enterprise value calculated by EV / Sales we will get 26,299.

Table No: 9   Discounted Cash Flow Model (DCF):

Particulars	2020	2023	2024	2025	2026
Net free cash flows	321.59	281.42	356.16	416.08	469.75
Discount factor	0.88	0.78	0.69	0.61	0.54
Present value	284.59	220.39	246.84	255.19	254.96
Terminal value	**4,697.49**				
PV of Projected Year Cash flows	1,261.97				
PV of Terminal Year Cash flows	2549.6				
Total Present Value	**3,811.59**				
Adjustments					
Cash and Cash Equivalents	315.58				
Debt	186.85				
Market Value of Investments	990.35				
Equity Value	**5,304.37**				
No.of shares	119.00				
Value per Share	**0.02**				

Inference:

- The predicted cash flow statements are used to project the discounted cash inflows, which will have the appropriate discounting factor.

- To determine the correct valuation of the firm, future cash flows are converted into current values using the discounting factor.

- The supporting calculations exist for the discounting factor.

- The discounted cash flow statement will, in a nutshell, convert future anticipated cash flows into present value and use it to calculate the company's worth.

- The company's Terminal Value is 4,697.49
- As there are 119 crore shares outstanding, the firm's total current value is 3811.59, its equity value is 5304.37, and its value per share is 0.02 crores.

Table No: 10   BETA:

	Company Name		D/E Ratio	5 Years Beta	Unlevered
1	Westlife Food Ltd		5.90	-0.009	(0.00166)
2	EIH Ltd		3.68	0.023	0.00608
3	Mahindra Holidays and Resorts India		11.88	0.121	0.01225
Average					0.00556
Median					0.00608
D/E ratio					0.24683
Releveled Beta					**0.00658**
IHCL Beta					**0.0163**

Inference:

- The company has the competitors where there will be have the proper risk coverage their will have the beta value where the investors have to invest based on the value.
- The value of D/E ratio is Westlife Food Ltd is 5.90, EIH Ltd is 3.68 and Mahindra Holidays and Resorts India is 11.88
- The median for the company is 0.00608.
- The beta value for the IHCL is 0.0163.
- The releveled beta is 0.00658.

- The average for all the competitors is 0.00556.

- If the market return is in for 10% then IHCL return is for 0.658%.

- Which means the company return is not be more effected with market return.

8. CORRELATION:

CORRELATION	0.0079

- Correlation will show the relationship between two variables

- Here it shows the relation between market value and the correlation is 0.0079

- Which means there is no proper relation between market value and the IHCL share price.

- The share price will not affect more with market value price.

- There is very weak relation between market value and IHCL share price.

9. STUDY OBSERVATIONS AND DISCUSSIONS

- ❖ From the above study we found that the IHCL have good valuation as a whole where the company is performing very well.

- From the analysis we found that the company is going to do the forecasted cash flow statement can understand the cash which in the hand for next 4 years in the company

- ❖ Cash is the main asset for the company to survive.

- ❖ The projected income statement shows the company's revenues and expenses performance for next four years.

- ❖ The company is going to perform many very well in the next 4 years where the company will have a sustainable growth rate of 2%.

- ❖ In this shows the formatted Balance Statements. The formatted Balance Sheet for IHCL from the year 2015-16 to 2019-20.

- ❖ This shows the performance of the assets in a perfect format for past 5 years.

- ❖ The performance can be measured in the form of percentage.

❖ There will be 5 years average performance of each and every asset.

❖ Bydetermining the Intrinsic Value of the business, we can know current price and the strike price of the company.

10. Suggestions:

From the above findings found that the company good at its resources and well-versed with their ability to run the whole company, as this company was established in many years back the and have good experience with their business. But in last 2 years they suffered with losses due to COVID-19 pandemic and they don't have any backups to cover. Suggest that there should be some risk management technique to avoid from the uncertain risk in the market. As Tourism and Hospitality industry is the most sensitive industry where it will affect more when compares to other industries. Risk management techniques like maintaining cash reserves and use them in a proper manner to grow in future and this will help to get more benefited while the abnormal situations.

11. Conclusion: Current research indicates that FMs are widely used in corporate finance, both for corporate business planning and basic investment analysis. Because of their descriptive, explanatory, and predictive properties, such models are regarded as crucial decision-supporting tools by business professionals.

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