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Evaluating the Financial Performance of Bharti Airtel: An Analysis of WACC, NPV, IRR, Profitability Index, and Payback Period

Abhishek Narayan Pathak

Abstract:- This research paper aims to conduct a comprehensive financial performance evaluation of Bharti Airtel Limited by analyzing key financial metrics including Weighted Average Cost of Capital (WACC), Net Present Value (NPV), Internal Rate of Return (IRR), Profitability Index (PI), and Payback Period. The project's financial infeasibility is highlighted by a negative Net Present Value (NPV) and a poor profitability index, indicating that the anticipated returns are insufficient to justify the initial investment. Further analysis shows the Internal Rate of Return (IRR) falling below the cost of capital, reinforcing the project's unviability. Additionally, both standard and discounted payback periods exceed ten years, demonstrating an extended timeframe for cost recovery. These findings collectively suggest that Bharti Airtel should explore alternative investment opportunities better aligned with its financial objectives.

I. INTRODUCTION

➢ *The Company: Airtel*

Bharti Airtel Limited, often known as (d/b/a) Airtel, is a New Delhi-based multinational provider of telecommunications services. It runs operations in 18 nations in South Asia, Africa, and the Channel Islands. Currently, Airtel offers 5G service in a few chosen locations as well as 4G and LTE Advanced services across the entirety of India. Depending on the country of operation, currently provided services include fixed-line broadband and phone services. All Indian telecom circles now have access to Airtel's Voice over LTE (VoLTE) technology. It ranks as the second-biggest mobile network operator worldwide and the largest in India. In the first-ever Brandz rating by Millward Brown and WPP plc, Airtel was ranked as India's second-most valuable brand.

Bharti Enterprises and Singtel both control 50.56 percent and 49.44 percent of Bharti Telecom (BTL), which in turn owns 35.80 percent of Bharti Airtel. BTL serves as the holding company for Bharti Airtel.

After Jio, Airtel India is the country's second-largest fixed and mobile phone operator. In addition to these services, Airtel India also offers broadband and pay television. It is led by Sunil Bharti Mittal and provides telecom services under the Airtel name.

➢ *Important Financial Terms*

- *WACC:*

Weighted average cost of capital (WACC) measures the typical after-tax cost of capital for a business from all sources, including common stock, preferred stock, bonds, and other types of debt. The WACC is the typical interest rate that a business anticipates paying to finance its assets.

- *Net present value (NPV):*

Over a period of time, NPV is the difference between present values of cash inflows and outflows. To evaluate the profitability of a proposed investment or project, NPV is used in capital budgeting and investment planning.

- *Profitability Index:*

The profitability index (PI), also known as the value investment ratio (VIR) or profit investment ratio (PIR), is an indicator that depicts how the benefits and expenses of a proposed project are related to one another. The profitability index is determined by dividing the project's original investment by the present value of predicted future cash flows. A project will be deemed more appealing if its PI is greater.

- *Internal Rate of Return (IRR):*

IRR is a financial research statistic that is used to calculate the profitability of possible investments. IRR is a discount rate that, in a discounted cash flow analysis, reduces all cash flows' net present values (NPV) to zero.

- *Payback Period:*

The time it takes to recoup the cost of an investment is referred to as the payback period. It is simply the amount of time it takes an investment to break even

II. LITERATURE REVIEW

The financial health of telecom companies is critical for their sustainability and growth. According to Sharma and Sharma (2012), financial performance indicators, such as profitability, liquidity, and solvency ratios, provide a comprehensive view of a company's operational efficiency and market position. They argue that these indicators are essential for assessing the competitiveness and long-term viability of telecom firms, especially in a dynamic and fast-evolving market like India.

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The Indian telecom sector has undergone significant transformation over the past few decades. The sector has been marked by rapid technological advancements, regulatory changes, and intense competition. According to Muralidharan (2010), the liberalization of the Indian telecom market in the early 2000s led to increased investment and competition, which improved service quality and reduced prices for consumers. However, this competition has also posed challenges for firms like BSNL, which have struggled to maintain market share amidst aggressive pricing strategies from competitors like Bharti Airtel.

BSNL, a state-owned enterprise, has faced several financial challenges in recent years. According to a report by the Comptroller and Auditor General of India (2014), BSNL's financial performance has been adversely affected by factors such as outdated technology, inefficient management practices, and high operational costs. The report highlights that while BSNL has a vast network coverage, its inability to effectively compete with private players has resulted in declining revenue and profitability.

In contrast, Bharti Airtel has consistently demonstrated strong financial performance. Bharti Airtel's annual reports (Bharti Airtel, 2014) indicate a robust growth trajectory driven by innovative service offerings, strategic investments in technology, and effective management. Sharma and Singh (2013) attribute Bharti Airtel's success to its aggressive market expansion strategies and customer-centric approach, which have helped the company capture a significant share of the Indian telecom market.

Comparative studies between BSNL and Bharti Airtel reveal distinct differences in their financial performance. Kumar and Gupta (2015) conducted a comparative analysis of financial performance and found that Bharti Airtel outperformed BSNL in key metrics such as revenue growth, profitability, and market share. Their study attributes Bharti Airtel's superior performance to its strategic investments in infrastructure and technology, which have enhanced its operational efficiency and customer experience.

Additionally, Ghosh (2016) emphasizes that Bharti Airtel's ability to adapt to market changes and leverage technological advancements has given it a competitive edge over BSNL. The research suggests that while BSNL has struggled with financial sustainability, Bharti Airtel's proactive approach in adopting new technologies and expanding its service portfolio has positioned it as a market leader.

- *Objective of the Study*

To assess the financial feasibility of Bharti Airtel's recent investment projects by analyzing key financial metrics such as Net Present Value (NPV), profitability index, and Internal Rate of Return (IRR).

To determine the adequacy of the expected returns from Bharti Airtel's investments in relation to the original capital outlay and the associated cost of capital.

To investigate the repayment durations for both payback and discounted payback periods, and their implications for the recovery of investment expenditures.

To identify and analyze NPV and poor profitability index observed in Bharti Airtel's investment projects.

- *Calculation of Weighted Average Cost of Capital*

Table 1 Bharti Airtel Ltd.

Particular	Shareholder's Funds	Total Debts	Investment
2014	59,756.00	60,721.00	1,20,477.00
2015	39,777.00	67,305.00	1,07,082.00
2016	66,769.30	93,544.20	1,60,313.50
2017	67,456.30	94,531.30	1,61,987.60
2018	69,534.40	92,932.80	1,62,467.20
2019	71,422.20	96,064.90	1,67,487.10
2020	77,144.80	1,25,474.20	2,02,619.00
2021	58,952.70	1,51,554.60	2,10,507.30
2022	66,554.30	1,55,246.20	2,21,800.50
2023	77,562.90	2,16,148.90	2,93,711.80
			∑ 18,08,453.00

(Source- Bloomberg)

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Fig 1 Bharti Airtel Ltd.

➢ *Formula:*

WACC = Ke*We + Kd*Wd

WACC = 10.1%* 0.649 + 8%*0.351

WACC = **9.36%**

➢ *Interpretation:-*

The combined cost of equity and debt financing that Bharti Airtel Ltd. utilizes to fund its operations and investments is reflected in the company's WACC, which stands at 9.4%. This indicator is crucial for assessing the viability of new initiatives or investments since it shows what minimal return the company must provide to satisfy both equity owners and debt holders.

➢ *Calculation of Average Investment*

Calculation of Avg. Investment *(Indian Rupee .in Crores)*

➢ *Formula:*

Average Investment = Sum of Investments / No. of years

Average Investment = 18,08,453.00 / 10

Average Investment= 1,80,845.30

➢ *Calculation of Cash Flows*

Table 2 Calculation of Cash Flows (Indian Rupee .in Crores)

Particular	PAT	Add: Depreciation	Cash Flows
2014	6600.2	7231.3	13831.5
2015	13200.5	7559.7	20760.2
2016	7780.3	9575.3	17355.6
2017	-9925.6	12203.4	2277.8
2018	79.2	13048.6	13127.8
2019	-1869.2	15120.2	13251
2020	-36088.2	20392.1	-15696.1
2021	-25197.6	21997.5	-3200.1
2022	-3863.7	24329.8	20466.1
2023	-89.6	26355	26265.4

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➢ *Calculation of NPV*

Table 3 Calculation of NPV (Indian Rupee .in Crores)

Particular	Cash Flows	Cumulative Cash Flow	DF@9.4%	Discounted Cash Flow	Cumulative Discounted Cash Flow
2014	13831.5	13831.5	0.914	12643.05	12643.05
2015	20760.2	34591.7	0.836	17345.90	29988.96
2016	17355.6	51947.3	0.764	13255.24	43244.20
2017	2277.8	54225.1	0.698	1590.18	44834.38
2018	13127.8	67352.9	0.638	8377.32	53211.70
2019	13251	80603.9	0.583	7729.38	60941.08
2020	-15696.1	64907.8	0.533	-8368.94	52572.14
2021	-3200.1	61707.7	0.487	-1559.64	51012.50
2022	20466.1	82173.8	0.445	9117.57	60130.07
2023	26265.4	108439.2	0.407	10695.74	70825.81
				∑ 70825.81	**∑ 479403.89**

➢ *Formula: -*

NPV = Discounted Cash Flow - Investment

NPV = 70825.81- 1,80,845.30

NPV = -110019.49 Cr.

➢ *Calculation of PI (Profitability Index)*

- *Formula: -*

PI = Discounted Cash Flow / Investment

PI = 70825.81 / 1,80,845.30

PI = 0.391

➢ *Interpretation: -*

The negative net present value (NPV) of Rs. -110019.49 Cr. for Bharti Airtel indicates that the investment's predicted future cash flows have a lower present value than the cost of the initial investment. This suggests that this venture could not be financially feasible as its projected to result in loss rather than a gain is anticipated. According to Bharti Airtel's profitability score of 0.391, the present value of anticipated future cash flows from a project is only 39.1% of the initial investment. This might indicate a financially unappealing prospect since it implies that the project's potential returns are much lower than the investment cost.

➢ *Calculation of IRR*

- ***Calculation of IRR*** *(Indian Rupee .in Crores)*

Table 4 Bharti Airtel Ltd. (Indian Rupee.in Crores)

Particular	Cash Flows	DF@ -8%	Discounted Cash Flow
2014	13831.5	1.086	15034.24
2015	20760.2	1.181	24527.65
2016	17355.6	1.284	22288.26
2017	2277.8	1.395	3179.54
2018	13127.8	1.517	19918.33
2019	13251	1.649	21853.53
2020	-15696.1	1.792	-28136.9
2021	-3200.1	1.948	-6235.35
2022	20466.1	2.117	43345.56
2023	26265.4	2.302	60465.24
			∑ 176240

(Source- Author Compilation)

Table 5 Bharti Airtel Ltd. (Indian Rupee.in Crores)

Particular	Cash Flows	DF@ -9%	Discounted Cash Flow
2014	13831.5	1.098	15199.45
2015	20760.2	1.207	25069.68
2016	17355.6	1.327	23031.14
2017	2277.8	1.458	3321.621
2018	13127.8	1.602	21037.06
2019	13251	1.760	23334.6
2020	-15696.1	1.935	-30374
2021	-3200.1	2.126	-6805.07
2022	20466.1	2.336	47825.83
2023	26265.4	2.567	67448.16
			∑ 189088.5

(Source- Author Compilation)

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➢ *Formula:*

IRR= Lowest Rate + [(NPV@ Lowest Rate) / (NPV@ Lowest Rate - NPV

IRR = -9 + [8243.2 / (8243.2 + 4605.3)] * 1

IRR = -9 + 0.641

IRR = **- 8.35 %**

➢ *Interpretation: -*

Bharti Airtel's internal rate of return (IRR) of -8.35% suggest that rate of return from an investment is less than the cost of capital or the discounted rate i.e., 9.4%. This implies that the investment may not be financially feasible and will probably have a negative net present value.

➢ *Calculation of Payback Period*

Table 6 Calculation of Payback Period (Indian Rupee .in Crores)

Particular	**Cash Flows**	**Cumulative Cash Flow**
2014	13831.5	13831.5
2015	20760.2	34591.7
2016	17355.6	51947.3
2017	2277.8	54225.1
2018	13127.8	67352.9
2019	13251	80603.9
2020	-15696.1	64907.8
2021	-3200.1	61707.7
2022	20466.1	82173.8
2023	26265.4	108439.2
	Average = 10843.92	
Prediction	**Future Cash Flows**	**Cumulative Cash Flow**
2024	10843.92	119283.12
2025	10843.92	130127.04
2026	10843.92	140970.96
2027	10843.92	151814.88
2028	10843.92	162658.8
2029	10843.92	173502.72

- **Note:** Investment= 180845.30 Cr.
- *Formula*

Payback Period = Minimum year + (Amt. left to cover / Amt. of next

Payback Period = 16 + (7342.58 / 10843.92) *12

Payback Period = 16 + 8.12 i.e., **16 years & 8.12 months**

➢ *Interpretation: -*

The Investment won't pay back in 10 years. Average Cash flows is 10,843.92/year in the first 10 years. If continues, the payback period is **16 years & 8.12 months.**

➢ *Calculation of Discounted Payback Period*

Table 7 Calculation of Discounted Payback Period (*Indian Rupee .in Crores)*

Particular	**Cash Flows**	**Cumulative Cash Flow**	**DF@9.4%**	**Discounted Cash Flow**	**Cumulative Discounted Cash Flow**
2014	**13831.5**	**13831.5**	**0.914**	**12643.05**	12643.05
2015	20760.2	34591.7	0.836	17345.90	29988.96
2016	**17355.6**	**51947.3**	**0.764**	**13255.24**	43244.20
2017	2277.8	54225.1	0.698	1590.18	44834.38
2018	**13127.8**	**67352.9**	**0.638**	**8377.32**	53211.70
2019	13251	80603.9	0.583	7729.38	60941.08
2020	**-15696.1**	**64907.8**	**0.533**	**-8368.94**	52572.14
2021	-3200.1	61707.7	0.487	-1559.64	51012.50
2022	**20466.1**	**82173.8**	**0.445**	**9117.57**	60130.07
2023	26265.4	108439.2	0.407	10695.74	70825.81
				Average = 7082.58	
Prediction				**Future Discounted Cash Flow**	**Cumulative Discounted Cash Flow**
2024				7082.58	78573.81
2025				7082.58	85656.39
2026				7082.58	92738.97

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2027				7082.58	99821.55
2028				7082.58	106904.13
2029				7082.58	113986.71
2030				7082.58	121069.29
2031				7082.58	128151.87
2032				7082.58	135234.45
2033				7082.58	142317.03
2034				7082.58	149399.61
2035				7082.58	156482.19
2036				7082.58	163564.77
2037				7082.58	170647.35
2038				7082.58	177729.93
2039				7082.58	184812.51

- **Note:** Investment= 180845.30 Cr.

- *Formula*

Discounted Payback Period = Minimum year + (Amt. left to cover / Amt. o

Discounted Payback Period = 25 + (3115.37 / 7082.58) *12

Discounted Payback Period = 25 + 5.27 i.e., **25 years & 5.27 months**

➢ *Interpretation: -*

With the discount rate of 9.4%, the Investment won't pay back in 10 years. Average discounted Cash flow is Rs. 7,082.58 Cr. / year in the first 10 years. If continues, the discounted payback period is **25 years & 5.27 months.**

III. MANAGERIAL CONCLUSION

Bharti Airtel's investment has unfavorable results across a number of parameters, according to the financial study. The project is not financially feasible since the expected returns are too low to offset the original investment, as shown by the negative NPV and poor profitability index. This conclusion is supported by the IRR, which is below the cost of capital. Additionally, repayment durations that are longer than 10 years for both standard and discounted payback show how long it takes to recover expenditures. These results suggest that Bharti Airtel should look for more potential investment alternatives that are more in line with its financial objectives.

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