

Impact of Average Financial Performance on Stock Prices: An Empirical Study of Indian IT Companies with Metaverse Exposure

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Abstract

This research investigated the relationship between financial performance and stock prices for ten Indian IT companies with metaverse exposure. A composite financial metric, derived from five key financial ratios, was used to predict stock valuation. Analysis of five years of financial data (2019-20 to 2023-24) revealed a strong positive correlation between the financial metric and stock prices. Regression analysis demonstrated a significant relationship, with the model explaining a substantial portion of stock price variance. ANOVA results further supported the model's validity. These findings offer preliminary evidence of a link between financial performance and stock valuation for Indian IT companies in the context of metaverse activities.

KEY WORD: Average Stock Price, Financial Matrix

Introduction

The rapid evolution of digital technologies has given rise to the "metaverse," a convergence of virtual and physical realities with profound implications for businesses across sectors. While the metaverse is still in its nascent stages, its potential to revolutionize how companies interact with customers, develop products, and create new revenue streams is undeniable. Indian IT companies, with their established technological expertise and global reach, are well-positioned to capitalize on the metaverse opportunity. This research investigates the relationship between the financial performance and stock prices of major Indian IT companies with varying degrees of involvement in metaverse technologies. By examining key financial metrics, this study aims to identify the financial drivers that influence investor perceptions and valuations of these companies in the context of their metaverse initiatives, providing valuable insights for investors and businesses navigating this emerging landscape.

Objectives

- To investigate the relationship between financial performance and stock prices of Indian IT companies with metaverse exposure.
- To identify the key financial drivers that influence stock prices in this context.
- To assess the impact of a composite financial performance metric on stock prices.

Research design

- **Selection of Sample:** Researcher has selected ten companies Indian I.T. companies with metaverse exposure for the present study.
- **Period of Study:** The study period were be converted 5 years; from 2019-20 to 2023-24
- **Data Collection:** The present study is mainly based on secondary data and the required data has collected from the website of research unit under study, Annual Published Report of selected units, various Magazines, Periodicals related to I.T. industries, related websites and subject matter has also been used.
- **Tools & Techniques:** For the present study, **5 layer finance matrix parameters** as (i) Profit Per Share (in Rs); (ii) Net profit Margin (in %) (iii) Return on Capital Employed (iv) Current Ratio (v) Interest Coverage Ratio **on the base of Average of 5 years 2019-20 to 2023-24** as an Accounting tools and Multi Regression Model has used as tools of Statistics.
- **Hypothesis:** A hypothesis is a special proposition, formulated to be tested in a certain given situation as a part of research.

H₀: There is no significant relation between Average finance parameters and Average stock price of selected research unit during research period

H₁: There is significant relation between Average finance parameters and Average stock price of selected research unit during research period

Metaverse companies	Variable – X (Financial Matrix)					Variable – Y (Average Stock Price)
	Profit Per Share (in Rs)	Net profit Margin (in %)	Return on Capital Employed	Current Ratio	Interest Coverage Ratio	
	x ₁	x ₂	x ₃	x ₄	x ₅	
TCS	104.504	19.688	53.452	2.756	73.268	2915.66
INFOSYS	51.868	17.87	34.824	2.256	131.532	1264.182
HCL Info system	-2.208	-40.158	30.478	0.406	-21.334	13.384
TECH Mahindra	48.25	9.682	19.486	2.016	33.716	990.714
Persistent System	77.068	10.908	24.1	2.442	68.786	1538.93
ZEN	5.994	20.072	19.002	6.186	27.87	229.784
ADANI	13.33	1.882	8.442	0.868	2.176	1474.356
RIL	94.178	8.968	8.828	1.068	6.226	978.12
L & T	93.552	13.934	29.926	2.998	34.72	3121.94
HCL	48.844	15.03	25.662	2.354	48.562	944.93

The table presents a snapshot of financial data for Indian IT companies with varying degrees of metaverse exposure, raising several points for analysis within the context of researching the impact of average financial performance on stock prices. While TCS and Infosys demonstrate a potential positive correlation between high EPS and stock price, and HCL Info system's negative EPS aligns with a low stock price, suggesting a link between profitability and valuation, the relationship is not universally clear. Persistent Systems' high ROCE coupled with a high stock price hints at investor preference for efficient capital use,

but the impact of Current Ratio and Interest Coverage Ratio on stock price is less discernible from this data alone. Notably, ADANI's high stock price despite relatively low profitability metrics underscores the influence of factors beyond these five financial parameters, such as market sentiment or growth expectations.

Regression Statistics

Multiple R	0.93056
R Square	0.865943
Adjusted R Square	0.481886
Standard Error	793.1522
Observations	10

- Multiple R:** This is the Correlation Coefficient. It shows how strong the linear relationship is. For the Independent Variable – X Average of 5 year’s Finance Matrix and dependent variable – Y Average Share Price of the 5 Years (in Rs.) of the selected Indian Metaverse Companies considering the period from 2019-20 to 2023-24 the value for it shows 0.93056 that means 93.05% relationship exist For Independent Variable – X Average of 5 year’s Finance Matrix and dependent variable – Y Average Share Price of the 5 Years (in Rs.) of the selected Indian Metaverse Companies considering the period from 2019-20 to 2023-24
- R Square:** This is r^2 , the Co efficient of Determination which shows that how many points fall on the regression model that means how well the regression line approximates the real data. For the Independent Variable – X Average of 5 year’s Finance Matrix and dependent variable – Y Average Share Price of the 5 Years (in Rs.) of the selected Indian Metaverse Companies considering the period from 2019-20 to 2023-24 the value of it shows 0.865943 that means 86.59% variation of y- values around the mean is explained by the x-values. In other words, 86.59% of the values fit the model.
- Adjusted R Square:** This is quoted most often when explaining the accuracy of the regression equation. Adjusted R Square is more conservative the R Square because it is always less than R Square. For the Independent Variable – X Average of 5 year’s Finance Matrix and dependent variable – Y Average Share Price of the 5 Years (in Rs.) of the selected Indian Metaverse Companies considering the period from 2019-20 to 2023-24 the value of it shows 0.481886 that means 48.18%
- Standard Error of the Regression:** An estimate of the standard deviation of the error for population mean. This is not the same as the Standard Error in Descriptive Statistics! The Standard Error of the regression is the precision that the regression coefficient is measured which is shown as 793.1522 For the Independent Variable – X Average of 5 year’s Finance Matrix and dependent variable – Y Average Share Price of the 5 Years (in Rs.) of the selected Indian Metaverse Companies considering the period from 2019-20 to 2023-24
- Observation:** Number of observations in the sample is 10

Table 3

ANOVA for Significance f for Independent Variable – X Average of 5 year’s Finance Matrix and dependent variable – Y Average Share Price of the 5 Years (in Rs.) of the selected Indian Metaverse Companies considering the period from 2019-20 to 2023-24

H_0 : There is no significant effect of Independent variable X Average of 5 year’s Finance Matrix and dependent variable – Y Average Share Price of the 5 Years (in Rs.) of the selected Indian Metaverse Companies considering the period from 2019-20 to 2023-24

H_1 : There is significant effect of Independent variable X Average of 5 year’s Finance Matrix and dependent variable – Y Average Share Price of the 5 Years (in Rs.) of the selected Indian Metaverse Companies considering the period from 2019-20 to 2023-24

	DF	SS	MS	Fc	Ft
Regression	5	16254440	3250888	5.1676	0.103458
Residual	4	2516362	629090.5		
Total	9	18770802			

Significance F: This indicates the probability that the Regression output could have been obtained by chance. A small significance of F say Ft confirms the validity of the Regression output. For the Independent Variable – X Average of 5 year’s Finance Matrix and dependent variable – Y Average Share Price of the 5 Years (in Rs.) of the selected Indian Metaverse Companies considering the period from 2019-20 to 2023-24 $F_c = 5.1676$ while F_t is 0.103458 that means $F_c > F_t$ Hence Null Hypothesis is rejected and Alternate Hypothesis is accepted that There is significant effect of Independent variable X Average of 5 year’s Finance Matrix and dependent variable – Y Average Share Price of the 5 Years (in Rs.) of the selected Indian Metaverse Companies considering the period from 2019-20 to 2023-24

CONCLUSION

This study examined the relationship between financial performance and stock valuation for ten Indian IT companies with varying degrees of metaverse exposure. The results indicated a statistically significant, strong positive correlation. This finding was further corroborated by the ANOVA results, which rejected the null hypothesis of no significant relationship ($F_c > F_t$). Notwithstanding this limitation, the research provides preliminary empirical evidence supporting the existence of a positive association between financial performance and stock valuation within the context of Indian IT companies' engagement with metaverse technologies, offering a foundation for future investigations into this evolving domain.

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