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Evaluating financial-based brand equity (FBBE) for Indian brands: A comparative study using multiple valuation methods

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Abstract
This study tries to explore the financial valuation of brand equity for leading automobile brands in India with the help of four analytical models: Price to Sales ratio, Market Value Added, Brand Perpetual Value, and the Simon-Sullivan framework. Attempt has been made to move beyond the conventional consumer-based brand equity and investigate brand equity from the financial perspectives. Findings indicate noticeable disparities in brand equity value across the selected brands, with one brand demonstrating greater stability and economic impact than the other. Each evaluation method has its own assumptions, some sensitive to revenue fluctuations, others shaped by market sentiments or forecasting challenges. By applying multiple methodologies, the research presents a holistic view of financial-based brand equity. This approach reinforces the relevance of financial metrics in brand management, particularly within durable product categories, where brand equity plays a defining role in purchase behavior and competitive differentiation.

Keywords: Financial-based brand equity (FBBE), brand valuation for durable goods, price to sales, market value added (MVA), brand perpetual value, capital market based brand valuation (simon-sullivan) method

Introduction
Conventional frameworks relating to brand equity, introduced by Aaker (1991) [1] and Keller (1993) [4] emphasize consumer-oriented factors like brand familiarity, customer loyalty, and perceived quality. These models are well-established and widely accepted by brand managers across the globe and they focus on how consumers perceive and engage with brands, often leaving their actual financial contributions unexplored.
On the other hand, financially based brand valuation modelsaim to assess brand equity through economic metrics, including premium pricing, shareholder value, or revenue generating capacity etc. Financial-based brand equity focuses on the financial metrics that determine a brand's value. The approach evaluates how financial performance indicators like revenue, profit margins, return on investment, market price etc. contribute to the overall worth of a brand. Brand equity significantly influences consumer decisions, impacting sales, customer loyalty, and market positioning. Financial-based brand equity serves as a critical indicator of a brand's economic value, offering strategic insights into its performance, competitive strength, and long-term viability.

1.2 Research Objective
Studies relating to Indian brands typically rely on customer-based brand equity which are supported by the theories of Aaker, Keller or Young and Rubicam. Such studies assess the brand equity from the customers' perspective. But brand equity measured from financial perspective may reflect a different picture. From the review of literature, it is seen that there are limited studies related to measurement of brand equity from the financial perspective. And such studies are even rare when considered for the Indian brands. Another important point is that brand plays a crucial role in case of durable product categories. In context of automobile sector, brands assume a prominent role in shaping customer preferences and purchase decisions. There is lack of empirical comparison of financial-based brand equity for different Indian brands, particularly in the automotive sector.

As such, this study tries to assess and compare the financial based brand equity of some selected Indian automobile brands. Accordingly, the objective of the study is framed as:

i. To evaluate and compare financial-based brand equity of selected Indian automobile brands.
ii. To suggest the best feasible measure of financial-based brand equity.

1.3 Theoretical Framework

The relationship between brand equity and financial performance has been a subject of extensive research. This objective seeks to evaluate the financial-based brand equity of some selected passenger car brands, under study.

Financial performance measures the economic success of a company. It is typically assessed using various metrics, including profitability, return on investment, market capitalization, economic value added etc. Accordingly, several methods have evolved in the past few decades to assess the financial value of brand. Review of literature has revealed the prominent methods of financial-based brand equity evaluation, some of which have been used by marketers and researchers whereas some of them could not be used because of unavailability of proper data. The following methods are used in some of the studies for assessing financial value of a brand.

i. Ratios have always been an integral part of valuation. Price to Sales ratio is a basic measure of valuation which is calculated by dividing the market capitalization of a company by the total sales during a particular period. Higher Price to Sales ratio indicates a higher valuation of the company and vice-versa. This method evaluates a company's value relative to its revenue, and is particularly useful when the revenues are volatile or fluctuating (Liu, Nissim, and Thomas 2002) [6]. The method also has an advantage of being less susceptible to accounting manipulation (Rajgopal, Venkatachalam, and Kotha 2002) [9]. Being a basic measure, the method is simple to evaluate and the results can be interpreted alongside other valuation measures for a better and comprehensive analysis. The method has been widely accepted across various sectors for assessing the values of companies.
ii. Market Value Added (MVA) is another measure which can be used to assess brand equity. MVA is calculated as the difference between the current market value of a company's stock and the initial capital invested by shareholders. A positive Market Value Added (MVA) signifies that a company and its brands are generating value for shareholders. However, MVA has its limitations when used as a direct measure of brand equity. It can be influenced by external factors such as market trends and economic conditions, which may not directly reflect the brand's inherent strength. Moreover, MVA is inherently a retrospective metric, offering a view of past performance rather than future potential.
iii. Discounted cash flow (DCF) technique plays a crucial role in valuation, particularly for intangible assets like brand equity. The method for calculating the value of a perpetuity is applied to measure brand equity, termed as brand perpetual value (Anderson, 2011) [2]. Brand Perpetual Value method involves discounting the cash flows of the brand to their present value using the Weighted Average Cost of Capital (WACC). WACC represents the company's cost of capital from both equity and debt, providing a thorough discount rate that reflects the risk associated with the cash flows. By using WACC as the discount factor, the DCF technique ensures a precise assessment of the brand's value, taking into account both the time value of money and the inherent risk in cash flows. Brand Perpetual Value approach is crucial for brand valuation, as it highlights the long-term potential of brand-generated earnings and their contribution to the company's overall value (Damodaran, 2001; Koller *et al.*, 2010; Rappaport, 1986; Modigliani & Miller, 1958) [3, 5, 10, 7].
iv. Simon and Sullivan (1993) [11] came with an innovative approach to estimate brand equity. The Simon and Sullivan method of brand valuation estimates a firm's brand equity by subtracting the replacement cost of tangible assets from the firm's market capitalization, thus focusing on the value of intangible assets, including brand equity. This approach provides an objective measure of brand equity linked to market value and reflects the brand's financial impact on the company's overall value. They define brand equity as the incremental cash flows which accrue to branded products over and above the cash flows which would result from the sale of unbranded products. To implement this definition, the researchers begin by estimating the current market value of the firm. The market value of the firms' securities provides an unbiased estimate of the future cash flows that are attributable to all of the firms' assets. The methodology extracts the value of a firm's brand equity from the value of the firm's other assets. The result is an estimate of brand equity which is based on the financial market valuation of the firm's future cash flows. Simon and Sullivan consider brand equity as forward-looking perspectives as market value of the firm's traded securities reflect an unbiased estimate of future cash flows. The method came to be known as Capital market-based method of brand equity valuation (Moisescu, 2007) [8].

The study tries to evaluate the brand equity of the selected brands by the application of the above discussed methods. Each method has its own advantage and has been applied to measure the different dimensions of brand equity. Using multiple methods offers a comprehensive assessment and also enhances the validity of the findings.

1.4 Methodology

For the study, certain Indian automobile brands have been considered. The study is based on analytical techniques and requires published data from the annual reports. Moreover, for certain financial models, stock market data related to the brands are also required. As such, two leading Indian automobile brands namely, Maruti Suzuki India Limited (MSIL) and Tata Motors Limited (TML), which are listed in the Indian stock exchanges have been considered for analysis in this study. In order to have a comprehensive understanding, the study incorporates the analysis of the selected brands for a period of 9 years, from FY 2015-16 to FY 2023-24.

The methodology adopted for analysis in the study have beendiscussed below.

i) Price to Sales Ratiois calculated as,

$$Price\ to\ Sales = \frac{Market\ Capitalization}{Total\ Sales}$$

The capitalized market value has been obtained by multiplying the number of shares of the company with the market price of the shares. The total revenues of the companies have been taken from their annual reports.

ii) For Market Value Added (MVA) method, the formula used for calculation is,

MVA = Market Value of the firm - Book Value of Shareholders' Equity

The market value of the firm has been calculated by multiplying the number of outstanding shares with the market price of the shares. This gives the market capitalization of the company. Also, book value of shareholders' equity has been estimated as the net assets *i.e.* total assets minus total liabilities (excluding equity).

iii) For Brand Perpetual Value Method, the formula used for analysis is,

Brand Perpetual Value = (Total Revenue - Total Marketing Costs)/Weighted Average Cost of Capital

The total revenue and the marketing costs have been taken from the financial statements and annual reports of the companies. Cost of equity has been estimated with the help of Capital Asset Pricing Model (CAPM). Treasury bill rate has been taken as risk free return and Sensex return as market return. Beta value of the stock is calculated from the historical stock prices. The Weighted Average Cost of Capital (WACC) is calculated by combining the Cost of Equity and the Cost of Debt (from the annual reports).

iv) For Capital Market Based Method, the formula used is,

Brand Value = (Capitalized market value) - (Tangible and its remaining intangible assets)

The capitalized market value has been obtained by valuing the shares of the company with the market price of the shares. The average closing value of the stock price has been considered. On the other hand, the sum total of the tangible and the intangible assets has been considered asthe total assets from the financial statements.

1.5 Results and Discussion

Price to Sales Ratio

The Price-to-Sales (P/S) ratio is a financial metric used to assess a company's valuation relative to its revenue. It is calculated by dividing the company's market capitalization by its total sales over a specific period.

$$Price\ to\ Sales = \frac{Market\ Capitalization}{Sales}$$

Table 1: Calculation of Price to Sales Ratio of Maruti Suzuki India Limited

Year	Total Revenue (₹ in million)	No. of shares	Market price of shares (in ₹)	Market Capitalization (₹ in million)	Price to Sales Ratio
2015-16	582082	302080060	4099.4	1238347.00	2.1274
2016-17	795460	302080060	5031.81	1520009.47	1.9109
2017-18	840399	302080060	8012.59	2420443.67	2.8801
2018-19	885813	302080060	8045.14	2430276.37	2.7436
2019-20	790314	302080060	6656.28	2010729.46	2.5442
2020-21	732789	302080060	6630.71	2003005.27	2.7334
2021-22	882956	302080060	7369.97	2226320.98	2.5214
2022-23	1175229	302080060	8491.08	2564985.96	2.1825
2023-24	1409326	314402574	10100.6	3175654.64	2.2533
Maximum					2.8801
Minimum					1.9109
Average					2.4330

Table 2: Calculation of Price to Sales Ratio of Tata Motors Limited

Year	Total Revenue (₹ in million)	No. of shares	Market price of shares (in ₹)	Market Capitalization (₹ in million)	Price to Sales Ratio
2015-16	473836.1	3395680306	394.76	1340478.76	2.8290
2016-17	491004.1	3395850719	480.56	1631910.02	3.3236
2017-18	586898.1	3395851065	417.96	1419329.91	2.4184
2018-19	692027.6	3395851065	233.99	794595.19	1.1482
2019-20	439281.7	3597476790	156.7	563724.61	1.2833
2020-21	470314.7	3828810661	164.96	631600.61	1.3429
2021-22	472636.8	3829164903	391.59	1499462.68	3.1725
2022-23	657573.3	3829847221	426.49	1633391.54	2.4840
2023-24	733030.8	3832241897	680.21	2606729.26	3.5561
Maximum					3.5561
Minimum					1.1482
Average					2.3953

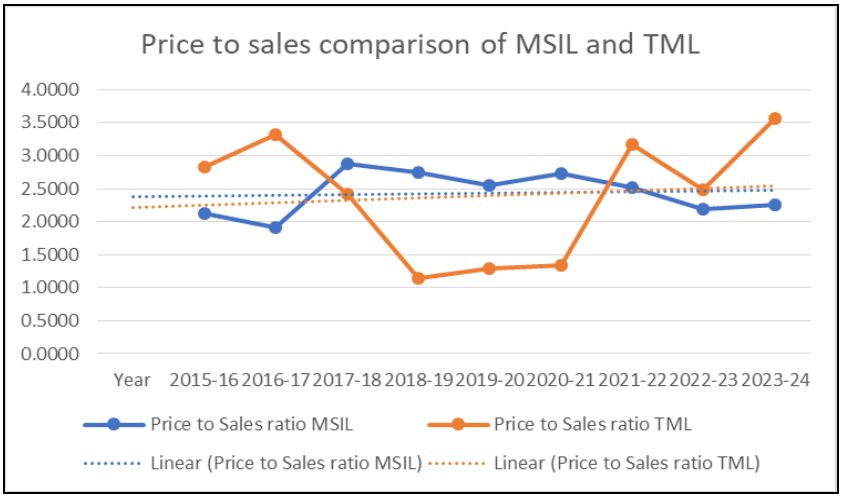

Fig 1: Price to Sales Ratios of parent brands MSIL and TML

A strong price to sales ratio is an indication that the stock is overpriced in the market. It is seen that the price to sales ratio of Maruti Suzuki India Limited is almost following a constant trend with a mean of 2.4330. This signifies that the investors have trust on the stock and its performance is not much influenced by the market fluctuation.

On the other hand, the price to sales ratio of Tata Motors Limited is seen to follow an upward trend with a mean of 2.3953. However, there are some fluctuations in the trend and the relatively low value of ratio during FY 2018-19 to FY 2020-21 may be attributed to the Covid-19 crisis that affected the entire economy during that period.

Market Value Added (MVA)

$$MVA = Market\ Value\ of\ the\ firm - Capital$$

Table 3: Calculation of MVA of Maruti Suzuki India Limited

Year	No. of shares	Market price of shares (in ₹)	Market Value of firm(₹ in million)	Capital (₹ in million)	MVA of MSIL (₹ in million)
2015-16	302080060	4099.4	1238347	270071	968276
2016-17	302080060	5031.81	1520009	361711	1158298
2017-18	302080060	8012.59	2420444	417573	2002871
2018-19	302080060	8045.14	2430276	461415	1968861
2019-20	302080060	6656.28	2010729	484370	1526359
2020-21	302080060	6630.71	2003005	513668	1489337
2021-22	302080060	7369.97	2226321	540860	1685461
2022-23	302080060	8491.08	2564986	603820	1961166
2023-24	314402574	10100.6	3175655	839820	2335835
Maximum					2335835
Minimum					968276
Average					1677385

Table 4: Calculation of MVA of Tata Motors Limited

Year	No. of shares	Market price of shares (in ₹)	Market Value of firm(₹ in million)	Capital (₹ in million)	MVA of TML (₹ in million)
2015-16	3395680306	394.76	1340479	232621	1107858
2016-17	3395850719	480.56	1631910	208092	1423819
2017-18	3395851065	417.96	1419330	201710	1217620
2018-19	3395851065	233.99	794595	221625	572970
2019-20	3597476790	156.7	563725	183877	379848
2020-21	3828810661	164.96	631601	190560	441041
2021-22	3829164903	391.59	1499463	199442	1300021
2022-23	3829847221	426.49	1633392	224699	1408693
2023-24	3832241897	680.21	2606729	301431	2305299
Maximum					2305299
Minimum					379848
Average					1128574

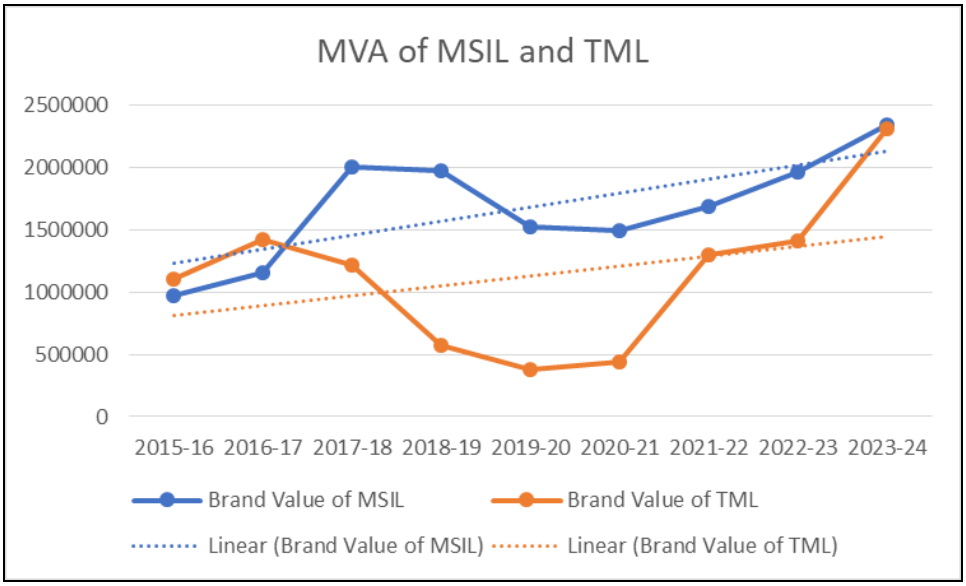

Fig 2: MVA of parent brands MSIL and TML

The Market Value Added (MVA) for the brands MSIL and TMLhave been found to be varying with time as shown by both the calculations (Table 3 & 4) and the graphical representation (Figure 2). The trend line illustrates a steady upward movement in the MVA for both MSIL and TML, indicating consistent growth over time and reinforcing their positive market valuation trends. However, the MVA of MSIL is seen to have higher values for most of the time as compared to TML.

Brand Perpetual Value Method

$$Brand\ Perpetual\ Value = \frac{(Total\ Revenue) - (Total\ Marketing\ Costs)}{WACC}$$

Calculation of Weighted Average Cost of Capital (WACC) of the Corporate (Parent) brands

For calculation of Weighted Average Cost of Capital (WACC), the cost of equity and cost of debt are required. Cost of debt has been taken from the annual reports, whereas Capital Asset Pricing Model (CAPM) has been used for estimating the cost of equity. The cost of equity is estimated by CAPM and the Weighted Average Cost of Capital (WACC) is calculated as shown in Table 5.

Table 5: Calculation of Cost of Equity and WACC for Maruti Suzuki India Limited and Tata Motors Limited

Year	Market Return, Rm	Risk free Return, Rf	Maruti Suzuki India Limited			Tata Motors Limited		
			Beta = 1.0218			Beta = 1.3743		
			Cost of Equity, ke	Cost of Debt, kd	WACC (pre-tax)	Cost of Equity, ke	Cost of Debt, kd	WACC (pre-tax)
2015-16	-0.10326	0.0681	-0.1070	0.1523	-0.1020	-0.1674	0.0821	-0.0893
2016-17	0.172177	0.0606	0.1746	0.0456	0.1680	0.2139	0.0610	0.1533
2017-18	0.102255	0.0663	0.1030	0.0459	0.1004	0.1157	0.0680	0.0969
2018-19	0.162908	0.0663	0.1650	0.0259	0.1568	0.1991	0.0642	0.1470
2019-20	-0.24191	0.0598	-0.2485	0.0502	-0.2330	-0.3548	0.0666	-0.1670
2020-21	0.751587	0.0402	0.7671	0.0292	0.7207	1.0179	0.0852	0.5875
2021-22	0.170672	0.0687	0.1729	0.0371	0.1649	0.2088	0.0716	0.1520
2022-23	-0.00481	0.0724	-0.0065	0.0401	-0.0032	-0.0337	0.0774	0.0016
2023-24	0.228157	0.0708	0.2316	0.0548	0.2245	0.2871	0.0741	0.2719

Because of the fluctuations in the market, the market return for the years FY 2015-16, FY 2019-20 and FY 2022-23 is found to be negative. This has led to negative or unacceptable estimation of the weighted average cost of capital for these years. So, considering the values of WACC for these years as outliers, these years have not been considered for analysis under Brand Perpetual Method.

Table 6: Calculation of Brand Value of Maruti Suzuki India Limited by Brand Perpetual Value Method

Year	Total Revenue less Marketing Costs(₹ in million)	WACC	Brand Perpetual Value of Maruti Suzuki India Limited(₹ in million)
2016-17	775759	0.1680	4618372
2017-18	814402	0.1004	8107727
2018-19	852595	0.1568	5436673
2020-21	699329	0.7207	970387
2021-22	840034	0.1649	5095241
2023-24	1347495	0.2245	6003021
Maximum			8107727
Minimum			970387
Average			5038570

Table 7: Calculation of Brand Value of Tata Motors Limited by Brand Perpetual Value Method

Year	Total Revenue less Marketing Costs(₹ in million)	WACC	Brand Perpetual Value of Tata Motors Limited(₹ in million)
2016-17	462239	0.1533	3016197
2017-18	550448	0.0969	5682718
2018-19	651637	0.1470	4432000
2020-21	465594	0.5875	792491
2021-22	468810	0.1520	3084389
2023-24	727458	0.2719	2674999
Maximum			5682718
Minimum			792491
Average			3280466

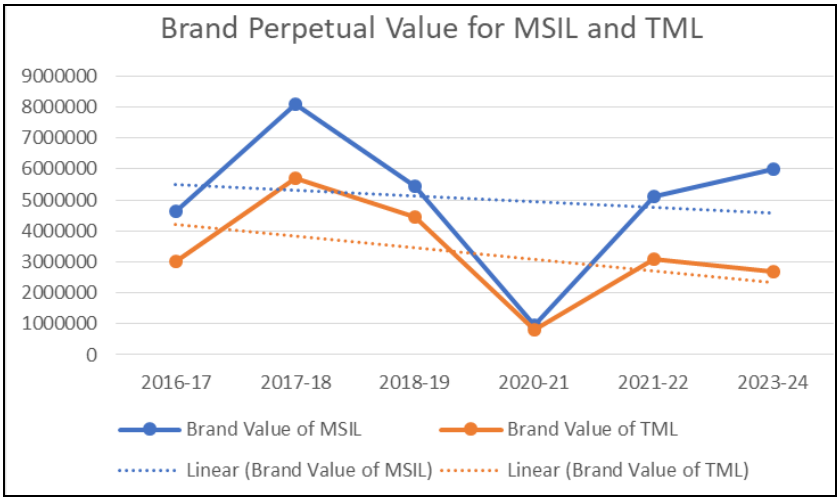

Fig 3: Brand Perpetual Value of parent brands MSIL and TML

As observed in Figure 3, both the brands MSIL and TMLare performing almost in a similar manner. From the trend line it is seen that the Brand Perpetual Values for the both the brands have been slightly decreasing with time. It is also worth noting that the yearly brand values of MSIL, under this method, are slightly above those of TML. Depression of values of brand equity during FY 2020-21 for all the brands may be attributed to Covid-19 pandemic.

Capital Market Based (Simon & Sullivan) Method

$$Brand\ Value = (Capitalized\ market\ value) - (Tangible\ and\ its\ remaining\ intangible\ assets)$$

Table 8: Calculation of Brand Value of Maruti Suzuki India Limited by Simon & Sullivan Method

Year	No. of shares	Market price of shares (in ₹)	Market Value of firm(₹ in million)	Total Assets (₹ in million)	Brand Value (₹ in million)
2015-16	302080060	4099.4	1238347	391956	846391
2016-17	302080060	5031.81	1520009	512506	1007503
2017-18	302080060	8012.59	2420444	593701	1826743
2018-19	302080060	8045.14	2430276	629318	1800958
2019-20	302080060	6656.28	2010729	625521	1385208
2020-21	302080060	6630.71	2003005	700674	1302331
2021-22	302080060	7369.97	2226321	733943	1492378
2022-23	302080060	8491.08	2564986	831787	1733199
2023-24	314402574	10100.60	3175655	1102848	2072807
Maximum					2072807
Minimum					846391
Average					1496391

Table 9: Calculation of Brand Value of Tata Motors Limited by Simon & Sullivan Method

Year	No. of shares	Market price of shares (in ₹)	Market Value of firm(₹ in million)	Total Assets (₹ in million)	Brand Value (₹ in million)
2015-16	3396579156	394.76	1340834	566760	774074
2016-17	3396579156	480.56	1632260	585366	1046894
2017-18	3396579156	417.96	1419634	592123	827511
2018-19	3396579156	233.99	794766	609096	185669
2021-22	3829890676	391.59	1499747	638999	860748
2022-23	3830572994	426.49	1633701	617708	1015993
2023-24	3832241897	680.21	2606729	660837	1945892
Maximum					1945892
Minimum					185669
Average					950969

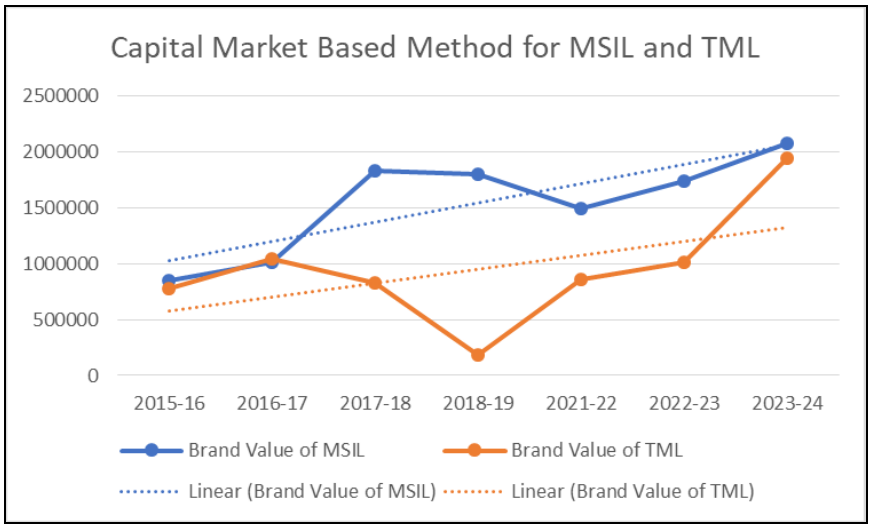

Fig 4: Capital Market based brand value of parent brands MSIL and TML

Calculations in Table 8 & 9 and Figure 4 reveals that the Capital Market Based Method Brand Value for both the brands are on an upward trend. The brand value of MSIL is seen to be more stable and in a better position as compared to that of TML. The fluctuations are more prominent for TML, as seen from the graph. However, From FY 2018-19 onwards, the brand value of TML is on a sharp rise and has almost become close to that of MSIL during FY 2023-24.

1.7 Marketing Implications and Conclusions

The analysis of financial based brand equity by the methods- Price to Sales ratio, Market Value Added, Brand Perpetual Value, and Capital Market Based Method, provides scope for comparison of the brand equity value of Maruti Suzuki India Limited (MSIL) and the brand equity value of Tata Motors Limited (TML). It is observed from the analysis that the brand value of MSIL consistently outperforms the brand value of TML across the four measurement methods under consideration. The graphs of brand equity of MSIL appears to be more stable while those of brand equity of TML appears to be more volatile in all the cases.

It is also observed from the analysis that Brand Perpetual Value may serve as a more effective measure of financial-based brand equity compared to the other valuation methods examined. Its consistently higher valuation figures indicate a stronger alignment with long-term brand strength and future earning potential. For marketers, this offers strategic advantages, as higher brand equity not only enhances perceived value but also supports premium positioning, investment justification, and branding decisions resulting in enduring financial performance.

However, it is worth noting that every method has its own strengths and limitations. Price to Sales ratio is sensitive to short-term revenue fluctuations, MVA captures investor expectations but may overlook some brand-related factors, Brand Perpetual Value depends on predictive assumptions related to discount rate, and Capital Market-Based approaches are deeply influenced by market sentiment and macroeconomic factors. Hence, the findings derived from these methods are dependent on their analytical frameworks and contextual relevance. Some methods may prove better under certain conditions and may not be very accurate under some other conditions.

To summarize, using different methods for evaluating financial based brand equity provides different strategic understanding. However, the conclusions drawn from the findings needs to be considered along with the strengths and limitations of the method of analysis. Instead of relying on a single measure, using multiple measures may provide better assessment of brand equity and will also improve the validity and acceptability of the findings.

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