AN EXAMINATION OF THE USE OF PROFITABILITY ANALYSIS OF SELECTED AUTOMOBILE COMPANIES

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ABSTRACT

The Indian automobile plays major role in the world's automobile market. Automobile industry covers two wheelers, three wheelers, commercial vehicles and passenger vehicles. This paper measures the profitability and also to analyze the effects of different factors on the profitability of Indian Automobile industry. Profit is the lifeline of any business firm. Profit means more income than expenditures. Profitability means capacity to earn profit from all the business activities of an organization. Five automobile companies are selected for this study. Secondary data is used for this research paper. The period for the study is 5 years from 2014-15 to 2018-19. With a view to achieve objectives of the study various profitability ratios are calculated.

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***Keywords:** Profit, Profitability, Automobile Sector, Mean, Ratios Analysis.*

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Introduction

The Indian auto industry is recognized as a 'sunrise industry' as it has emerged as one of the fastest growing sector over last few years. India's annual production stood at 29.08 million vehicles (including passenger vehicles, commercial vehicles, three wheelers, and two wheelers) in FY18 as against 25.33 million in FY17, registering a healthy growth of 14.8% over the same period last year. As of April 2018, India has about 120 vehicles (all segments including 19 cars per 1000) on every 1000 people, which is expected to rise to almost 300 vehicles in next 10 years for every 1000 people. While the population (vehicle par) of automobiles in India is expected to surge to 404 million by 2028 from 162.31 million in April, 2018.

Profitability

Profitability is the ability to earn profit from all the activities of an enterprise. It indicates how well management of an enterprise generates earnings by using the resources at its disposal. In the other words the ability to earn profit e.g. profitability, it is composed of two words profit and ability. The word profit represents the absolute figure of profit but an absolute figure alone does not give an exact idea of the adequacy or otherwise of increase or change in performance as shown in the financial statement of the enterprise. The word 'ability' reflects the power of an enterprise to earn profits, it is called earning performance. Earnings are an essential requirement to continue the business. So, we can say that a healthy enterprise is that which has good profitability. According to Hermenson Edward and Salmonson 'profitability is the relationship of income to some balance sheet measure which indicates the relative ability to earn income on assets employed.

Objective of the Study

Present article is based on the Study of profitability of Selected Companies of Automobile Industry.

Period of Study

The study period is to be converted 5 years; from 2014-15 to 2018-19.

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No. of Sample

Researcher has selected 5 automobile companies who is engaged in LMV, HMV and two wheelers for the present study.

Tools & Techniques

For the present study Ratio Analysis as an accounting tools and F-Test - TWO WAY ANOVA is used as tools of Statistics.
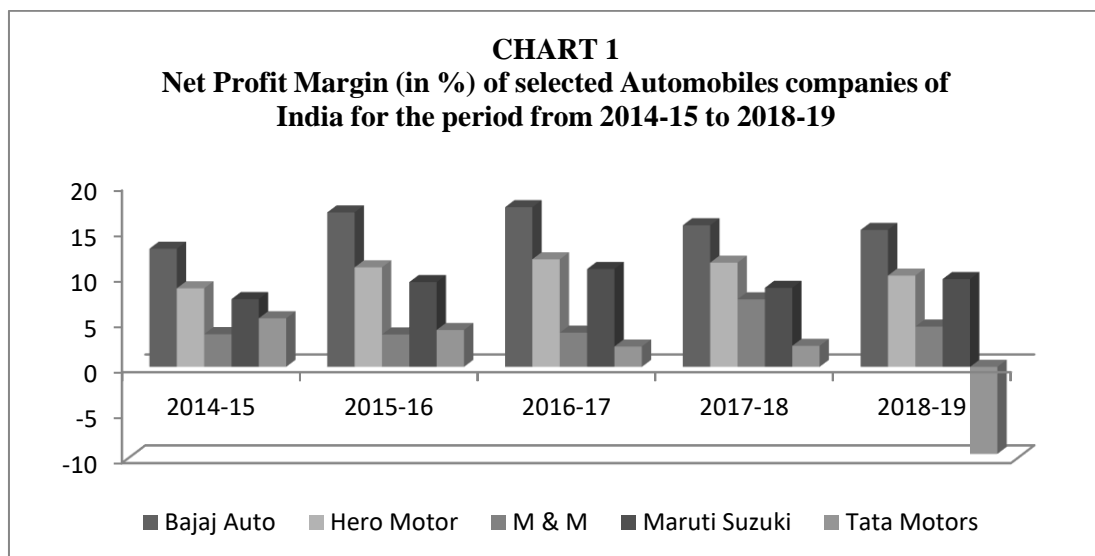
- **Net Profit Margin**

The net profit margin, also known as net margin, indicates how much net income a company makes with total sales achieved. A higher net profit margin means that a company is more efficient at converting sales into actual profit. Net profit margin analysis is not the same as gross profit margin. Under gross profit, fixed costs are excluded from calculation. With net profit margin ratio all costs are included to find the final benefit of the income of a business. Similar terms used to describe net profit margins include net margin, net profit, net profit ratio, net profit margin percentage, and more. To calculate net profit margin and provide net profit margin ratio analysis requires skills ranging from those of a small business owner to an experienced CFO. As a result, this depends on the size and complexity of the company. Net profit margin is one of the most closely followed numbers in finance. Shareholders look at net profit margin closely because it shows how good a company is at converting revenue into profits available for shareholders.

Table 1: Net Profit Margin Ratio in Percentage for Selected Automobile Companies of India for the Period from 2014-15 to 2018-19

Name of Companies	Year					
	2014-15	2015-16	2016-17	2017-18	2018-19	Average
Bajaj Auto	13	17	17.57	15.58	15.07	15.64
Hero Motor	8.64	10.95	11.84	11.47	10.05	10.59
M & M	3.6	3.57	3.76	7.43	4.44	4.56
Maruti Suzuki	7.46	9.33	10.77	8.7	9.66	9.18
Tata Motors	5.35	4.06	2.24	2.31	-9.58	0.88
Average	7.61	8.98	9.24	9.10	5.93	8.17

Source: www.nse.com

CHART 1
Net Profit Margin (in %) of selected Automobiles companies of India for the period from 2014-15 to 2018-19

It is evident from the above table and chart that highest Average Net profit margin 9.24 percentages is founded in the year 2016-17 of the research unit under study and Bajaj auto is having highest average net profit margin with 15.64 percentages among research unit under study during research period. Least average net profit margin is found in the year 2018-19 with 5.93 percentages with Tata motors is showing least average net profit margin with 0.88 percentages due to loss in the year 2018-19.

Statistical Analysis

<p align="center">Table 2: "F"-Test Two Way ANOVA for Net Profit Margin in Percentage of
Selected Automobile Companies of India for the Period from 2014-15 to 2018-19</p>

H_0:	There is No Significant Different between Net Profit Margin of Selected Automobiles Companies of India for the period from 2014-15 to 2018-19				
H_1:	There is Significant Different between Net Profit Margin of Selected Automobiles Companies of India for the period from 2014-15 to 2018-19				
Source of Variation	**Sum of Square**	**Degree of Freedom**	**Mean Sum of Square**	**F_c**	**F_t**
R.S.S	644.899024	4	161.224756	18.47716695	3.00691728
C.S.S.	39.985224	4	9.996306	1.145626884	3.00691728
W.S.S.	139.609936	16	8.725621		
T.S.S.	824.494184	24			

From the "F" test two way ANOVA Table as calculated above it shows on the base of the year wise that Calculated value of Fc = 1.1456 while tabular value of Ft = 3.0069 which show that calculated value Fc is smaller than tabular value Ft, Fc < Ft Hence Null Hypothesis is accepted and Alternative Hypothesis is rejected that there is no significant Difference for selected automobile industry on the base of year while on the base of research unit during research period Calculated value of Fc = 18.4771 while tabular value of Ft = 3.0069 which show that calculated value Fc is greater than tabular value Ft, Fc > Ft Hence Null Hypothesis is rejected and Alternative Hypothesis is accepted that there is significant Difference for selected automobile companies of India during research period for Net Profit Margin.
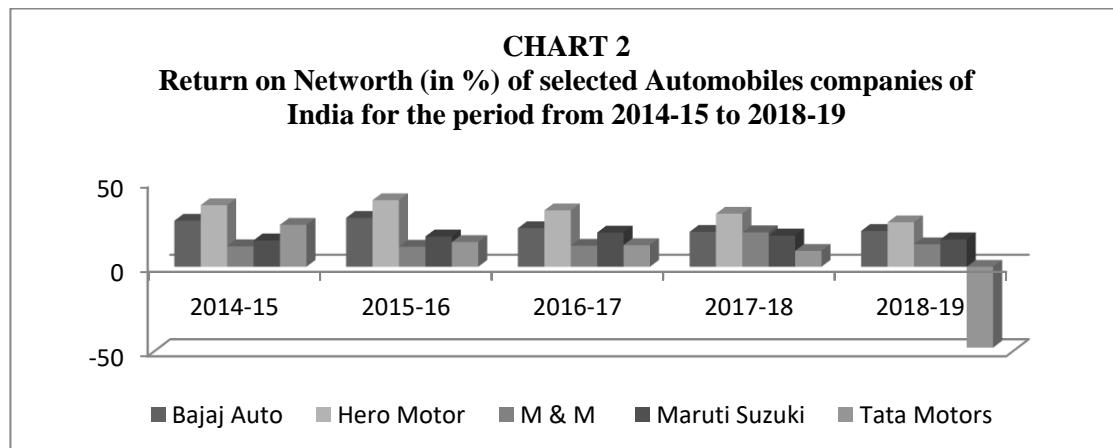
Return on Net Worth

This ratio reflects that how much the firm has earned on the funds invested by the shareholders (either directly or through retained earnings.)'. "This ratio is, thus, of great interest to the present as well as prospective shareholders and also of great concern to management. a low rate of return simply implies misuse of shareholder's funds because of inefficient and ineffective production, sales, financial and general management. It also indicates unfavorable business conditions and over investment in the fixed assets. 'For manufacturing enterprises the usual standard of return on owner's fund is 10-15 percent'

<p align="center">Table 3: Return on Net worth in Percentage for Selected Automobile Companies of
India for the Period from 2014-15 to 2018-19</p>

Name of Companies	Year					
	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**Average**
Bajaj Auto	27.26	28.96	22.84	20.65	21.2	24.18
Hero Motor	36.47	39.42	33.39	31.41	26.32	33.40
M & M	12.14	11.88	12.43	20.42	13.29	14.03
Maruti Suzuki	15.65	17.95	20.25	18.51	16.24	17.72
Tata Motors	24.86	14.66	12.83	9.41	-47.9	2.77
Average	23.28	22.57	20.35	20.08	5.83	18.42

Source:www.nse.com

CHART 2
Return on Networth (in %) of selected Automobiles companies of India for the period from 2014-15 to 2018-19

It is evident from the above table and chart that highest Average Return on net worth 23.28 percentages is founded in the year 2014-15 of the research unit under study and Hero Motor is having highest average Return on Net Worth with 33.40 percentages among research unit under study during research period. Least average return on net worth margin is found in the year 2018-19 with 5.83 percentages with Tata motors is showing least average Return on net worth with 2.77 percentages due to loss in the year 2018-19.

Statistical Analysis

Table 4: **"F"-Test Two Way ANOVA for Return on Net Worth in Percentage of Selected Automobile Companies of India for the Period from 2014-15 to 2018-19**

H_0:	There is No Significant Different between Return on Net Worth of Selected Automobiles Companies of India for the period from 2014-15 to 2018-19				
H_1:	There is Significant Different between Return on Net Worth of Selected Automobiles Companies of India for the period from 2014-15 to 2018-19				
Source of Variation	**Sum of Square**	**Degree of Freedom**	**Mean Sum of Square**	**F_c**	**F_t**
R.S.S	2611.327	4	652.8318	4.122214937	3.00691728
C.S.S.	1029.087	4	257.2717	1.624505929	3.00691728
W.S.S.	2533.907	16	158.3692		
T.S.S.	6174.32	24			

From the "F" test two way ANOVA Table as calculated above it shows on the base of the year wise that Calculated value of F_c = 1.6245 while tabular value of F_t = 3.0069 which show that calculated value F_c is smaller than tabular value F_t, F_c < F_t Hence Null Hypothesis is accepted and Alternative Hypothesis is rejected that there is no significant Difference for selected automobile industry on the base of year while on the base of research unit during research period Calculated value of F_c = 4.1221 while tabular value of F_t = 3.0069 which show that calculated value F_c is greater than tabular value F_t, F_c > F_t Hence Null Hypothesis is rejected and Alternative Hypothesis is accepted that there is significant Difference for selected automobile companies of India during research period for Return on Net Worth.
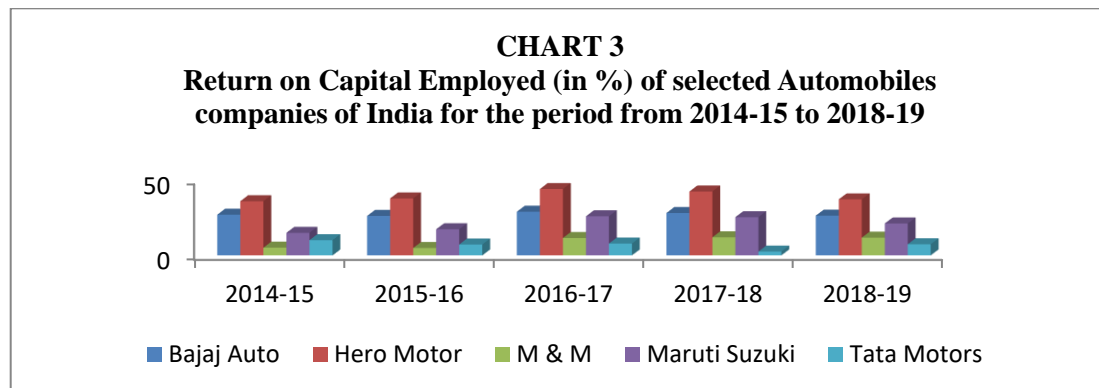
Return on Capital Employed

Return on Capital Employed (ROCE), a profitability ratio, measures how efficiently a company is using its capital to generate profits. The return on capital employed metric is considered one of the best profitability ratios and is commonly used by investors to determine whether a company is suitable to invest in or not.

Table 5: **Return on Capital Employed in percentage for selected Automobile Companies of India for the Period from 2014-15 to 2018-19**

Name of Companies	Year					
	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**Average**
Bajaj Auto	27	26.16	28.95	28.08	26.33	27.30
Hero Motor	35.93	37.77	44	42.35	37.15	39.44
M & M	5.13	4.92	11.55	12.01	11.75	9.07
Maruti Suzuki	14.93	17.34	25.93	25.33	21.16	20.94
Tata Motors	10.1	7.23	7.86	2.49	7.36	7.01
Average	18.62	18.68	23.66	22.05	20.75	20.75

Source:www.nse.com

CHART 3
Return on Capital Employed (in %) of selected Automobiles companies of India for the period from 2014-15 to 2018-19

It is evident from the above table and chart that highest Average Return on capital employed 23.66 percentages is founded in the year 2016-17 of the research unit under study and Hero Motor is having highest average Return on capital employed with 39.44 percentages among research unit under study during research period. Least average return on capital employed is found in the year 2015-16 with 18.68 percentages with Tata motors is showing least average Return on capital employed with 7.01 percentages.

Statistical Analysis

Table 6: **"F"-Test Two Way ANOVA for Return on Capital Employed in Percentage of Selected Automobile Companies of India for the Period from 2014-15 to 2018-19**

H$_0$:	There is No Significant Different between Return on Capital Employed of Selected Automobiles Companies of India for the period from 2014-15 to 2018-19				
H$_1$:	There is Significant Different between Return on Capital Employed of Selected Automobiles Companies of India for the period from 2014-15 to 2018-19				
Source of Variation	Sum of Square	Degree of Freedom	Mean Sum of Square	F$_c$	F$_t$
R.S.S	3587.622896	4	896.905724	102.9860273	3.00691728
C.S.S.	94.827096	4	23.706774	2.722099335	3.00691728
W.S.S.	139.344064	16	8.709004		
T.S.S.	3821.794056	24			

From the "F" test two way ANOVA Table as calculated above it shows on the base of the year wise that Calculated value of Fc = 2.7221 while tabular value of Ft = 3.0069 which show that calculated value Fc is smaller than tabular value Ft, Fc < Ft Hence Null Hypothesis is accepted and Alternative Hypothesis is rejected that there is no significant Difference for selected automobile industry on the base of year while on the base of research unit during research period Calculated value of Fc = 102.9860 while tabular value of Ft = 3.0069 which show that calculated value Fc is greater than tabular value Ft, Fc > Ft Hence Null Hypothesis is rejected and Alternative Hypothesis is accepted that there is significant Difference for selected automobile companies of India during research period for Return on Capital Employed.

Conclusion

From the above analysis it shows that year base profitability ratios are showing equality norms for the selected research unit of automobile industry during research period while unit base profitability ratios are showing unequal norms during research period.

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