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An Empirical Study of Profitability And Liquidity in Selected Auto Two and Three Wheelers Companies in India

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Abstract

The main purpose of any business organisation is profit maximisation and meets current liabilities within a year. Profit is a soul of any business organization and liquidity effectively helps to generate profit for the business. Profitability and liquidity are most important aspect for the organisation to fulfil their desired goal. In this empirical study attempt is made for identification of profitability and liquidity in auto two and three wheelers companies, which are listed on stock exchange. The time span of 2011-12 to 2018-19 should be considered for the study and randomly three companies are selected for analysis and findings purposes. The major finding of the study Baja auto indicated comparative good profitability but hero motorcorps reveals comparative higher ratio out of selected companies. Hero Motorcorps and Bajaj auto have good comparative liquidity position then TVS Motors. In concern with statistical test Anova except Debtors turnover ratio all selected ratio are rejected mean selected companies have no significant difference in debtors turnover ratio during study period.

Introduction

The phrase "profitability" is constituted of two words, namely profit and ability. In general profit should be considered as excess of income on total cost and the word ability indicates the power of a business to generate profit from its business activities. The ability of any business organisation also demonstrates its earning power or operating performance. The word "Liquidity" means the debt repaying capacity of the business organisations. It indicated organisation's ability to meet financial claims of seller in concern with purchase of raw materials, services and short term capital. The long run success of any business units are depend on short term actions and plans so, it can be said that long run creditworthiness of organisation also depends on short term liquidity conditions. In this study auto two and three wheelers producing companies should be analysed because India became the 4th largest auto market and automobile exports also raised 14.50% during financial year 2019. It is expected to grow at a CAGR (Compound Annual Growth Rate) of 3.05 per cent during 2016-2026.

Literature Review

(Narayan V. Iyer, 2013)have analysed technical assessment of emission and fuel consumption reduction potential from two and three wheelers in India. In this paper there were discussed about rapid growth of two and three wheeler vehicles in India and took attention for reducing emission and fuel consumption from these vehicles. They also identified that emission standards and emission control technologies assigned to passenger vehicles were not fully migrated to this type of vehicles. Researcher thinks on assessment of technical options for meet

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future emissions. Conclusion of paper indicated wide array of potential technologies for reducing fuel consumption of two and three wheelers.

(Vijayakumar, 2012)has identified the assets utilisation and firm's profitability: empirical evidence from Indian automobile firms. This study considered appraising asset utilization is a multi-task activities conceived and performed because it considered effectively utilisations of resources. Any business organisation assets utilization ratio provides measure of management effectiveness. In this study profitability of Indian automobile industry would be measured with the help of assets turnover ratio and responsible factors for it. Findings of the study indicated that assets utilization ratios demonstrate fluctuating trend because of rate of sales, market condition, pricing policy, government policy and competition.

(Dharmaraj Arumugam, 2016)have analysed for factors determining profitability in Indian automobile industry. As per researcher Indian automobile industry in concern with export grew by 14.89 per cent over the same period last year and leading local firms have established over 200 technical cooperation agreements with international firms to be able to reach international standard in cost and manufacturing. This paper have objective of measure the profitability and also identified effects of various factors on profitability in Indian automobile industry. For the study researcher selected 16 companies with 21 variables for analysis through multiple correlation and multiple regression. The major findings of the study was Indian automobile industry is highly dependent on operating ratio.

(Dave, 2018)have made empirical study of liquidity analysis of selected automobile companies of India. This study mainly concern with car manufacturing, two-three wheelers manufacturing and heavy vehicle manufacturing units. This study considered analysis and interpretation of growth of automobile industry and researcher has focused on liquidity of selected car and heavy motors manufacturing units which are selected simple random sampling techniques. Major finding of the study was year base current and quick ratio shows equality norms and unit base ratio indicated unequal norm during study period.

Research Gap

Research gap is helpful for the researcher to identify gap between the previous studies and current study. In this study (Narayan V. Iyer, 2013)have analysed technical assessment of emission and fuel consumption reduction potential from two and three wheelers in India, (Vijayakumar, 2012)has identified the assets utilisation and firm's profitability: empirical evidence from Indian automobile firms, (Dharmaraj Arumugam, 2016)have analysed for factors determining profitability in Indian automobile industry, (Dave, 2018)have made empirical study of liquidity analysis of selected automobile companies of India so, there is lack of study in concern with profitability and liquidity in two the three wheelers sector of automobile.

Methods

Research Methodology is considered as a systematic way of solving a research problem and it tells about methods to be followed throughout the research process starting from exploration to conclusion.

Objectives of the Study; (1) To find out profitability of Hero Motocorp, Bajaj Auto and Tvs Motor during study period; (2) To measure the liquidity of Hero Motocorp, Bajaj Auto and Tvs Motor during study period; (3) To identify higher profit making and maintain liquidity company among selected companies.

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Period of Study: The study is made for a period of five years from 2011-12 to 2018-19.

Scope of the Study: Functional Scope: Functional scope of this study is to evaluate the Profitability and liquidity of selected companies of auto two and three wheelers sector.

Geographical Scope: In this study selected companies Hero MotoCorp's, Bajaj Auto and Tvs Motor which are providing services in India so, whole India is geographical criteria for this research study.

Hypotheses

A hypothesis is a special proposition formulated to be tasted in a certain given situation as a part of research which stats what the researcher is looking for.

H0 = There is no significant difference between Profitability ratios (Operating profit margin ratio, Gross profit margin ratio, Net profit margin ratio and Return on capital employed ratio) and selected companies.

H0 = There is no significant difference between Liquidity Ratio (Current ratio, Quick ratio, Inventory turnover ratio, Debtors turnover ratio) and selected companies.

Selection of Samples: The sample has been selected on the basis of random sampling technique which is fall in probability sampling technique in which lottery method should be used for selection of sample.

Data Collection: The study is mainly based on Secondary data obtained from the annual report of various sources.

Data Analysis and Interpretation: The collected data has been duly edited, classifies, tabulated according to the needs of the objectives and hypotheses.In this research paper researcher applied Anova test which is as per researcher appropriate for the study at the 5% level of significance. In this study Ratio analysis should be considered as accounting tool and Anova as statistical tool. Ratios are calculated from the following equations.

OPMR: Operating profit income/sales × 100

GPMR: Sales – Cost of Goods Sold/sales × 100

NPMR: Net Profit after Interest and Tax/Sales × 100

ROCE: Net Profit Before Interest and Tax/ Capital Employed × 100

Current Ratio: Current Assets/ Current Liabilities

Quick Ratio: Quick Assets (Current Assets – Inventory)/ Current Liabilities

Inventory Turnover Ratio: Cost of goods sold/ average inventory

Debtor Turnover Ratio: Net Sales/ Average Debtors

(OPMR = operating profit margin ratio, GPMR = gross profit margin ratio, NPMR= net profit margin ratio, ROCE = return on capital employed)

Table 1. Various Ratios of Profitability and Liquidity Ratios

PROFITAILITY RATIOS						
Operating Profit Margin Ratio				Gross Profit Margin Ratio		
Years	Hero Moto	Bajaj Auto	TVS Moto.	Hero Moto	Bajaj Auto	TVS Moto.

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2011-12	15.34	19.04	6.58	10.69	18.3	4.93
2012-13	13.81	18.17	5.78	9.01	17.35	3.94
2013-14	14	20.37	6	9.62	19.48	4.35
2014-15	12.84	19.04	5.98	10.88	17.81	4.46
2015-16	15.54	21.17	7.29	14	19.81	5.16
2016-17	16.26	20.31	7.06	14.53	18.9	4.69
2017-18	16.38	19	7.46	14.65	17.75	5.22
2018-19	14.65	16.46	7.87	12.86	15.59	5.67
Average	14.8525	19.195	6.7525	12.03	18.12375	4.8025
Net Profit Margin Ratio				Return on Capital Employed		
Years	Hero Moto	Bajaj Auto	TVS Moto.	Hero Moto	Bajaj Auto	TVS Moto.
2011-12	10.08	15.38	3.49	54.44	68.19	19.81
2012-13	8.91	15.21	1.64	47.86	53.51	17.08
2013-14	8.34	16.09	3.28	51.41	47.92	19.91
2014-15	8.64	13.01	3.44	53.42	41.01	18.85
2015-16	10.95	17.39	4.4	55.34	41.82	24.94
2016-17	11.84	17.58	4.59	46.13	31.11	21.25
2017-18	11.47	16.16	4.37	44.61	30.25	23.87
2018-19	10.05	15.45	3.68	39.03	29.22	22.04
Average	10.035	15.78375	3.61125	49.03	42.87875	20.96875
LIQUIDITY RATIOS						
Current Ratio				Quick Ratio		
Years	Hero Moto	Bajaj Auto	TVS Moto.	Hero Moto	Bajaj Auto	TVS Moto.
2011-12	0.49	0.95	0.71	0.31	0.81	0.44
2012-13	0.67	0.88	0.85	0.52	0.74	0.51
2013-14	0.65	0.8	0.87	0.47	0.67	0.57
2014-15	0.94	0.89	0.87	0.72	0.72	0.66
2015-16	0.83	1.27	0.72	0.67	1.05	0.58
2016-17	0.86	1.1	0.71	0.72	0.9	0.54
2017-18	0.85	0.94	0.66	0.69	0.77	0.51
2018-19	1.36	1.14	0.65	1.14	0.97	0.56
Average	0.83125	0.99625	0.755	0.655	0.82875	0.5462
Inventory Turnover Ratio				Debtors Turnover Ratio		
Years	Hero Moto	Bajaj Auto	TVS Moto.	Hero Moto	Bajaj Auto	TVS Moto.
2011-12	37.35	30.18	12.19	117.05	49.9	28.24
2012-13	40.3	33.2	15.17	50.72	33.6	26.43
2013-14	40.56	33.08	15.78	31.88	25.77	25.09
2014-15	35.93	27.66	13.19	23.88	28.57	24.1
2015-16	45.85	33.21	17.36	21.4	31.48	20.53
2016-17	47.04	31.7	13.64	20.04	26.05	18.64

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2017-18	39.91	34.42	16.04	20.92	20.58	17.88
2018-19	31.38	31.46	15.49	15.5	17.93	15.29
Average	39.79	31.86375	14.8575	37.67375	29.235	22.025

Source: Calculated with Annul reports from selected companies

Above table indicated profitability and liquidity ratios of selected companies. In profitability ratios operating profit margin ratio, gross profit margin ratio, net profit margin ratio and return on capital employed ratio should be selected and in liquidity current ratio, quick ratio, inventory turnover ratio and debtor turnover ratio are selected for analysis and interpretation. During the study period operating profit margin ratio indicated fluctuating trend for selected companies. Bajaj auto indicated highest operating profit margin ratio as 21.17% and TVS motor indicated lowers ratio as 5.78% in the year 2015-16 and 2012-13 respectively. In relation with average ratio during study period 14.85%, 19.19% and 6.75% of Hero motocorps, Bajaj auto and TVS motor respectively. Gross profit margin indicated operational efficiency of business organisation and highest ratio was 19.81% and lowest ratio was 3.94% of Bajaj auto and TVS motor respectively. Selected all companies reveal fluctuating trend during 2011-12 to 2018-19. Average gross profit margin ratio was 12.3%, 18.12% and 4.81% for Hero Motocorps, Bajaj auto and TVS motors. The real measure of any business activities is net profit margin ratio that indicated real profitability of any business organisation. The average net profit margin ratio of selected companies was 10.03%, 15.78% and 3.61% for selected companies. The highest ratio was 17.58% and lowest ratio was 1.64% for Baja auto and TVS Motor respectively. During study period selected companies indicated fluctuating trend in relation with net profit margin ratio and Bajaj auto reveals higher average net profit margin ratio which was 15.78%, after Hero motocorps possessed average ratio 10.035% and lower average ratio was 3.61% of Tvs motor during study period. For any business organisation return on capital employed indicated how much profit generated by its capital employed in the business and it is also called as return on business's investments. Selected companies in which Hero Motocorps and Bajaj auto indicated more or less decreasing trend and TVS Motor indicated increasing trend. Higher the return on capital employed was 68.19% of Bajaj auto and lower return on capital employed was 17.08% in the year 2012-13 of TVS motors. In relation with average return on capital employed 49.03%, 42.87% and 20.96% indicated by Hero Motocorps, Bajaj auto and TVS motor respectively.

Liquidity analysis of selected companies are made with the help of current ratio, quick ratio, inventory turnover ratio, debtor turnover ratio for the time period of 2011-12 to 2017-18. The standard current ratio is 2:1 which is indicated twice of current assets one should be liability. Average current ratio of selected companies indicated 0.83:1, 0.99:1 and 0.75:1 for Hero motocorps, Bajaj auto and Tvs Motor for the 2011-12 to 2018-19 respectively. Higher current ratio was 1.36:1 and lower ratio was 0.49 of Hero Motocorps in the year 2018-19 and 2011-12 respectively. Hero motocorps indicated increasing trend, Bajaj auto and TVS Motor indicated fluctuating trend during study period. The standard quick ratio is 1:1 for business organisation which is indicated similar kind of quick assets against quick liability. In the year 2018-19 quick ratio of Hero Motor indicated 1.14:1 which is higher during study period and it was satisfied the standard ratio. Bajaj auto also satisfied standard ratio in the year 2015-16 and the ratio was 1.05:1 but TVS Motor not satisfied the standard ratio in single year during the study period. The average quick ratio of selected companies was 0.65:1, 0.82:1 and 0.54:1 for Hero Motocorps, Bajaj auto and TVS Motors. Inventory turnover ratio indicated how many times inventory converted into sales. It is also called stock turnover ratio. The average inventory turnover ratio of selected companies was 39.79, 31.86 and 14.85 times of Hero Motocorps,

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Bajaj auto and TVS Motors respectively and it also revealed fluctuating trend for the selected years. Debtor turnover ratio indicated how many times debtors converted into credit sales. The average debtor turnover ratio of selected companies was 37.67, 29.23 and 22.05 times for Hero motocorps, Bajaj auto and TVS Motors respectively. The higher ratio was 117.05 and lower ratio was 15.5 for Hero Motocorps and selected companies indicated fluctuating trend during study period.

Hypotheses Using One Way Anova:

Table 2 Anova Test for Selected Ratios

Sr. No.	Profitability and Liquidity Ratios	*p – value*	Accepted or Rejected H_0
1.	Operating profit margin ratio	7.91E-15	Rejected
2.	Gross profit Margin ratio	4.17E-13	Rejected
3.	Net Profit Margin ratio	3.54E-14	Rejected
4.	Return on capital employed ratio	4.06E-06	Rejected
5.	Current ratio	0.044	Rejected
6.	Quick ratio	0.0086	Rejected
7.	Inventory turnover ratio	4.36E-12	Rejected
8.	Debtors turnover ratio	0.3321	Accepted

Source: Calculated from MS Excel

Above table indicated one way Anova for selected ratios. Anova test should be perform at 5% level of significance and except Debtors turnover ratio, all the hypotheses should be rejected means there is significance difference between selected ratio but there is no statistical evidence in concern with Debtor turnover ratio or it can be said that fail to reject null hypothesis mean there is no significant different in debtors turnover ratio.

Conclusion

Operating and gross profit margin ratio of selected companies indicated Bajaj auto have higher operating efficiency in compare with Hero Motocorps and TVS Motor because average ratio of Bajaj auto is higher than other two companies.

It is but obvious that higher operating efficiency leads to higher net profitability of company. Bajaj auto indicated higher net profit ratio and second higher ratio was 10.03% which is possessed by Hero Motocorps but TVS Motor indicated lower profitability with compare to other two selected companies.

In concern with return on capital employed Hero Motorcorps have higher return at the average 49.03% in relation with other two companies which are Bajaj auto at average 42.87% and TVS Motors at average 20.96% during study period.

The standard current ratio 2:1 which was not satisfied by any single company during study period but standard quick ratio 1:1 would be satisfied by Hero Motors in the year 2018-19.

Inventory turnover ratio and debtors' turnover ratio indicated Hero Motorcorps have good position in both ratio then after Baja auto shows nearly similar to it but TVS indicated comparative weak performance with inventory and debtor turnover ratio.

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