DETERMINANTS OF PROFITABILITY OF HERO MOTO CORP LIMITED

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Abstract
This study has been undertaken to examine the determinants of Profitability of Hero Motor Corp Limited, one of the leading Automobile Companies in India. Secondary data from some important data banks were collected and used to analyze the factors determining the profitability of the company. In this study, three profitability measures and six independent variables viz.Material Cost Ratio, Power and Fuel cost ratio Employee cost Ratio, Miscellaneous Cost Ratio, Deprecation Cost ratio and Total Cost Ratiohave been taken for analysis. The study realized that the Employee Cost Ratio, Material Cost Ratio, Miscellaneous Cost Ratio, Power and Fuel Cost Ratio and Total Cost Ratio haveinfluence on the profitability measures viz., ROTA, ROCE and RONW of ITC Ltd.

Keywords: Profitability, Material cost, Power and Fuel cost, Employee cost and Total Cost.

Introduction

The Two-Wheeler Industry in India is the largest in the world to the extent that the volume of production and sales. The overall growth rate of the industry is found to be registered as 9.5% in a period of eight years from 2006 to 2014.The growth in Indian Automobile Industry is obliged to a steep increase witnessed in the two-wheeler segment during the year 2014. The size of the growth recorded during the year 2014-15 stood at a creditable 14.8 % on a year-on-year basis. The 'Make in India' campaign of the Government of India is also going to attract more foreign investment into Indian Two-Wheeler Industry creating further growth opportunities in the coming year. Indian Two-Wheeler Market is observing a continuous increase in demand and it results in growing production and sales volume.

At present, automobile companies come forward to launch new attractive models two wheelers at affordable prices, design innovations made from youths' perspective and latest technology utilized in manufacturing of vehicles. The sale of two-wheeler products has increased considerably. The sales volumes in the two-wheeler sector shot up from 15 percent to 24 percent between 2008-09 and 2013-14.A considerable expansion is noticed in the sales volume of the scooter segment during 2014-15 as far as the two-wheelers are concerned. The domestic motorcycle sales volume moved up to 10 percent, whereas the scooter segment recorded a growth of 30.7 percent in sales volume. In the last three years, around a dozen new scooter brands have been introduced in India. But the motorcycle segment lags behind in this regard. This is due to the fact that the recently launched gearless scooters cater to the needs of both men and women, while motorbikes are a segment preferred by men only. The growth momentum is also driven by the fact that the two-wheeler manufacturers in India have understood the market's needs and have been able to deliver as expected.

Though the global business involving two-wheeler is registered an average of US$ 3.5 billion per manufacturer in 2014, India's Hero Moto Corp - the world's largest two-wheeler manufacturer and seller in 2014, made an average turnover of US$ 15 billion on the same lines. Hence a need arises to know the determinants of profitability of Hero Moto Corp. Ltd., during the years from 20011-12 to 2016-17.

Concepts of Profitability

Profitability is the primary motivating force for any economic activity. Business enterprise is essentially being an economic organization. It has to maximize the welfare or the interest of its stakeholders. For that reason, the business undertaking has to earn profit from its operations. Profit is a measure of success of business and the means of its survival and growth. Profitability is the ability of a company to earn a satisfactory profit by undertaking right polices and decisions. Profitability acts as a yardstick to measure the effectiveness and efficiency of business effort.[1]

Profit is an absolute term, whereas, the profitability is a relative concept. However, they are closely related and mutually interdependent, having distinct roles in business. Profit refers to the total income earned by the enterprise during the specified period of time, while profitability refers to the operating efficiency of the enterprise. It is the ability of the enterprise to make profit on sales. It is the ability of enterprise to get sufficient return on the capital and employees used in the business operation.

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[1]*Sudarsana Reddy.G ' Financial management-Principles and Practice', Second Revised Edition, Himalaya publishing House, New Delhi, pp61-62*

The efficiency of a business is measured by the amount of profit earned. The greater the profit, the more efficient the business is considered to be. "The principal motivating force behind conducting business is profit. Perhaps the most important reason for keeping accounts, so far as the management of the business is concerned is that the information contained in them provides the means of measuring the progress of the business, of testing its pulse and indicating when and where remedial action, if necessary, shall be taken." (Duck o Jerve)[2]

Statement of the Problem
The profitability of Automobile industry in India is in a fluctuating state due to the change in prices of automobile parts as well as cost of production. To be specific, the increase in input cost due to inflation factors, high level of taxation, high proportion of various costs components, material cost, employees cost, depreciation cost, miscellaneous cost and total cost are responsible for low profitability.. The various problems faced by the management of the automobile companies lead the researcher to solve the following research questions.
- Whether or not profitability increases by the reduction of cost?
- Whether or not profitability decreases with cost of production?

Review of Literature
Agarwal (1991)[3] evaluated the impact of policy changes since 1981 – 82 on profitability and growth of firms in the Indian automobile manufacturing industry using Tobin"s as a measure of profitability. The study found no evidence to show that firms had made supernormal profits. Profitability was found to be explained mainly by age of the firms, vertical integration, diversification and industry policy as dummy variables. Important determinants of the growth of firms were found as of industry policy dummy variable, gross retained profits and expansion of capacities.

McDonald and James Ted (1999)[4] examined the determinants of the profitability of Australian manufacturing firms by analysing a unique firm-level data set of firm performance over the period 1984 – 93. The panel nature of the data permitted the estimation of dynamic profitability models over the business cycle to test both the persistence and cyclicality of firm profitability. Econometric results suggested that lagged profitability was a significant determinant of current profit margins and that industry concentration was positively related to firm profit margins. Also, profit margins were found to be pro cyclical in concentrated industries but counter-cyclical in less concentrated industries

Teruel and Solano (2007)[5] studied the effects of working capital management on the profitability of a sample of small and medium-sized Spanish firms. They collected data of 8,872 small to medium-sized enterprises (SMEs) covering the period 1996 – 2002. They tested the effects of working capital management on the profitability. They concluded that the profitability of firms will be improved by reducing inventories, decreasing the collection period and by shortening the cash conversion cycle. .

Singh and ShishirPandey (2008)[6] attempted to study the working capital components and the impact of working capital management on profitability of Hindalco Industries Limited. They made an attempt to study the correlation between liquidity, profitability and profit before tax.

Sujit (2003)[7] concluded that market power and efficiency enhances profitability of Indian cement industry. He pointed out that efficiency through innovation reduces the cost and increases the profitability.

Objectives of the Study
Keeping the essence of the above reviews in mind, the objective of the research is framed.The main objective of the research is to examine the Determinants of Profitability of Hero Moto Corp Ltd. in the last ten years.

[2] Duck R.E.V. and Jervis F.R.J. Management Accounting. New York: George. Hamp and Company Ltd., 1964.
[3] Agarval R.N (19891)."Profitability and Growth in Indian Automobile Manufacturing Industry."Indian Economic Review, Vol.26(1), Dept.of Economics, Delhi school of economics.
[4] Mcdonald and James Ted (1999) "The Determinants of firm profitability in Australian manufacture" The Economic Record, The Economic Society of Australia, Vol.75(229) pp. 15-26. =
[5] Teruel PJG and PM Solana (2007)"Effects of working Capital Management on SME profitability." working papers series,Dept of organisation de economics Finanzas, Faculbad – de Economic Y Empresa, Universidad Murcia, Campus Espinardo, Spain.
[6] Singh J P and Shishir Pandey (2008)" Impact of Working Capital Management in the profitability of Hidalgo Industries Limited" ICFAI University Journal of Financial Economics Vol. VI (4) PP 62 – 72.
[7] Sujit KS (2003) "Profitability of industry: market power or efficiency- A case study of Indian cement industry, the ICFAI University journal of applied economics, ICFAI press, vol .II (2)pp.67-.81.

Scope of the Study
This study would be helpful to the manufactures of automobile companies to identity the reasons for increasing cost of production and to find out the straggles to be adopted for decreasing various costs in order to increase their profitability.

Research Methodology
In this study only secondary data were used. The secondary data were collected from Money Control.com. Ten years of income statements and balance sheets of Hero Moto Corp were collected. Profitability of the company selected for study has been analyzed with the help of ratio analysis and various ratios have been calculated. Statistical tools such as Mean, Standard Deviation and Regression have been used to interpret the data. Hypothesis has been tested by using t test.

Measurement of Variables
Keeping the measures of Profitability (ROTA, ROCE and RONW) in mind, the following variables on the 'a-priori' ground have been recognised as determinants of Profitability in the present study. The independent variables chosen are, Material Cost Ratio, Power and Fuel cost ratio Employee cost Ratio, Miscellaneous Expenses Ratio, Deprecation Cost ratio and Total Cost Ratio.

ROTA is calculated by dividing Net Profit by Total Assets. This ratio is calculated to measure the productivity of total assets. The ROCE is computed by dividing the operating profit by Capital employed, it measures the sufficiency of profit in relation to capital employed. Besides, the RONW signifies the return on Equity shareholders' funds which is calculated by earnings after interest, tax and preference dividend by equity shareholders' funds. In regard to cost ratios, all individual costs are divided by Net sales. These ratios are used to measure the effectiveness over cost control.

Analysis and Interpretation
To analyze the determinants of Profitability, a multiple regression analysis has been administered taking the ROTA/ROCE/RONW as dependent variables. The score on the above dependent variables are included for the multiple regression analysis. The fitted regression model is,

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + e$$

Whereas *Y - ROTA/ROCE/RONW; X_1 = Material Cost Ratio: X_2+ Power and Fuel cost ratio*
X_3 = Employee cost Ratio: X_4 = Miscellaneous Expenses Ratio: X_5: Deprecation Cost ratio: X_6 = Total Cost Ratio; b1, b_2, b_3, - Regression co-efficient of the independent variables; a- Intercept and e - Error term.

In order to analyze the determinants of Profitability of Hero Moto Corp Ltd., mean and standard deviations of Independent and Dependent variables have been calculated and the results are presented in Table 1. The mean value of ROTA, ROCE and RONW are found to be 187.12, 46.00 and 44.04 respectively during the years from 2006-07 to 2016-17, Among all the cost Ratios, the mean value of Total cost ratio is found to be 15392.57 and the mean value of material cost ratio is known to be 15392.57. Besides, the mean value of miscellaneous expenses ratio has been registered as 1705.54 followed bythe mean values of Employee cost Ratio, Deprecation Cost Ratio and Power and Fuel cost Ratio are found be 838.63, 575.54 and 108.43 respectively.

Table 1: Descriptive Statistics - ROTA/ROCE/RONW

HERO MOTOCORP		
	Mean	**SD**
ROTA/ROCE/RONW	187.12/ 46.00 /44.04	187.29/ 9.91/12.78
Material Cost Ratio	15392.57	4748.06
Power and Fuel cost Ratio	108.43	31.11
Employee cost Ratio	838.63	358.70
Miscellaneous Expenses Ratio	1705.54	1118.45
Deprecation Cost Ratio	575.54	395.48
Total Cost Ratio	18368.26	5705.74

The Table also blurts out that the Standard Deviation of ROTA, ROCE and RONW of the selected Company has been registered as 157.29, 9.91 and12.78 respectively. The highest Standard Deviation can be seen for the Material cost Ratio (4748.06), Total Cost Ratio (5705.74) and for Miscellaneous Cost Ratio (1118.45).

The computed regression co-efficient of Return on Total Assets is presented in the following Table 2. Regression coefficients represent the mean change in the response variable for one unit of change in the predictor variable while holding other predictors in the model constant. Table 2 also shows that no significantly influencing factor on the Return on total assets in Hero Moto Corp are found as the p value for Material Cost Ratio, Power and Fuel cost Ratio, Miscellaneous cost Ratio, Deprecation Cost Ratio and Total Cost Ratio is greater than 0.05. But in case of Employee Cost Ratio, the p value is found to be 0.016 which is less than the Table value. Hence it is found that employee cost in the selected company is an influencing factor on Return on Total Assets. It is evident that the estimated profitability function is found to be good fit under all measures of Profitability such as ROTA, ROCE and RONW in the selected company since the explanatory power of the equation measured by R squared and F appear to be good. The value of Squired varies from .902 to 0.97. That is, about 97% to 90 % of the variations in ROTA, ROCE and RONW in the selected company are explained by the variables in the equation given above.

Table 2: Regression Co-Efficient- ROTA

	B	SE	t	p
(Constant)	54.761	150.686	.363	.740
Martial Cost	.037	.090	.417	.705
Power and Fuel cost	2.907	1.667	1.744	.180
Employee cost	1.269	.259	4.909	.016
Miscellaneous Expenses	.060	.067	.896	.436
Deprecation Cost	.214	.096	2.242	.111
Total Cost	-.112	.096	-1.165	.328
R^2	.979			
F - Statistics	23.502			

*Significant (at 5 %);   ** Significant (at 1 %)

The computed Regression co efficient of Rerun on Capital Employed is shown in Table 3.Table 3 also shows that the p value for Material Cost Ratio, Miscellaneous cost Ratio and Total cost Ratio are found to be 0.043, 0.039 and 0.04 respectively which are less than 0.05. Hence these three Ratios are considered as influencing factors on Return on Capital EmployedBut the p value of Power and Fuel Cost Ratio, Employee cost ratio and depreciation cost Ratios is found to be 0.437, 0.075 and 0.837 respectively. These ratios are not found to be influencing on Return on Capital Employed.

Table 3: Regression Co-Efficient - ROCE

	B	SE	t	p
(Constant)	-29.726	17.270	-1.721	.184
Material Cost Ratio	-.035	.010	-3.388	.043
Power and Fuel cost Ratio	-.171	.191	-.894	.437
Employee cost Ratio	-.079	.030	-2.676	.075
Miscellaneous Cost Ratio	-.027	.008	-3.527	.039
Deprecation Cost Ratio	-.002	.011	-.221	.839
Total Cost Ratio	.041	.011	3.700	.034
R^2	.902			
F – Statistics	4.619			

*Significant (at 5 %);   ** Significant (at 1 %)

In addition, the computed regression co-efficient of Return on Net worth is presented in Table 4.   Table 4 also reveals that the p value of Material Cost Ratio, Miscellaneous cost Ratio, Deprecation Cost Ratio and Total Cost Ratio is found to be greater than 0.05. Hence, these ratios are not significantly influencing RONW of the selected company. But in case of Power and Fuel.

Table 4: Regression Co-Efficient- RONW

	B	SE	t	P
(Constant)	-22.590	19.670	-1.148	.334
Material cost Ratio	-.017	.012	-1.441	.245
Power and Fuel cost	-.705	.218	-3.242	**.048**
Employee cost	-.190	.034	-5.633	**.011**
Miscellaneous Expenses	-.022	.009	-2.539	.085
Deprecation Cost	-.039	.012	-3.167	.051
Total Cost	.034	.012	2.716	.073
R^2	.924			
F – Statistics	6.061			

*Significant (at 5 %);   ** Significant (at 1 %)

Cost Ratio and Employee Cost Ratio, the p value is found to be 0.048 and 0.11 which are less than the Table value. Hence it is found that the Power and Fuel Cost Ratio and employee cost Ratio in the selected company are found to be influencing factors on Return on Net Worth.

Conclusion

On the basis of the objectives, the study with regard to determinants of profitability of the selected company has been carried out and it is expected that the results of \the analysis would be useful to the management of the company for taking financial decision. In this study, three profitability measures viz., ROTA, ROCE and RONW were taken along with six independent variables such as Material Cost Ratio, Power and Fuel cost ratio Employee cost Ratio, Miscellaneous Expenses Ratio, Deprecation Cost ratio and Total Cost Ratio. In these ratios, the Employee Cost Ratio alone is considered as an influencing factor on ROTA whereas, Material Cost Ratio, Miscellaneous cost Ratio and Total cost Ratio are found to be the most influencing factors on ROCE of the selected company. As far as RONW is concerned, power and fuel cost and employee cost are the most influencing factors. Hence, it is suggested to the selected company to take necessary measures to reduce the mentioned costs so as to enable the company to increase its profitability.

References

1. Agyemang Badu Ebenezer , Michael Kwame Asiedu, "The Relationship between Working Capital Management and Profitability of listed Manufacturing Companies in Ghana, International Journal of Business and Social Research (IJBSR), Volume -3, No.-2, February 2013, PP:25-34.
2. Afza T, Nazir MS (2009). "Impact of Aggressive Working Capital Management Policy on Firm's Profitability", The IUP J. Appl. Financ. 19-30.
3. Baltagi BH (2005).Econometric Analysis of Panel Data, Third edition. Chichester: Wiley.
4. Barthwal, RR"The Determinants of Profitability in Indian Textile Industry", Economics, 1976, Vo1.43,pp. 267-274.
5. Deepak Chawola.T.,"An empirical analysis of the profitability of the Indian man-made fibers industry", Decision, pp.106-115.
6. Kawahito, R. Kiyoshi, T, "Relative profitability of the US and Japanese Steel industries", Columbia Journal of World Business, Vol.119, issue No.3, Feb 1976, pp.13-15.
7. Mitchel Berlin and Loretta J Mester (1997) "On the profitability and cost ofrelationship lending." Working papers 97-3Federal reserve Bank of Philadelphia.
8. Padachi K (2006)."Trends in Working Capital Management and its impact on Firms' Performance: An analysis of Mauritian Small Manufacturing Firms", Int. Rev. Bus.Res. Papers. 2(2):45-58.
9. Pandey IM, "Financial Management", Vikas publishing house Pvt. Ltd, New Delhi-14, 2010.
10. Paul Geroski Steve Mochin(1993)"The profitability of innovating firms." RAND Journal of Economics, The RAND corporation.vol.24 (2) pp.198-211.
11. Raheman A, Nasr M (2007), "Working Capital Management and Profitability: Case of Pakistani Firms", Int. Rev. Bus. Res. Papers.3 (1):279-300. World Bank Annual Report, 2007.
12. Siva Reddy Kalluru, Sham Bhat K.(2008),"An empirical analysis of profitability Determinants in Indian commercial Banks during post reform period ," Journal of Industrial Economics ICFAI Press Vol.V (4) pp.27-56.
13. Smith,K.V.(1980).Profitability and Liquidity trade-off WCM. In reading on the management of working capital (PP.549-562).
14. Sujit KS (2003)"Profitability of industry: market power or efficiency- A case study of Indian cement industry", the ICFAI University journal of applied economics, ICFAI press, vol .II (2)pp.67-.81.
15. Venkataramana, M.N., and Ramakrishnaian, K, "Profitability and Financial Performance: A Study on Selected Cement Companies in India", International Journal of Business and Management Tomorrow, Volume. 2, No. 5, 2012.
16. Vishnani, S. and Shah. B, "Impact of Working Capital Management Policies on corporate Performance an Empirical Study", Global Business Review, Volume 8, 2007, Pp.267-281.