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Management

IMPACT OF WORKING CAPITAL MANAGEMENT PRACTICES OF AUTOMOBILE COMPANIES ON PROFITABILITY : AN EVIDENT FROM BAJAJ AUTO AND HERO MOTOCORP

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ABSTRACT Financial management is considered to be the life blood of a business. The finances of the company may be categorized as long term financial requirements and short term or daily financial requirement. Long term financial requirement makes up the capital structure of a firm and mostly comprises of debt and equity. The daily requirement of fund is called Working Capital. Working capital indicates the money required for daily operations of a business. A corporate pays a lot of importance on planning its long term capital needs. The sources and their cost are identified and then an optimum capital structure is designed. Not only long term funds and their cost affect the profitability of a firm but even working capital has an impact on profitability because effective working capital management is about striking a tradeoff between profitability and liquidity. With this background this research attempts to study the impact of working capital management practices in Bajaj Auto and Hero Motocorp, which belongs to 2 & 3 wheeler sector in India with significant investments in working capital i.e. inventory, receivables and cash. For examining the impact of working capital on profitability mean, standard deviation, co-efficient of variation, one sample 't' test and multiple regression analysis have been applied. From the analysis, the researcher found that when compared to Bajaj Auto, Hero MotoCorp has registered significant growth through the impact of working capital on profitability during the study period.

KEYWORDS : .Talent management, retaining and employees performance

1. Introduction

In the last few decades, the Automotive Industry of India has been recording tremendous growth and has emerged as a major contributor to India's GDP. This dynamic Industry currently accounts for almost 7.1 percent of India's GDP and employing about almost 25 million people. Also contribution of Indian Automotive Industry to Global Auto Industry Development is increasing significantly. In India, since the de-licensing of the sector in 1991 and the subsequent opening up of 100 percent FDI through automatic route, Indian Automobile Sector has come a long way. Today almost every global auto major has set up facilities in the country.

In India, automotive is one of the largest industries showing impressive growth over the years and has been significantly making increasing contribution to overall industrial development in the country. This move is further enhanced by Government's support towards setting up centers for development and innovation. In order to further accelerate and sustain advancements in the auto sector, the department has undertaken several policy measures and incentives. The most important being the announcement of Auto policy of 2002, which aimed to establish a globally competitive automotive industry in India and double its contribution to the economy. Another milestone in this field had been the launch of the National Automotive Testing and R&D Infrastructure Project (NATRIP) which aimed to create core global competencies in automotive sector.

As a result, India is emerging as strong automotive Research and Development (R&D) hub with foreign players like Hyundai, Suzuki, and General Motors setting up their base in India. Tata Nano's successful entry in the market steamed up the opportunities of growth available in alternative segments like electric cars, vehicles run on natural gas etc. All such initiative indicates that the Indian Automotive Industry has been emerging as a sunrise sector of the economy. It is not only meeting the growing domestic demands, but also gradually increasing its penetration in the international market. Cash, the most liquid asset, is of vital importance to the daily operations of business firms. While the proportion of corporate assets held in the form of Cash is very small, its efficient management is crucial to the solvency of the business. In a very important sense, cash is the focal point of fund flows in a business and is generally referred to as the 'lifeblood of business enterprise'.

Most of the companies spend a lot of time and effort in managing their long term financial requirements as they incur a big cost and have to be borne for a long period of time. Working capital is a short term obligation, it is a cheaper source of finance, but if not managed properly it can greatly affect the profitability of a firm. Working Capital Management involves managing the relationship between a firm's short term assets and its short term liabilities. In case of working capital management the company has to do a tradeoff between profitability and liquidity. Liquidity means the capability to take care of short term obligation, if a company focuses on too much of liquidity then its funds, stock and other current assets increase in number, locking up too much of fund and thereby affecting profitability. On the other hand, if the company compromises on its liquidity by keeping less of assets handy and using the funds for generating returns by employing them in short term instruments then the profitability is enhanced but the sale and other obligations of the company suffer. Thereby determining optimum level of investment in current assets is one of the important working capital policy decisions. A large number of business failures have been attributed to the inability of the financial managers in managing current assets of the company.

2. Review of Literature

According to Sinha et.al., (1998), inefficient management of working capital has been a major cause for the reduction in profits of the firm as a huge amount of fund is engaged in inventories as well as the receivables. A research conducted by Ray (2012) and discussed in his study have tried to investigate the relationship between working capital management components and the profitability of a sample of Indian manufacturing firms using a sample of 311 Indian manufacturing firms for a period of 14 years from 1996-97 to2009-10 and have studied the effect of different variables of working capital management including the average collection period, inventory turnover in days, average payment period, cash conversion cycle and current ratio, debt ratio, size of the firm and financial assets to total assets ratio on the net operating profitability of Indian firms. The result suggests a strong negative relationship between the measures of working capital management including the number of days accounts receivable and cash conversion cycle, financial debt ratio with corporate profitability.

From the result of a research conducted by Mittal, Joshi and Shrimali(2012), the working capital trends on the basis of working capital size, ratio of working capital to total assets, fitting trend line analysis and the correlation between current assets, sales and profit. Also Their study unearthed that companies in Indian cement industry are failing to maintain the required level of working capital. Joshi and Ghosh (2012) in their empirical findings reveal significant positive trend growth in most of the selected performance indicators study period. Motaals test also indicates significant improvement in liquidity

performance during the study period. The paper concludes that there exists significant negative relationship between liquidity and profitability, which indicates that Cipla Ltd. has maintained post optimal level of liquidity (i.e., excess liquidity) during the period under study.

In the last year, a study conducted by Syed Noorul Shajar and Saleem Akhtar Farooqi (2016) in the impact of working capital management, which is the discipline of management which is inevitable in all walks of economic life whether in a household or in an enterprise, in the public domain or in private domain, profit oriented or not .The efficient working capital management is most crucial factor in maintaining survival, liquidity, solvency and profitability of any business organization. Moreover, an optimal working capital management positively contributes to the firm's value. The profitability and the efficiency of every sector in the nation have direct bearing on the prosperity of economy which can be primarily achieved through efficient working capital management practices. It helps in designing a framework to smoothen the financial constraints of business so as to make effective use of its resources. Keeping in mind the significance of working capital management an attempt has been made to examine its impact on the profitability of Indian automobile industry. The Indian automobile industry is one of the largest in the world with an annual production of 23.36 million vehicles in FY 2014-15. The Automobile industry accounts for 22 per cent of the country's manufacturing gross domestic product (GDP).For the purpose of this research paper three Indian Automobile company namely Tata motors ltd., Maruti Suzuki India ltd. and Mahindra &Mahindra ltd. are taken ,as these are the giants companies in Indian Automobile industry and plays a pivotal role in growth of Indianeconomy. For analyzing the result ROCE is used as dependent proxy variable for profitability. Whereas CR, DTR, ITR are used as independent proxy variable for substantiating the impact of working capital management on the profitability of companies.

3. Objectives of the study

- To study the working capital analysis and profitability analysis through selected ratios.
- To examine the impact of working capital analysis on the profitability performance of the selected automobile companies in India.

4. Hypotheses of the study

- There is no significant difference between the years of the Current and Liquid ratios in the selected automobile companies.
- There is no significant difference between the years of the Inventory and Working Capital Turnover Ratios in the selected automobile companies.
- There is no significant difference between the years of the Return on Total Assets Ratio in the selected automobile companies.

5. Research Design

The study is based on secondary data. The data required for the study is extracted from the CMIE data of Bajaj Auto and Hero Motocorp. The study covers a period of 10 years from 2006-07 to 2016-17. It is based on various aspects of working capital and mainly focuses on the following; relationship of current asset and current liabilities, turnover of current assets and impact of working capital on profitability. For evaluate the impact of working capital management on profitability, mean, standard deviation, co-efficient of variation, one sample 't' test and multiple regression analysis have been applied.

6. Data Analysis

For the purpose of measuring the working capital and profitability performance of the selected automobile companies, ratio analysis has been considered to evaluate the impact of working capital. The ratios are discussed in the following tables.

6.1 Current and Liquid Ratio

The following table shows the current and liquid ratio of the selected automobile companies. In order to examine the significant difference among the selected ratios during the study period is discussed by using one sample 't' test with the following hypothesis.

H0 : There is no significant difference between the years of the Current and Liquid ratios in the selected automobile companies.

Table 1 : Current and Liquid Ratio

Year	Current Ratio	Liquid Ratio		
	Bajaj Auto	Hero MotoCorp	Bajaj Auto	Hero MotoCorp
2006-07	0.536	0.552	0.037	0.030
2007-08	0.573	0.512	0.046	0.090
2008-09	0.605	0.414	0.098	0.130
2009-10	0.369	0.607	0.045	0.470
2010-11	0.456	0.139	0.092	0.014
2011-12	0.995	0.293	0.598	0.022
2012-13	0.710	0.512	0.202	0.063
2013-14	0.621	0.588	0.159	0.040
2015-16	0.765	0.743	0.212	0.050
2016-17	0.806	0.594	0.302	0.037
Mean	**0.644**	**0.495**	**0.18**	**0.09**
SD	**0.182**	**0.173**	**0.17**	**0.14**
CV (%)	**28.283**	**34.993**	**95.25**	**144.21**
't' Test	**11.182**	**9.038**	**3.315**	**2.193**
'p' Value	**0.000****	**0.000****	**0.009****	**0.056NS**

Note : ** - Significant at 1% level; NS – Not Significant

From the table 1, it is understood about the current and liquid ratio analysis of the selected automobile companies during the study period of 2006-07 to 2016-17. When comparing the mean value, the mean ratio is high in Bajaj Auto in Current Ratio and Liquid Ratio during the study period. Further, last five years of the study period ie., 2011-12 to 2016-17, Bajaj Auto shows better performance in Current and Liquid Ratio which found from the showing of above mean values of the specific study period of the company. In considering Hero MotoCorp, it registered 7 years of the study period in Current Ratio and 2 years in Liquid Ratio higher than the mean value.

While considering the co-efficient of variation, it noticed that when compared to Hero MotoCorp, Bajaj Auto has more consistent in both the ratios. After seeing the 't' test results, the Bajaj Auto has registered a significant difference between the years of the current and liquid ratios. But in the case of Hero MotoCorp, it registered significant difference in current ratio only not in liquid ratio.

6.2 Inventory and Working Capital Turnover Ratio

The following table shows the Inventory and Working Capital Turnover Ratio of the selected automobile companies. In order to examine the significant difference among the selected ratios during the study period is discussed by using one sample 't' test with the following hypothesis.

H_0 : There is no significant difference between the years of the Inventory and Working Capital Turnover Ratios in the selected automobile companies.

Table 2 : Inventory and Working Capital Turnover Ratio

Year	Inventory Turnover Ratio		Working Capital Turnover Ratio	
	Bajaj Auto	Hero MotoCorp	Bajaj Auto	Hero MotoCorp
2006-07	30.42	35.95	-12.05	-18.85
2007-08	25.25	32.62	-17.46	-14.56
2008-09	25.68	37.71	-15.96	-12.52
2009-10	26.47	36.30	-8.45	-10.17
2010-11	29.96	36.95	-12.11	-4.32
2011-12	28.78	34.90	-1564.82	-9.53
2012-13	31.43	37.33	-24.99	-16.85
2013-14	31.50	37.75	-17.12	-21.14
2015-16	26.55	33.83	-33.29	-33.79
2016-17	31.55	42.50	-41.02	-20.06
Mean	**28.76**	**36.58**	**-174.73**	**-16.18**
SD	**2.55**	**2.68**	**488.54**	**8.13**
CV (%)	**8.87**	**7.34**	**-279.60**	**-50.23**
't' Test	**35.656**	**43.070**	**1.131**	**6.296**
'p' Value	**0.000****	**0.000****	**0.287NS**	**0.000****

Note : ** - Significant at 1% level; NS – Not Significant

It could be found from the Table 2, it is noted that the Inventory and Working Capital Turnover Ratio analysis of the selected automobile companies have been calculated during the study period of 2006-07 to 2016-17. When comparing the mean value, the mean ratio is high in Hero MotoCorp in Inventory Turnover Ratio and Working Capital Turnover Ratio during the study period. Both the companies have registered negative working capital turnover ratio during the study period. Both the companies have fluctuating trend during the study period.

While considering the co-efficient of variation, it noticed that when compared to Bajaj Auto, Hero MotoCorp has more consistent in both the ratios. The result of 't' test indicated that the Hero MotoCorp has registered a significant difference between the years of the Inventory Turnover Ratio and Working Capital Turnover Ratio. On the other hand, Bajaj Auto has registered significant difference in Inventory Turnover Ratio only not in Working Capital Ratio.

6.3 Return on Total Assets

The following table shows the Return on Total Assets Ratio of the selected automobile companies. In order to examine the significant difference between the Return on Total Assets ratio during the study period is discussed by using one sample 't' test with the following hypothesis.

H0 : There is no significant difference between the years of the Return on Total Assets Ratio in the selected automobile companies.

Table 3 : Return on Total Assets Ratio

Year	Return on Total Assets Ratio	
	Bajaj Auto	Hero MotoCorp
2006-07	17.29	32.55
2007-08	25.87	31.04
2008-09	19.09	33.04
2009-10	39.91	63.21
2010-11	64.20	43.55
2011-12	48.94	44.86
2012-13	38.17	39.90
2013-14	33.55	37.66
2015-16	26.04	36.47
2016-17	29.33	39.43
Mean	**34.24**	**40.17**
SD	**14.30**	**9.29**
CV (%)	**41.76**	**23.13**
't' Test	**7.572**	**13.671**
'p' Value	**0.000****	**0.000****

Note : ** - Significant at 1% level

It is seen from the Table 3 that the Return on Total Assets Ratio of the selected automobile companies has been calculated during the study period of 2006-07 to 2016-17. The result of mean value shows that it is high in Hero MotoCorp when compared to Bajaj Auto during the study period. Both the companies have fluctuating trend during the study period.

The co-efficient of variation indicated that when compared to Bajaj Auto, Hero MotoCorp has more consistent in Return on Total Assets ratios. The result of 't' test indicated that both the companies have registered a significant difference between the years of the Return on Total Assets Ratio.

6.4 Impact of Working Capital on Profitability : Multiple Regression Analysis

To further analyze the impact of significantly correlated independent variables on profitability of Bajaj Auto and Hero MotoCorp, regression analysis was undertaken. The findings of the analysis and their implications are discussed hereinafter. The following table shows the strength of the relationship between the selected independent variables and return on total assets of Bajaj Auto and Hero MotoCorp.

Table 4
Impact of Working Capital on Profitability through Multiple Regression Analysis

Note : ** - Significant at 1% level

It is seen from the Table 3 that the Return on Total Assets Ratio of the selected automobile companies has been calculated during the study period of 2006-07 to 2016-17. The result of mean value shows that it is high in Hero MotoCorp when compared to Bajaj Auto during the study period. Both the companies have fluctuating trend during the study period.

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Table 4 Impact of Working Capital on Profitability through Multiple Regression Analysis

No.	Independent Variables	Bajaj Auto		Hero MotoCorpo	
		Co-efficients	't' Value ('p' Value)	Co-efficients	't' Value ('p' Value)
	Constant	80.917		17.563	
1	Current Ratio	-149.059	-2.552 (0.051 NS)	-49.678	-1.021 (0.354NS)
2	Liquid Ratio	191.236	1.907 (0.115 NS)	80.547	2.273 (0.072NS)
3	Inventory Turnover Ratio	0.579	0.330 (0.755 NS)	0.743	0.842 (0.438NS)
4	Working Capital Turnover Ratio	0.009	0.455 (0.668 NS)	-0.766	-0.741 (0.492NS)
	R Value	**0.811**		**0.840**	
	R^2 Value	**0.659**		**0.706**	
	F Value	**2.410**		**3.002**	
	'p' Value	**0.180**		**0.130^{NS}**	

Note : NS – Not Significant.

The resulted equation is

Return on Total Assets (Bajaj Auto) = 80.917
- 149.059 (Current Ratio)
+ 191.236 (Liquid Ratio)
+ 0.579 (Inventory Turnover Ratio)
+ 0.009 (Working Capital Turnover Ratio)

Return on Total Assets (Hero MotoCorp)= 17.563
- 49.678 (Current Ratio)
+ 80.547 (Liquid Ratio)
+ 0.743 (Inventory Turnover Ratio)
- 0.766 (Working Capital Turnover Ratio)

The multiple linear regression co-efficient is found to be statistically fit as R2 is 0.659 and 0.840 for return on total assets for the company Bajaj Auto and Hero MotoCorp respectively. It shows that the independent variables contribute about 65.9 percent and 70.6 percent of the variation in the return on total assets ratio. It is found from the analysis that liquid ratio, inventory turnover ratio and working capital turnover ratio are having positive association in Bajaj Auto. In the case of Hero MotoCorp, liquid ratio and Inventory Turnover Ratio are having positive association with return on total assets ratio.

7. FINDINGS

- It is found from the current and liquid ratio, when compared to Hero MotoCorp, Bajaj Auto has more consistent in both the ratios.
- The analysis of one sample 't' test noticed that Bajaj Auto has registered a significant difference between the years of the current and liquid ratios. But in the case of Hero MotoCorp, it registered significant difference in current ratio only not in liquid ratio.
- It is observed that when compared to Bajaj Auto, Hero MotoCorp has more consistent in both the ratios.
- The result of 't' test indicated that the Hero MotoCorp has registered a significant difference between the years of the Inventory Turnover Ratio and Working Capital Turnover Ratio. On the other hand, Bajaj Auto has registered significant difference in Inventory Turnover Ratio only not in Working Capital Ratio.
- The co-efficient of variation indicated that when compared to Bajaj Auto, Hero MotoCorp has more consistent in Return on Total Assets ratios.
- The result of 't' test indicated that both the companies have registered a significant difference between the years of the Return on Total Assets Ratio.
- It is found from the multiple regression analysis that liquid ratio, inventory turnover ratio and working capital turnover ratio are having positive association in Bajaj Auto. In the case of Hero MotoCorp, liquid ratio and Inventory Turnover Ratio are having positive association with return on total assets ratio.
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- The result of 't' test indicated that the Hero MotoCorp has registered a significant difference between the years of the Inventory Turnover Ratio and Working Capital Turnover Ratio. On the other hand, Bajaj Auto has registered significant difference in Inventory Turnover Ratio only not in Working Capital Ratio.
- The co-efficient of variation indicated that when compared to Bajaj Auto, Hero MotoCorp has more consistent in Return on Total Assets ratios.
- The result of 't' test indicated that both the companies have registered a significant difference between the years of the Return on Total Assets Ratio.
- It is found from the multiple regression analysis that liquid ratio, inventory turnover ratio and working capital turnover ratio are having positive association in Bajaj Auto. In the case of Hero MotoCorp, liquid ratio and Inventory Turnover Ratio are having positive association with return on total assets ratio.

8. Recommendations and Conclusion

This study investigates how relatively listed automobile companies in India can manage their working capital in the most profitable way during the past ten years of the study period. Working capital is studied as a whole, but its parts are also studied individually. The study mainly focused on to examine the impact of working capital management practices on profitability of selected automobile companies like Bajaj Auto and Hero MotoCorp for the period of 2006-07 to 2016-17. For this, CMIE data has been collected and calculate the working capital ratios and profitability ratio. Through the analysis of ratio analysis, mean, standard deviation, coefficient of variation, one sample 't' test, multiple regression analysis, it is found that when compared to Bajaj Auto, Hero MotoCorp has registered significant growth in profitability by the impact of working capital management. So, it is recommended to the Bajaj Auto that the company should take necessary steps to maintain the working capital through increase the equity share capital of the shareholders. It increase the profitability position of the company.

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