Working Capital and Profitability in Two Wheeler Industry

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Abstract – The efficiency of a firm depends largely on its ability to manage its working capital. Its effective provision can ensure the success of a business while its inefficient management can lead not only to loss but also to ultimate downfall of what otherwise might be considered as a promising concern. So, the working capital management aims at achieving a trade-off between liquidity and profitability goals. In the present study, an attempt has been made to analyze the extent up to which twin goals have been attained in Indian two-wheelers industry.

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INTRODUCTION

Working capital which is regarded as the lifeblood of a business plays a pivotal role in keeping the wheels of a business enterprise running. However, the management of working capital is delicate area in the field of financial management involving frequent decision making concerned with all those acts the influence the size and effectiveness of working capital. Any business firms must maintain a sufficient amount of working capital in order to run its business at a satisfactory level. Both excessive as well as inadequate working capital position are dangerous from the firm's point of view.

Therefore, management of working capital is essential to ensure that the amount of working capital available is neither too large nor too small. It must be kept at an optimal level in a firm, so as to achieve a trade of between liquidity & profitability. This dimension indicates the dangers of keeping excessive and inadequate working capital. Inadequate working capital means shortage of raw-materials and other inputs-results in underutilization of machinery and finally leads to failure of business. On the other hand, excessive working capital leads to over-stocking, excessive receivables, a tax-collection policy, surplus cash and lack of co-ordination that hampers profitability. Therefore, the amount of working capital in a business should be neither less nor excessive than required. Moreover, the sources of financing working capital must be selected after due consideration to timings of inflows & outflows, cost of capital and risk aspects. Last but not the least, the policy making activity regarding various components of working capital i.e. cash, inventories and receivables has been treated as the major area in modern financial manager's working sphere. On the basis of above it can be easily said that management of working capital is quite significant from a firm's and industry's viewpoint & automobile sector in no exception to it.

REVIEW OF LITERATURE

National Council of Applied Economic Research (NCAER, 1966) conducted a study on the structure of working capital in 1966 by selecting 15 companies from the sugar industry, 9 companies from the cement industry and 8 companies from the fertilizer industry. This study revealed that internal sources have contributed very little towards the financing of working capital.

Smith (1974) is related to profitability versus liquidity trade-off in working capital management. He suggested that parallel monthly forecasts of liquidity and profitability can be useful in evaluating trade-off between these two goals.

Agrawal (1983) threw some light on working capital management on the basis of sample of 34 large manufacturing and trading public ltd. companies in ten industries in private sector for the period 1966-67 to 1976-77. The study concluded that in majority of the industries, the working capital per rupee of sales showed a declining trend over the years.

Sinha and Singh (1985) studied on cash planning and management in Public Sector Fertilizer Undertakings in the light of accepted norms. In order to analyze the liquidity position, the more emphasis was given to "Cash flow to current liabilities ratio" rather than to current ratio and acid-test ratio.

Panda and Panda (1987) evaluated the current assets management in public sector undertakings of Orissa vis-à-

vis the central public sector undertakings at the all India level over the period of 1974-75 to 1984-85. It concluded that the state sector in Orissa used a higher proportion of current assets to total net assets, gross fixed assets and net sales in comparison to central sector.

Rao and Prasad (1987) explained that although current assets play a dominant role in total investments, with around 60 percent, yet it is not being efficiently managed.

Vijaykumar and Venkatachalam (1995) evaluated the impact of working capital on profitability in sugar industry in Tamil-Nadu by selecting 13 companies; 6 companies in co-operative sector and 7 companies in private sector over the period 1982-83 to 1991-92. The study concluded that liquid ratio, inventory turnover ratio, receivables turnover ratio and cash turnover ratio influenced the profitability of sugar industry in Tamil-Nadu.

Debasish Sur (1995) examined the management of working capital in Balmer Lawrie & Co. Ltd during the period 1988-89 to 1992-93. It was evident from the study that the company followed the conservative approach from the point of investment in working capital.

Reddy and Patker (2006) examined the size and its components and liquidity management in factoring companies. Further, the study tried to reveal the relationship between liquidity and profitability of factoring companies.

Bardia (2007) analyses the liquidity management of Steel Authority of India Ltd. (SAIL) over the period of 1991-92 to 2001-02. The study highlights the strengths and weakness regarding various aspects of its liquidity and working capital management.

Chander and Kumar (2007) empirically examined the sources of finance used by the small scale textile industry to finance its working capital. The study highlighted that the three important basis like as a percentage of production, need based and as a percentage of sales were used for determining the size of working capital.

OBJECTIVE OF THE STUDY

The present paper aims at evaluating the impact of working capital on profitability has been examined.

DATA COLLECTION & RESEARCH METHODOLOGY

In the present study the secondary data has been used which have been collected through annual reports of the selected companies. The period of the sturdy refers to ten years commencing from 1998-99 to 2008-09. The collected data has been analysed by using statistical techniques such as correlation and multiple regression etc.

WORKING CAPITAL AND PROFITABILITY

In conventional production function approach, fixed capital is taken as explanatory variable to establish relationship between output and profit. Here, the working capital which plays a crucial role in profit generating process is often ignored. In order to judge the liquidity position and its impact on profitability, it is necessary to analyze the role of working capital in profit generating process. Generally, higher the working capital ratio, lesser will be the rate of return on capital employed and vice-versa. In the present paper, the impact of working capital on profitability has been examined. The statistical techniques such as correlation and regression analysis have been used for this purpose. The ratios relating to working capital management such as Liquidity Ratio (LR), Current Assets to Total Assets Ratio (CTTR), Current Assets to Sales Ratio (CTSR), Working Capital Turnover Ratio (WTR), Inventory Turnover Ratio (ITR), Debtor Turnover Ratio (DTR), Cash Turnover Ratio (CTR) and Return on Investment (ROI) have been used to examine the objective of the study.

CORRELATION ANALYSIS

The co-efficient of correlation between selected ratios relating to working capital management (WCR) and Return on Investment (ROI) are presented in table 1.1. It is evident from the table that the correlation co-efficient between ROI and LR is (-) 0.75. It indicates that there is lower degree of negative association between the profitability and the liquidity ratio in two-wheelers industry. The value of correlation coefficient is found to be significant at the 0.01 percent level. Similarly, the correlation co-efficient between ROI and CTTR is (+) 0.24. It implies that there is a positive correlation between the two variables. Whereas, the correlation co-efficient between ROI and CTSR is (-) 0.20. It reflected a lower degree of negative association between the two variables. It indicates that lower the current assets to sales ratio, the greater the efficiency of the working capital and the wide scope of profitability. On the other hand, the correlation co-efficient between ROI and WTR is (-) 0.34, which indicates a lower degree of negative correlation between the two. The steady movement of working capital turnover, the higher investment and greater is the profitability conforms to principle. The correlation co-efficient between ROI and ITR is found to be (+) 0.81, it viewing a higher degree of positive correlation between the variables. The value of correlation coefficient is found to be significant at the 1 percent level of significance. The correlation co-efficient between ROI and DTR shows negative association of (-) 0.37. It is found to be insignificant at both 0.05 percent and 0.01 percent levels. The co-efficient of correlation between ROI and CTR reflects low degree of positive association

(+) 0.14.

Table-1.1

Simple Correlation Analysis between Selected Ratios Relating to Working Capital Management and Return on Investment

	LR	CTTR	CTSR	WTR	ITR	DTR	CTR
Correlation Co. (r)	-0.75**	0.24	-0.20	-0.34	0.81**	-0.37	0.14

Note: ** indicates that correlation is significant at the 0.01 level.

Table-1.2

Correlation Matrix

Particulars	LR	CTTR	CTSR	WTR	ITR	DTR	CTR	ROI
LR	1.00							
CTTR	0.30	1.00						
CTSR	0.13	-0.41	1.00					
WTR	0.03	-0.42	0.70*	1.00				
ITR	0.52	0.52	-0.30	0.33	1.00			
DTR	0.12	-0.27	0.20	0.53	0.26	1.00		
CTR	-0.37	0.11	0.22	-0.003	-0.01	-0.36	1.00	
ROI	-0.75**	0.24	-0.20	-0.34	0.81**	-0.37	0.14	1.00

Note: 1. ** indicates that correlation is significant at the 0.01 level.

2. * indicates that correlation is significant at the 0.05 level.

It may be concluded from the above analysis that the impact of working capital ratios on profitability viewed both negative and positive impacts. The analysis of the relationship between the profitability and working capital ratios conform with accepted rule that larger the turnover increases the profitability of the firms.

Impact of Working Capital Ratios on Profitability-Multiple Regression Analysis

For the purpose of establishing definite relationship between working capital ratios and profitability ratio, a linear multiple regression model has been used. In tables 1.6 & 1.7 multiple correlation and multiple regression techniques have been applied and impact of working capital on profitability of Indian two-wheelers industry, the regression coefficients have been tested with the assistance of the most popular 't' test. In a linear multiple regression models, CTTR, ITR, DTR and CTR have been taken as explanatory variables and ROI has been used as the dependent variable. The regression model used in this analysis is hereunder.

ROI = bo + b1 CTTR + b2 ITR + b3 DTR + b4 CTR

Where, bo, b1, b2, b3 and b4 are the parameters of the ROI line to be estimated.

Table – 1.7

Multiple Correlations and Multiple Regression Analysis Variables in the equation ROI = b0 + b1 CTTR + b2 ITR + b3 DTR + b4 CTR

Variables	Regression Coefficient	Standard Error of Regression Coefficient	't' Value	Significant 't'
CTTR	1.68	2.36	0.71**	0.50
ITR	15.34	4.88	3.15*	0.02
DTR	-0.11	0.61	-0.18	0.86
CTR	0.09	0.25	0.39	0.71
Constant	16.68	106.59	0.16	0.88
Multple R = 0.850	R^2 = 0.722	Adj. R^2 = 0.54		

Note: 1. * indicates that 't' values are significant at 0.05 level of significance.

2. ** indicates that 't' values are significant at 0.5 level of significance.

The pooled regression results of the models exhibiting the impact of working capital on profitability of the selected firms are presented in table 1.7. Table 1.7 exhibiting the relationship between the dependent variable (ROI) and all the independent variables taken together. Further, the table also shows the impact of these variables on the profitability of the selected firms. When CTTR increases by one unit, rate on investment increase by 1.68 units, which is statistically significant at 50 percent level. When ITR increases by one unit, profitability of the Indian automobile industry increases by 15.34 units which is statistically significant at 5 percent level of significance. When DTR increase by one unit, the ROI of Indian automobile industry stepped up by -0.11 units, which is statically insignificant at 5 and 1 percent levels. When increase in CTR, the profitability increase by 0.09 units. The multiple correlation coefficient of ROI on CTTR, ITR, DTR and CTR is 0.850. It reveals that the profitability of Indian automobile industry is highly influenced by CTTR, ITR, DTR and CTR. It is also evident from the value of R^2 that the independent variables CTTR, ITR, DTR and CTR are contributed 72.20 percent of the variations in the profitability of Indian two-wheelers industry.

It may be concluded from the above analysis that working capital management and profitability of Indian automobile industry discloses both negative and positive association. Out of the selected variables, LR, CTSR, WTR and DTR registered negative correlation with the selected profitability ratio (ROI). The slopes of the ROI equation depicted that positive and negative influence of variations

in the independent variables on the profitability of Indian automobile industry. Out of the four regression coefficients of the ROI line, only one coefficient which is associated with DTR reveals negative influence on the profitability. The coefficient of multiple determination (R^2) makes it obvious that 72.20 percent of the total variation in the profitability of Indian automobile industry.

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