

Impact of Working Capital Management Practices of Automobile Firms on their Profitability: An Example of Mahindra & Mahindra Ltd.

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Abstract

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 paper attempts to study the impact of working capital management at Mahindra and Mahindra Ltd, which is a capital intensive firm with significant investments in working capital i.e. inventory, receivables and cash.

Keywords:

Working Capital, Profitability, Liquidity, Inventory, Receivables.

Introduction

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. 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.

Literature review

Sinha et al (1998) in their study revealed that 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.

Ray (2012) in their 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 to 2009-10 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.

Singh (2011) has analyzed the impact of working capital on the return on capital employed for cement companies in India. Some results of the study are in complete departure from previous results. He has found that there exists on relationship between days sales outstanding and cash conversion cycle and profitability of a firm in cement industry in India.

According to Gumber & Kumar (2012) the main objective of their paper was to analyze the significance and growth of various constituents of both current assets and current liabilities among the cooperative sector and the public sector fertilizer companies. The co-operative sector possessed more amounts of working capital than the public sector and the former's working capital need grew at a rate which was almost double the rate of the public sector. It was observed and concluded that the co-operative sector was better off than the public sector as regard liquidity and payment to creditors as their credit period were much shorter than the public sector.

Joshi and Ghosh (2012) in their paper examine the working capital performance of Cipla Ltd. during the period 2004-05 to 2008-09. The empirical findings reveal significant positive trend growth in most of the selected performance indicators and also show that there exists significant negative relationship between liquidity and profitability.

Sitalani and Bhatia (2012) in their paper have examined the impact of working capital on the profitability of the firm with an example of Ranbaxy Laboratories Ltd. They have concluded that working

capital practices of Ranbaxy Ltd has exhibited relationship on both dimensions, positively as well as negatively.

Mittal, Joshi and Shrimali(2012) attempt to examine 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. 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.

Objectives

According to Mittal and Shrimali (2012) the main objective of working capital management is to arrange the needed funds at right time from the right sources and for the right period so that tradeoff between liquidity and profitability may be realized. Keeping this in mind he basic objective of the study is to assess the impact of working capital management practices of Mahindra & Mahindra on its profitability. The study aims at analyzing the impact of working capital decisions on the profitability of the company.

Data and Methodology

The study is based on secondary data. The data required for the study is extracted from the annual reports of Mahindra & Mahindra Ltd. The study covers a period of 6 years from 2008-2013. It is based on various aspects of working capital and mainly focuses on the following; components of working capital, financing of working capital, components of current assets; relationship of current asset and current liabilities, turnover of current assets and impact of working capital on profitability.

The analysis is done on the basis of various ratios such as current ratio (CR), liquid Ratio (LR), Working capital turnover Ratio (WTR), inventory turnover ratio (ITR), Receivables Turnover ratio (RTR), Cash turnover Ratio (CTR), other current asset turnover ratio, loans and advances turnover ratio, working capital long term funding, current asset to total asset ratio, inventory to current asset, receivables to current asset, cash to current assets used as independent ratio. Return on total assets is used as dependant variable. Statistical technique such as correlation and regression analysis is used for the purpose of analyzing the data.

Components of Working Capital

Table 1: Components of Working Capital

Year	Stock	Debtors	Cash and bank balance	Other current assets	Loans and advances	Gross working capital
2008	1084	1005	861	2.5	692	3644.5
2009	1061	1044	1574	2	1383	5064
2010	1189	1258	1743	51	1805	6046
2011	1694	1355	614	107	2373	6143
2012	2358	1988	1188	475	931	6940
2013	2420	2208	1781	509	763	7681

Table 2: Percentage Composition of various component of Working Capital to the Gross Working Capital

Year	Stock	Debtors	Cash and bank balance	Other current assets	Loans and advances	Gross working capital
2008	29.7434	27.5758	23.62464	0.068597	18.98752	100
2009	20.9518	20.6161	31.08215	0.039494	27.31043	100
2010	19.6658	20.8071	28.82898	0.843533	29.85445	100
2011	27.5761	22.0576	9.995116	1.74182	38.62933	100
2012	33.9769	28.6455	17.11816	6.84438	13.41499	100
2013	31.5063	28.7462	23.18709	6.626741	9.933602	100
Average %	27.2367	24.7414	22.30602	2.694094	23.02172	100
std deviation	5.27377	3.62891	7.077626	2.914393	9.904038	

Correlations

		cashnbank	loansnadv
cashnbank	Pearson Correlation	1	-.272
	Sig. (2-tailed)		.602
	N	6	6
loansnadv	Pearson Correlation	-.272	1
	Sig. (2-tailed)	.602	
	N	6	6

This table 2 shows the percentage of various components of working capital of Mahindra & Mahindra for a period of 6 years from financial year 2007-2008 to 2012-13 to its Gross Working Capital. It can be seen that the working capital components except current assets which occupy a miniscule average 3% only, carry almost equal weight age around 24%. If a year to year comparison of the components of current assets is done than it can be observed that in the financial year 2010-11 the component of cash and bank

balance fell down drastically whereas loans and advances rose. Moreover if we look at the deviation in the percentage of the components of gross working capital then maximum deviation is observed in cash and bank balance and loans and advances. An attempt is made to find out whether there is any correlation between the component cash and bank balance and loans and advances, but a very negligible and a negative correlation is observed between the two variables.

Financing of Working Capital

Table 3: Financing of Working Capital (amount in crores)

Year	Gross Working Capital	Short term	Provisions	Long term	% of GWC financed through LTF
2008	3644.5	2296	943	405.5	11.12635
2009	5064	3520	1278	266	5.252765
2010	6046	3400	1796	850	14.05888
2011	6143	4692	1260	191	3.10923
2012	6940	5997	1363	-420	-6.05187
2013	7681	6686	1464	-469	-6.10598

The table 3 above shows the financing pattern of gross working capital of Mahindra & Mahindra during the period under study. As seen from the table the current assets of the company are primarily financed by the short term sources of finance. In fact in the financial year 2011-12 and 2012-13 the financing is fully taken care by the short term sources of finance. This shows that Mahindra & Mahindra is able to profitably manage its working capital by investing cheaper source of fund i.e. short term funds for its current assets rather than the more costly long term source of financing.

Working Capital and Profitability: Correlation Analysis.

Every firm works towards profitability. Each component of asset whether it is current asset or fixed asset is employed to generate profit for the company. In this section an attempt is made to see to what extent the current assets affect the profitability of Mahindra and Mahindra. Each component of current assets has an impact on the profitability of the organization and one of the measures of profitability of an organization is Return on assets (ROA) and so an attempt has been made to check how inventory, debtors, cash and other current assets affect the performance of the firm. Correlation

analysis is applied on data between the financial years 2007-2008 to 2012-2013. Return on Assets (ROA) is the dependant variable and its correlation is checked to a set a of independent variables like Inventory to Current assets(ICA), Receivables to Current Assets(RCA), cash to Current assets(CCA), other current assets to current assets(OCACA), Loans and advances to Current assets(LACA). Not only is the component of current assets important but the turnover of these current assets is also important. The turnover of current assets denotes the efficiency of the firm in managing them. As a rationale it is understood that efficiency means smooth conduct of operational activities, so a smooth conduct of operational activities should lead to higher profit for business. Thereby a correlation is also sought between Return on assets as a dependant variable and Working capital turnover ratio (WCTR), Inventory turnover ratio (ITR), Receivables Turnover Ratio (RTR), Cash turnover ratio (CTR), Other Current Assets turnover ratio (OCATR), loans and advances turnover ratio (LATR). Working capital management is basically about establishing a tradeoff between profitability and liquidity so a correlation is also sought between ROA and the liquidity ratios i.e. Current ratio (CR) and quick ratio (QR).

Ratio	Status	Dimension Covered	Rationale
Return on Assets(ROA)	Dependent variable		ROA can best measure how much of profitability the assets are able to generate for the firm
Inventory to Current assets (ICA)	Independent variable	Component Dimension	Current assets have an impact on the profitability of the organization.
Receivables to Current Assets (RCA)	Independent variable		
Cash to Current assets (CCA),	Independent variable		
Other current assets to current assets (OCACA)	Independent variable		
Loans and advances to Current assets(LACA)	Independent variable		
Working capital turnover ratio(WCTR)	Independent variable	Turnover dimension	These ratios indicate efficiency in a firm and efficiency should result in profitability.
Inventory turnover ratio (ITR),	Independent variable		
Receivables Turnover Ratio(RTR)	Independent variable		
Cash turnover ratio(CTR)	Independent variable		
Other Current Assets turnover ratio(OCATR)	Independent variable		
loans and advances turnover ratio(LATR)	Independent variable	Interrelationship of short term assets and liabilities	These ratios measure liquidity in a firm which also play an important role in the profitability of the company.
Current ratio	Independent variable		
Quick ratio	Independent variable		

Correlations

		ROA	ICA	RCA	CCA	OCACA	LACA	WCTR	ITR	RTR	CTR	OCATR	LATR	CR	QR
ROA	Pearson Correlation	1	.395	.325	-.332	.554	-.310	.718	.530	.576	.537	-.796	.457	-.245	-.300
	Sig. (2-tailed)		.438	.530	.520	.254	.551	.108	.280	.232	.272	.058	.363	.640	.564

N=6

The results of correlation show that out of the thirteen ratios five ratios show negative correlation and eight ratios show positive correlation with Return on Assets (ROA). Of all the variables Other Current Assets Turnover Ratio (OCATR) and ROA have the highest correlation to the extent of 0.796 but negative in nature. The highest positive correlation ROA has is with Working Capital Turnover Ratio (WCTR). There is an almost insignificant correlation between Current Ratio and Quick Ratio and Return on Assets. Moreover, as it can be seen that of all the ratios turnover ratios have higher correlation with ROA which is true for a company like Mahindra and Mahindra who are basically a capital intensive company and turnover of assets plays a significant part

in its operations. One can thereby conclude that ratios covering composition dimension and ratios indicating interrelationship between current assets and liabilities do not have a very high correlation with profitability but ratios covering the turnover dimension have high correlation with profitability.

Working Capital and Profitability: Regression Analysis

To further analyze the impact of significantly correlated independent variables on profitability of Mahindra and Mahindra, regression analysis was undertaken. The findings of the analysis and their implications are discussed hereinafter.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.999 ^a	.998	.991	.00216

As explained by the model above, there is a strong correlation between the observed and the predicted value of Return on assets of Mahindra and Mahindra Ltd and the variation in value of ROA is considerably explained by this model. So, this model is

optimistically fit for Mahindra and Mahindra Ltd. To further estimate the fitness of the model for the purpose of Mahindra and Mahindra, ANOVA values were calculated, which is exhibited below:

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.003	4	.001	137.169	.064 ^a
	Residual	.000	1	.000		
	Total	.003	5			

a. Predictors: (Constant), RTR, WCTR, OCATR, ITR

b. Dependent Variable: ROA

The significance value of 0.064 confirms that the model is a good fit for predicting the value of ROA for Mahindra and Mahindra on the basis of values of independent variables considered in the model.

To further explore the relative importance of each of the independent variables considered in the model, coefficient values were calculated which is exhibited above. A close study of the coefficients reveals that working capital turnover ratio and inventory turnover has a positive impact on ROA whereas

receivables turnover has a negative impact on ROA. Other current asset turnover ratio has a very negligible relationship. For the respondent company the following regression equation can be used to predict the value of dependant variables i.e. ROA.

$$ROA = 0.154 + WCTR0.017 + ITR0.01 - RTR0.06$$

Conclusion

Working capital management practices at Ranbaxy its impact on profitability has exhibited relationships on the negative as well as

the positive dimensions. For a company like Mahindra and Mahindra Ltd the current assets composition is almost equitably distributed among inventory, debtors, cash and loans and advances. Out of the 13 variable initially selected it was observed that the variables related to the operational efficiency of the firm played the most significant role and had the highest impact on Return on Assets (ROA) i.e the working capital turnover ratio, inventory turnover ratio and receivables turnover ratio. For further investigation of the association, Multiple Regression Analysis was carried out. The results of this analysis explored that the developed model is a good fit and explains as high as 99% of the variation in the dependent variable. From the various dimensions of working capital management working capital turnover ratio was found to be the most important predictor for the respondent company, Mahindra and Mahindra Ltd.

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