



A STUDY ON IMPACT OF WORKING CAPITAL AND FIRM PERFORMANCE WITH REFERENCE TO AUTOMOBILE COMPANIES LISTED IN NSE

Dr. A. Jeyachitra¹, Assistant Professor, Dept.of Commerce, Government College for Women (A),
Kumbakonam,

Dr. K. Desh, Assistant Professor, Department of Commerce, P.T.MGR Arts and Science College,
Kodavasal, Thiruvarur Dt

V. Kalaimena, II-M.com, Department of Commerce, Government College for Women (A),
Kumbakonam

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ABSTRACT

Efficient working capital management helps to maintain smooth operations and can also help to improve the company's earnings and profitability. This present study is considered impact of working capital and firm performance of Automobile companies for a period of 5 years from 2016 to 2020. For the purpose of the study, it considered NSE listed Automobile companies. The analysis is made year wise for all the sample companies. From the result, it is found that the performance of HeroMotor Corporation, Bajaj Motors and Bal Krishnan is better than other sample companies and Tata motors performance is not satisfactory during the study period. The analysis revealed that Return on Asset is positively and significantly correlated with Inventory turnover ratio and Current ratio of the sample companies. The multiple regression results confirmed that the current ratio shows the highest coefficient value. The other variables reported negative coefficient value. But none of the variable significantly contributes to the Return on Asset of the Sample companies. The study concludes that the working capital variable does not significantly impact the profitability of the firm. The study suggested that, if an effective working capital policy is formulated by the sample companies they can

improve their earning and profitability. Our findings are consistent with prior empirical studies and finance theory. The outcomes of the study may be useful to policy makers, regulators and the management of the company for effective decision making.

INTRODUCTION

Working capital is one of the important measurements of the financial position. The words of H.G. Guthmann clearly explain that working capital is important for improving the profitability of the firm. In the words of Walker, “A firm’s Profitability is determined in part by the way its working capital is managed.” The main objectives of working capital Management is to manage firms’ current assets and liabilities in such a way that a satisfactory level of working capital. If the firm cannot keep up a satisfactory level of working capital, it is likely to become insolvent and may even be forced into bankruptcy.

The efficiency of working capital management directly affects the profitability and liquidity of firms. The profitability liquidity trade off is important because if working capital Management is not given due considerations the firms are likely to fail and face bankruptcy. The significance of working capital management efficiency is indisputable. Working capital is the most crucial reason for maintaining liquidity, survival and profitability of business(Mukhopadhyay,2004).

The Greater the relatives proportion of liquid assets, the lesser the risk of running out of cash, all other things being equal. Shin and Soenen (1998) argued that efficient working capital management is very important to create value for the shareholders while Smith et. al., (1997) emphasized that profitability and liquidity are the salient goals of working capital management.

The present research seeks to study in depth the working capital of selected Automobile companies in India, with special emphasis on an examination of the management performance in regard to profitability management. Automobile sector is the dominant player in economy of world. After liberalization Indian automobile industry has emerged as a major contributor to India’s GDP. The present research of working capital management needs special attention for the efficient working capital management.

REVIEW OF LITERATURE

Many studies have been conducted for analysis of the working capital and firm's profitability of manufacturing companies. The following are some of the reviews related to this study which is compiled from different reputed journals, website, and books.

Pallavi Vartak, Vishal Hotchandani (2019), this study examined the impact of working capital management on firms financial performance of fourteen firms listed on the Bombay Stock Exchange. The results revealed that average collection period is negatively and significantly related with Firms financial performance (ROA). There is also a significant relationship between Inventory Turnover, cash conversion cycle and ROA but there is no significant relationship between ROA and Account Payable (AP). This study has been concluded that the management of a firm can create value for their shareholders by reducing the number of day's average receivables, Inventory turnover and Cash conversion cycle. The study suggested that firms are capable of gaining sustainable competitive advantage by means of effective and efficient utilization of the resources; it increases the profitability level of firm.

Iman Soukhakian¹ and Mehdi Khodakarami(2019), investigated the impact of working capital management on firm performance among listed Iranian manufacturing firms, focusing on the direct and moderating roles of inflation and GDP variables. Their results showed that the cash conversion cycle is negatively related to return on assets and to Refined Economic Value Added (REVA). Macroeconomic variables are positively and significantly related to ROA, but only inflation is significantly related to REVA. It also identified that macroeconomic factors do not moderate the relationship between WCM and firm performance.

Tanveer Bagh, Muhammad Imran Nazir , Muhammad Asif Khan , Muhammad Atif Khan, Sadaf Razzaq(2016), explored the impact of working capital management on firms performance of chosen manufacturing firms listed in Karachi stock exchange (KSE). The results of multiple regression explained that the APP, ITO and CCC have negative and significant impact on ROA but ACP has positive and significant impact on ROA. And also found that APP has negative significant impact on ROE.

Shikha Bhatia & Aman Srivastava(2016), they investigated the relationship between working capital management and firm performance in an emerging market. In this study, for robustness, in addition to accounting performance, market-based performance measure has also been employed to measure firm performance. This study concluded that a negative relationship between the working capital management and firm performance, necessitating the need to efficiently manage the working capital for enhanced profitability.

Muhammad qusimmaqbool (2016) examined the management of the comparative performance of the various groups in industrial scale unique opportunity from multiple perfectives. The study found that statistically significant relationship between the cash conversion cycle and profitability measured by EBIT, Return on equity and financing policies of the companies. And the positive relationship with total asset, return on asset policies of the companies. The study suggested developing the working capital and financing policy.

Iqbal, Nasir &Nadeem (2015) into their paper on “Working Capital Management Antecedents Impact on Firm Specific Factors: A Ten Year Review of Karachi Stock Exchange” taken seven proxy variables to measure the impact of working capital and its management with the profitability of company. Their study showed that working capital has significant relationship with firm's profitability, and firm size has also significant relation with firm profitability and debt of the firm has also negative significant relationship with profitability.

Victor Louis Anthuran, Navenanesakumari (2015) investigated the impact of working capital management on the profitability of automobile companies. This study framed to show how the efficiency of working capital management impacts the corporate profitability in automobile sector in India. The study suggested that the industries can reduce their financing cost or increase the funds available for expansion of projects by minimizing the amount of investment tied up in current asset.

STATEMENT OF THE PROBLEM

Managing the working capital needs and operations of any business is very crucial to the management of the company, because it has directly affects both profit and liquid assets of the firm. Financial needs are largely classified into two types of needs i) Working capital needs and ii) fixed capital needs. The part of the finance which enables an enterprise to conduct its day to-day operations is called the working capital. It analyzes short term assets and liabilities carefully in order to manage the firm's liquidity, monitoring working capital needs. It helps the managers operate the firm's by making cash available to pay for short-term debt and long term debt as well as meeting expenses for effective daily operations. This subject is still a very important issue because it affects the short term investment decisions; and managers can increase the value of the firm by reducing the working capital ratio to its optimum level. Against this background this study focused level of working capital and its impact on profitability of Automobile companies listed in NSE.

NEED FOR THE STUDY

Working Capital Management has got a lot of emphasis in financing of the firms. Working capital management is applying in investment and financing decisions to current assets it directly affects the liquidity and profitability of the firm. A greater extent of profitability of a firm is determined by the components of working capital management like Current Assets, Accounts Payable and Inventory etc.,. So, it is significant to understand the relationship between working capital management and its impact on profitability of the firm. The present study measures the impact of working capital on profitability of Automobile companies listed in NSE.

OBJECTIVES OF THE STUDY

The following are the objectives of the study

- To analyze the working capital positions like liquidity, inventory turnover, efficiency and profitability of selectAutomobile Companies in India.
- To know the relationship among the working capital variables and profitability of the selectAutomobile Companies in India.
- To identify the impact of working capital management on profitability

HYPOTHESIS DEVELOPMENT

The following null hypotheses are developed for the present study.

Ho: There is no significant relationship among the working capital management variables and profitability of the firm.

Ho2: There is no significant impact of Working Capital Management on firm's profitability.

SOURCES OF DATA

The study conducted based on Secondary Data. Data pertaining to behavior of liquidity and profitability were collected for a period for five years i.e., from 1st April 2015 to 31st March 2020. The necessary data were obtained from NSE, Moneycontrol and respective Company's website. The other relevant data of this study were collected from various journals, books and respective company's website. Based on the Market capitalization of NSE Auto Index, it chosen only 10 companies. They areAshok Layland,Bajaj Auto, Balkrishna,Bharat Forge, Hero Motorcorporation,Mahindra and Mahindra, Maruti Suzuki, MRF, TATA Motors, and TVS Motors.

VARIABLES AND TOOLS USED FOR ANALYSIS

The variables are current ratio, inventory turnover ratio, return on assets, CA/TA ratio, working capital turnover ratio, average collection period and fixed assets turnover ratio used for Working Capital Management and Profitability.

STATISTICAL TOOLS USED FOR ANALYSIS

The present study is to analysis the profitability of the sample companies. In order to analyze the profitability position, the following tools are used.

1. Mean

Mean of a set of value is the ratio of their sum to the total number of values in the set. Thus, if there are a total of n numbers in a data set whose values are given by a group of x-values, then the mean of these values, represented by 'm', an e found using this formula:

$$m = \frac{x_1 + x_2 + x_3 + \dots + x_n}{n}$$

2. Standard Deviation

The Standard Deviation is a measure of how spreads out numbers are. Its symbol is σ (the greek letter sigma). The formula is the square root of the Variance.

3. Pearson Cross Correlation

The correlation measures the relationship between the x and y, by using the following formula. The Values of correlation coefficient always lies between -1 to 1, if the values is +1 two variables are highly positively correlated, then the value is -1 then the value is -1 the variables are highly negatively correlate.

4. Linear Regression Model

Regression used to understand how the typical value of the dependent variable changes when any one of the independent variables is varied, while the other independent variables are held fixed. Regression analysis can be used to infer casual relationship between the independent and dependent variables

The following two models were run to examine the determinants of Profitability and Working Capital Management measures.

Models (1) explain the Working Capital Management measures affect Return on Assets.

Models (2) explain the Working Capital Management measures affect Return on Equity.

By using E-views Program, Linear Regression Model and the Ordinary Least Squares-Method(OLS) were used for the purpose of examine whether there is working capital management variables influence the profitability of the firm.

LIMITATION OF THE STUDY

- Use of ratio as a technique for analysis. Hence all the limitations of ratio analysis are also applicable to this study.
- The study restricted to collected few working capital variables, based on the previous literature. There are other variables like turnover ratios affect the profitability of the firm.
- The study restricted to 5 years only.
- The study is based on secondary data. So the limitations of secondary data applicable to this study also.

RESULTS AND ANALYSIS OF THE STUDY

1. ANALYSIS OF DESCRIPTIVE STATISTICS

The results of descriptive statistics of Working Capital variables in Automobile companies presented in **Table 1**. The table clearly explain that the among the sample companies Hero Motor corporation recorded highest ROA(21.80) and the Tata motors reported negative ROA. so it suggested that Tata motors should take necessary steps to improve their ROA.

Bajaj Auto recorded highest current ratio followed by Hero motor. But they reported less than 2. TVS and Tata motors reported very poor current ratio. So the study recommended that the above companies need to improve their current assets for meeting their liquidity position.

Hero motor corporation and Bajaj Auto reported highest inventory turnover ratio and MRF, Tata motors reported least ratio. so these companies must improve their Inventory Turnover.

The Average of CA/TA Ratio is 0.35. Hero Motor Corporation used highest Current Assets from the Total Assets, followed by MRF. Remaining sample companies must improve the Current Assets allocations from their Total Assets.

Among the sample companies Ashok leyland, Maruti Suzuki, Tata and TVS motors recorded negative Working Capital Turnover Ratio and Balkrishna, Mahindra & Mahindra reported highest Working Capital Turnover Ratio during the study period.

The Highest Average Collection Period of 110 days recorded by the Bharat Forge and lowest Collection Period recorded by the Maruti Suzuki during the study period.

Bajaj Auto recorded high Fixed Assets Turnover Ratio of 13 and lowest ratio recorded by Balkrishna.

Table 1-Descriptive Statistics of working capital variables

Working capital Variables	ROA	CR	ITR	CA/TA	WTR	ACP	FAT
Ashok Leyland	6.80	0.92	11.84	0.42	-29.34	22.89	3.88
Bajaj Auto	19.39	1.97	30.99	0.32	18.24	12.09	13.00
Balkrishna	12.36	1.32	7.59	0.30	38.04	40.91	1.32
Bharat Forge	8.28	1.58	9.11	0.45	7.02	110.44	1.60
Hero Motor corp.	21.80	1.87	32.29	0.48	18.13	21.20	6.19
Mahindra& Mahindra	7.81	1.27	8.95	0.31	30.94	24.52	4.34
Maruti Suzuki India	12.21	0.70	22.79	0.16	-45.80	8.58	4.67
MRF	9.70	1.58	6.79	0.47	11.87	49.48	3.00
TATA Motors	-2.86	0.59	7.55	0.22	-11.19	18.30	1.88
TVS Motors	8.57	0.75	14.10	0.37	-34.30	24.37	6.38
<i>Average</i>	<i>10.41</i>	<i>1.26</i>	<i>15.20</i>	<i>0.35</i>	<i>0.36</i>	<i>33.28</i>	<i>4.63</i>
<i>S.D</i>	<i>6.84</i>	<i>0.50</i>	<i>9.86</i>	<i>0.11</i>	<i>28.90</i>	<i>29.75</i>	<i>3.44</i>

2. ANALYSIS OF CROSS CORRELATION

The results of cross- correlation between working capital variable and profitability of selectedsample companies illustrated in **Table 2**. It understands that the Return on Asset positively correlated withInventory turnover ratio at 1%significant level and Current ratio 5% level. And also Inventory turnover ratio positively correlated with fixed asset turnover ratio at1% significant level. Current ratio positively associated with working capital turnover at 5% significant level. Othervariable does not significantly associate.

Table 2-Results of Cross Correlation

		ROA	CR	ITR	CATA	WTR	ACP	FAT
ROA	Pearson Correlation	1	.737*	.800**	0.303	0.323	-0.141	0.617
	Sig. (2-tailed)		0.015	0.005	0.395	0.362	0.698	0.057

CR	Pearson Correlation	.737*	1	0.432	0.59	.722*	0.299	0.415
	Sig. (2-tailed)	0.015		0.212	0.073	0.018	0.402	0.233
ITR	Pearson Correlation	.800**	0.432	1	0.006	-0.06	-0.446	.786**
	Sig. (2-tailed)	0.005	0.212		0.987	0.87	0.196	0.007
CATA	Pearson Correlation	0.303	0.59	0.006	1	0.293	0.5	-0.011
	Sig. (2-tailed)	0.395	0.073	0.987		0.411	0.141	0.975
WTR	Pearson Correlation	0.323	.722*	-0.06	0.293	1	0.266	-0.004
	Sig. (2-tailed)	0.362	0.018	0.87	0.411		0.458	0.991
ACP	Pearson Correlation	-0.141	0.299	-0.446	0.5	0.266	1	-0.485
	Sig. (2-tailed)	0.698	0.402	0.196	0.141	0.458		0.156
FAT	Pearson Correlation	0.617	0.415	.786**	-0.011	-0.004	-0.485	1
	Sig. (2-tailed)	0.057	0.233	0.007	0.975	0.991	0.156	

Source: Computed using SPSS.

** Significant at 1% level, * Significant at 5% level.

3. ANALYSIS OF MULTIPLE REGRESSIONS

Table 10 presented the results of multiple regression analysis of working capital variables. The analysis revealed that the coefficient value of constant variable that is ROA shows the negative value followed by working capital turnover ratio, Average collection period and fixed asset turnover ratio. The current ratio shows the highest coefficient value than others. But none of the variable significantly contributes to the Return on Asset of the Sample companies.

The ANOVA results expressed that the F-value does not significant at 5% level. it inferred that the overall model is not good. From the model summary, the Adjusted R Square value is 52%. it found out that only 52% of the predictors predict the dependent variable that is Return of Asset(ROA). it understand that ROA determined not only working capital performance, other variables determine the ROA. It concludes that the working capital variable does not significantly impact the profitability of the firm.

Table 3-Results of Multiple regressions

Coefficients(a)			
	Unstandardized Coefficients	Standardized Coefficients	Collinearity Statistics



Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-4.421	6.621		-0.668	0.552		
	CR	8.723	14.743	0.633	0.592	0.596	0.047	21.463
	ITR	0.426	0.402	0.614	1.06	0.367	0.159	6.294
	CA/TA	0.784	25.296	0.012	0.031	0.977	0.336	2.974
	WTR	-0.015	0.16	-0.064	-0.095	0.93	0.117	8.518
	ACP	-0.032	0.109	-0.14	-0.295	0.787	0.238	4.204
	FAT	-0.39	0.947	-0.196	-0.411	0.709	0.235	4.25

a. Dependent Variable: ROA

Source: Computed using SPSS

Table 3(a)

Multiple Regression- ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	354.204	6	59.034	2.623	.230a
	Residual	67.523	3	22.508		
	Total	421.726	9			

Source: Computed using SPSS

Table 3(b)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error	Durbin-Watson
1	.916a	0.84	0.52	4.74422	2.601

a. Predictors: (Constant), FAT, WTR, CATA, ACP, ITR, CR

b. Dependent Variable: ROA

Source: Computed using SPSS

FINDINGS AND SUGGESTIONS OF THE STUDY

The following are the important findings of present study.



- For the full study period the Hero Motor Corporation recorded highest ROA(21.80) and the Tata motors reported negative ROA. So it suggested that Tata motors should take necessary steps to improve their ROA.
- Bajaj Auto recorded highest current ratio followed by Hero motor.
- Hero motor corporation and Bajaj Auto reported highest inventory turnover ratio and MRF, Tata motors reported least ratio.
- Among the sample companies Ashok leyland, Maruti Suzuki, Tata and TVS motors recorded negative Working Capital Turnover Ratio and Balkrishna, Mahindra & Mahindra reported highest Working Capital Turnover Ratio during the full study period.
- The Highest Average Collection Period of 110 days recorded by the Bharat Forge and lowest Collection Period recorded by the Maruti Suzuki during the full study period.
- The results of cross correlation analysis revealed that Return on Asset positively correlated with Inventory turnover ratio at 1% significant level and Current ratio 5% level.
- And also Inventory turnover ratio positively correlated with fixed asset turnover ratio at 1% significant level.
- The multiple regression results confirmed that the current ratio shows the highest coefficient value than others. The other variables shown negative coefficient value. But none of the variable significantly contributes to the Return on Asset of the Sample companies.

CONCLUSION

As the efficiency of Working capital management is vital, for manufacturing firms, where a major part of assets is current assets. It directly affects the profitability and liquidity of firms. The efficient management and financing of working capital that is current assets and current liabilities can increase the operating profitability of the manufacturing firms. Finally the study concludes that, the working capital variable does not significantly impact the profitability of the firm.

Therefore, the present study is considered impact of working capital and firm performance for a period of 5 years from 2016 to 2020. For the purpose of the study, it considered NSE listed Automobile companies. And working capital variables analyzed full study period of all the sample companies. It understood that Hero motor corporation, Bajaj Motors and Bal Krishnan performed better than other sample companies. From the analysis it found that Tata motors performance is not satisfactory during the study period. The analysis revealed that Return on Asset positively and significantly correlated with Inventory turnover ratio Current ratio of the sample companies. The multiple regression results

confirmed that the current ratio shows the highest coefficient value than others. The other variables shown negative coefficient value. But none of the variable significantly contributes to the Return on Asset of the Sample companies. The study concludes that the working capital variable does not significantly impact the profitability of the firm.

The study suggested that the effective working capital policies must be formulated for the individual components of working capital. By validating the findings with previous researchers, this endeavor will contribute to the literature. It will be beneficial to the academic, social and practical department. Our findings are consistent with prior empirical studies and finance theory. The outcomes of the study may be useful to policy makers, regulators and the management of the company for effective decision making.

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