A SECTOR WISE ANALYSIS OF WORKING CAPITAL MANAGEMENT AND PROFITABILITY OF NSE LISTED MANUFACTURING COMPANIES IN INDIA

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ABSTRACT

Business is expanding at a tremendous pace in the current era with the changing needs of the society. It plays a pivotal role in the formation of capital of a country and considered as important as the blood in human body. Therefore, it is necessary for every business organization to manage the capital formation efficiently and effectively. Therefore, this research paper aims to identify the impact of Working Capital of manufacturing firms on its Profitability. For these 10 manufacturing companies of India covering almost all the manufacturing field was taken as the sample of our study. Linear Regression model was applied and it was found that Working capital significantly affect the Profitability of the firm.

Keywords: Working Capital and Net Profit.

INTRODUCTION

The capital of a business which is used in daily basis trading operations which is calculated when current assets minus the current liabilities **(**WC= CA-CL). Working capital is also called operating assets or net current assets .The main purpose of working capital is to confirm the most financially efficient operation of the company and to make sure that the company always maintains sufficient cash flow to meet its short-term operating cost and short term debt applications .Working capital management is a very significant component of corporate finance because it directly affects the liquidity and profitability of the company. So it is possible to say that working Capital can be treated as lifeblood of the firm and its effective management can assure the success. It differs from one firm to another that how much working capital is needed by them. Therefore Working capital and profitability both the term are related to each other and any changes in working capital of a firm will surely make some changes in net profitability of the firm .In this study, we analyses the impact of working capital on the firm's profitability of NSE listed manufacturing firms .

LITERATURE REVIEW

Barot Haresh (2012) examined the impact of Working Capital Management on profitability of pharmaceuticals firms and this study focused on the firms listed in CNX Pharma index of national stock exchange of India. They applied Regression analysis as a tool. Results indicated that there is negative relationship between accounts receivables and corporate profitability and on other hand a positive relationship between accounts payable and profitability so it has been concluded that profitability can be enhanced if firms manage their working capital in a more efficient way.

Nyamweno and Olweny (2014) investigated the affect of working capital management on the performance of that firms which are listed at the Nairobi Securities Exchange in Kenya..The main objectives of the study is to found the effect of working capital management on performance of firms which are listed at the Nairobi Securities Exchange and to examine the effect of cash conversion cycle, the effect of days of accounts payables , the effect of days of accounts receivables and the effect of days in inventories on profitability of firms listed at the NSE. After applying regression analysis results indicated that the days in account receivables & cash conversion cycle have an indirect effect on firms profitability but this is not significant so by shortening collection period and cash conversion cycle firms may increase their profitability and on other hand days in account payables & Days in inventory have a compelling and direct effect on firms Gross operating profit.

Nzioki et al.(2013) examined the effect of working capital management on the profitability of manufacturing firms listed on the Nairobi Securities Exchange .To investigate the relationship between average collection period and profitability of listed manufacturing firms, To determine the relationship between inventories turnover in days and profitability of listed manufacturing ,To maintain the relationship between average payment period and profitability of listed manufacturing firms and to examined the relationship between cash conversion cycle and profitability of listed manufacturing firms are the main objectives of this study . They applied multiple regression and correlation analyses to decide the relationships between working capital management component & the gross operating profit of the firm's .Results indicated that profitability of manufacturing firms depends on effective working capital management, Gross operating profit is also positively related with average collection period and average payment period. They revealed that there is a relationship between the components of working capital which were indicated that effective working capital management put a great impact on profitability.

Oladipupo and Okafor (2013) made an attempt to study the indication of a firm's working capital management practice on its profitability & dividend payout ratio. For analysis they applied Pearson product moment correlation technique & ordinary least square (OLS) regression technique. It has been concluded that there is a positive relationship between working capital management and dividend payout ratio shows that good working capital management would lower the dividend payout ratio. Thus, effective working capital management is sine which is cooperating with profitability as well as the dividend payout ratio.

Bokpin (2011) made an attempt to study the cooperation between ownership structure, corporate governance and dividend performance on the Ghana Stock Exchange (GSE). They collect the data from 2002 to 2007 for 23 firms were examined within the framework of fixed effects techniques. The study also shows that foreign share ownership importance and positively domination dividend payment among firms on the GSE. They found board size to have a positive effect on the dividend payment among corporate governance variables but they didn't find a convincing relationship between inside ownership, CEO duality, board independence, board intensity and dividend performance. The results indicated that highly leveraged firms will powerfully reduced dividend payments that mean age and income volatility were found to be significant determinants of dividend performance on the GSE.

Mwangi et al.(2014) examined the effect of working capital management on the performance of non-financial companies which was listed in the Nairobi Securities Exchange (NSE), Kenya. They applied panel data models means random effects and Feasible Generalised Least Square (FGLS) regression analysis for results. After applying test they find that an destructive financing policy put a positive effect on return on assets & return on equity and with these a conservative investing policy was founded to effect the performance positively. They also recommended that managers of listed non-financial companies should adopt an destructive financing policy and a conservative investing policy should be applied to enhance the performance of non-financial companies listed in the NSE, Kenya.

Makori and Jangogo (2013) investigated the affect of working capital management on firm's profitability in Kenya. The main objectives of the study is to analyses the relationship between working capital management and profitability of manufacturing or construction firms listed on the Nairobi Securities Exchange (NSE) and To maintain the relationship between working capital management & firm's profitability .They applied Pearson's correlation and Ordinary Least Squares regression models as a tool . Results shows that there was a negative relationship between profitability and number of day's accounts receivable and cash conversion cycle but they also finds a positive relationship between profitability and number of days of inventory and number of day's payable.

Charitou et al. (2010) studied the effect of working capital management on firm's financial performance in an emerging market. They applied multivariate regression analysis as a tool for the results . Results indicated that the cash conversion cycle and all its major components means days in inventory, day's sales outstanding and creditors' payment period were associated with the firm's profitability.

Kaur and Singh (2013) investigated the working capital performance of manufacturing companies which were listed in BSE. The main objectives of the study were to analyses the companies that excelled in managing their working capital based on Cash Conversion Efficiency, Days Working Capital, Days Operating Cycle companies and amongst their respective industries, to found benchmark firms in each industry and to made improvements in each of the value and to identify and test the relationship between the working capital performance & profitability of sample firms and industry. They tested the relationship between the working capital score and profitability measured by Income to Current Assets and Income to Average Total Assets. The result shows that earlier studies compelling that efficient management of working capital significantly affect profitability.

Addae and Baasi (2013) examined the effect of working capital management (WCM) on the firms which perform for the non listed Ghanaian firms. To provide factual evidence on the relationship among working capital management & firms performance for the non-listed firms in Ghana and To analyse the impact of the various components of working capital like accounts receivables days, accounts payable days ,inventories days and cash conversion cycle on the profitability of non-listed firms in Ghana are the main objectives of this study .After applying regression and correlation analyses on the data of annual reports results indicated that there is a relationship between firms working capital management which is measured by the cash conversion cycle. They also conclude that its components and profitability which indicates that firms will be more profitable if they are able to shorten the length of their cash Conversion cycle. On

the other hand they also find a compelling negative relationship between profitability and the number of day's accounts receivable, account payable days & days of inventory.

Raheman and Nasr(2007) investigated the effect of different variables of working capital management which include average collection period, average payment period, inventory turnover in days, cash conversion cycle, and current ratio on the net operating profitability of Pakistani firms listed on Karachi Stock Exchange. The main objectives of the study were to establish a relationship between Working Capital Management & Profitability of Pakistani companies and To find out the effects of different components of working capital management on Firms profitability .They applied Pearson's correlation and regression analysis (Pooled least square and general least square with cross section weight models) for analysis. The results indicated that there is a strong negative relationship between variables of the working capital management and profitability of the firm when the cash conversion cycle increases it will lead to decreasing profitability of the firm .They found that there is a significant negative relationship between liquidity and profitability and there is a positive relationship between size of the firm and its profitability.

Mathuva (2009) examined the influence of working capital management fundamental on corporate profitability .They applied Pearson and Spearman's correlations, the pooled ordinary least square (OLS), and fixed effects regression models for results . The findings of the study revealed that there exists a highly compelling negative relationship between the time it takes for firms to collect cash from their customers (accounts collection period) and profitability ,there exists a highly convincing positive relationship between the period taken to convert inventories into sales (the inventory conversion period) and profitability and there exists a highly important positive relationship between the time it takes the firm to pay its creditors (average payment period) and profitability.

Vahid et al. (2012) investigated the effect of working capital management on the performance of firms Listed in Tehran Stock Exchange (TSE). The main objective of the study was to Studying the impact of different components of cash conversion cycle on the performance of the Companies and also check the impact of working capital management (cash conversion cycle)on the firms. They applied Multi regression model as a tool for results .Results indicated there is a negative and compelling relationship between the variables of Average Collection Period, Average Payment Period Inventory Turnover in day, Net Trading Cycle and the performance of firms Listed in Tehran Stock Exchange (TSE) and also showed that the increase in Collection Period, Payment Period & Net Trading will lead towards the devaluation of profitability in the company. In other words managers can rise the profitability of their companies reasonably, by decreasing the Collection Period, Inventory Turnover, and Payment Period.

Babu and Chalam (2014) examined the relationship between the components of working capital &firms' profitability of firms in Indian leather industry. They were taken profitability as a dependent variable and the inventory conversion period, the average payment period, the average collection period and the cash conversion Cycle were used as independent variables, and were also considered for measuring working capital management. The main objectives of the study were to found whether there was a important relationship between Inventory Conversion Period and Profitability of the firm or to analysis whether there was a compelling relationship between Average Collection Period & Profitability of the firm. They applied regression analysis and Pearson Correlation Analysis for results. The results indicated that for overall leather industry, working capital management had a compelling impact on profitability of the firms.

RATIONALE

As the topic of the study shows that we are doing study on analysis of working capital and firms profitability of manufacturing listed companies in India. For clarify our study we studied and reviewing many research papers in which some are above shows. There are many study which had been done related to this topic but we don't find any proper study which had been done on only working capital and firm profitability actually They take working capital management and their different factors and study has been taken on Indian leather industry .Mostly all the companies were listed in Tehran Stock Exchange (TSE) and Karachi stock exchange But if we talk about NSE means National stock exchange then a few study come over .Now there is a need to study and make a proper analysis related to working capital and firm profitability of NSE listed manufacturing companies in India .To know whether the manufacturing sector is go in profit or not this study is very helpful and if the answer is yes then really how much money they received or invested in manufacturing sector .

OBJECTIVES FOR THE STUDY

- To evaluate the impact of working capital on profitability of the manufacturing firms.
- To open new vistas for further research.

NULL HYPOTHESIS

- H01: Residuals are normally distributed.
- H02: There is no significant impact of working capital on firms profitability.

RESEARCH METHODOLOGY

- **2.1 Study:** The study was causal in nature.
- **2.2 Sample Design**
- **Population:** The population for study was the manufacturing companies which are listed in NSE.
- **Sample size:** Sample size for the study was ten Manufacturing companies from 2000 -2015.
- **Sample element:** Yearly data of Working capital and Net profitability during the period of 2000 – 2015 was the sample element for the study.
- **Sampling Technique:** Non probability purposive sampling technique was used.
- **Tools Used for Data Collection**: Secondary data of Working capital and Net profitability was collected from the annual reports of all 10 companies.
- **Tools used for data analysis: F**or the purpose of study linear regression modal was applied.

RESULTS AND DISCUSSIONS

H01: Residuals are normally distributed.

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual	.050	154	.200*	.990	154	.343

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

The above table presents the results from two well-known tests of normality, namely the Kolmogorov-Smirnov Test and the Shapiro-Wilk Test. The Shapiro-Wilk Test is more appropriate for small sample sizes (< 50 samples), but can also handle sample sizes as large as 2000. For this reason, we will use the Shapiro-Wilk test as our numerical means of assessing normality.

We can see from the above table that the significant value of Shapiro-Wilk test is .343 which is more than the value of .05 representing that the data is normally distributed.

REGRESSION ANALYSIS

H02: There is no significant impact of working capital on profitability of NSE listed manufacturing firms.

Simple Regression test was applied between working capital and Profitability. Here working capital was taken as independent variable whereas Profitability was treated as a dependent variable.

MODEL SUMMARY

Model	R	R Square	Adjusted R Square	Std. Error of the estimate	Durbin Watson
1	.629[a]	.396	.392	.52546	.771

a.Predictors:(Constant),WC

b.Dependent Variable :NP

The table of model summary indicates the value of R square which was found to be 0.396, indicating that independent variable expanded 39.6% variance on profitability as the dependent variable.

ANOVA[b]

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	27.506	1	27.506	99.622	.000[a]
Residual	41.968	152	.276		
Total	69.474	153			

a. Predictors: (Constant), WC

b. Dependent Variable: NP

Here F value 99.622 which is significant at .000 level of significant. This means that the final model significantly improves our ability to predict the dependent variable. Since the value of F is coming out to be 99.622 which is significant at .000 level of significant showing the model is good fit.

COEFFICIENTS[A]

Model	Unstandardized Coefficients		Standardized Coefficients			Correlations			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	2.125	.255		8.339	.000					
WC	.531	.053	.629	9.981	.000	.629	.629	.629	1.000	1.000

a. Dependent Variable: NP

Regression equation showing the relationship between Net Profit and Working Capital.

Y= a+b1x1+ e

Here, Y= Net Profit, X1= Working Capital, B= Beta value of X, A= Constant and E= Standard Error

In the above table of coefficient, for Working Capital as independent variable and profitability as dependent variable, the value of t came out to be 9.981 which are significant at 0.000 level of significance. Hence it was stated in null hypothesis that there was no significant relationship between Working capital and Profitability was rejected, indicating a positive significant relationship between working capital and profitability.

IMPLICATIONS AND SUGGESSTIONS:

This study is useful for the academicians they take help in further study in this field. Further the study is beneficial for the entire manufacturing firms in India .As we have taken the top ten Manufacturing companies on the basis of their market capitalization .It could also be beneficial for the top level management of the manufacturing companies to take all the necessary decisions regarding the working capital management in regard to profitability with the help of this study.

Apart from this we have found few of the limitations in our study i.e. this study has been done by taking into consideration the data of only ten manufacturing firms of India, so it is suggested to take the bigger sample size .Secondly, this study is conducted to evaluate the profitability of the firm by taking into consideration only the working capital of the Manufacturing companies, so it is suggested to conduct the further study in wider perspective.

CONCLUSION

Performance of any firm depends upon their efficiency to mange working capital , thus it is a matter of concern and should be handled very carefully .Our study shows that the value of R square .396 showing that the working capital has 39.6 % of variance on dependent variable which means that apart from working capital there are other factors also which significantly predicts the dependent variable i.e. profitability in the manufacturing companies .Nonetheless it can be concluded that working capital too have a significant impact on profitability of the manufacturing concerns .

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