Affect of Working Capital Management on Firms Profitability in Sugar Industry of Pakistan

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Abstract

Management of working capital performs a very vital part in the performance of firms in sugar industry. This thesis tests the impact of working capital management on firm's profitability in sugar industry of Pakistan for years 1999 to 2009. To analyze this, data of 19 sugar mills which are listed at Karachi Stock Exchange is used. The result shows that the Sales Growth, Current Ratio, No of Days Inventory and No of Days Accounts Payables are significantly affecting the profitability of the firms while Sales, Gearing Ratioand No of Days Account Receivables are insignificant in the research. Pearson Correlation and Multiple Linear Regression are used in this research to study the relationship between variables.

INTRODUCTION

1.1 Overview

In manufacturing sector of Pakistan 70% of goods are produced by the large scale industries which include mainly cement, automobiles, sugar, textile, oil and gas and etc. As the manufacturing sector includes so many sub sectors therefore in depth analysis is required for the industry as a whole and also of every firm at micro level. Though agriculture contributes to the major chunk in the economy of Pakistan but Sugar sector also plays a vital role. Sugar sector is the second biggest sector in the manufacturing sector which contributed 2% to the overall GDP of Pakistan and 13% to manufacturing sector. Sugarcane production has increased by 12 percent to 55.3 million tons in 2010-11 from 49.4 million tons last year whereas sugar production increased by 3.8 million ton showing an increase of 26.5 % (Economic Survey of Pakistan, 2011).

One of the main sectors in manufacturing sector is sugar sector. More than 100,000 labor works in sugar sector and more than 9 million people earn their living through the production of sugarcane. Mills producing sugar in Pakistan are capable enough to produce country's requirement for next 3 years. Government should not entertain any application of opening a new sugar mill rather they should concentrate on financing the working capital for the 69 firms working in Pakistan which desperately in need of that financing. Commercial bank will be approximately be needing Rs. 2.7 billion to finance the working capital of these working sugar firms (Rizvi, 2009).

Most of the sugar firms are owned by the persons who have political influence and were built by those development finance institutions which were themselves facing

working capital issues out of few have already been closed and few are near to be closed. Further shutdown of sugar mills will result in loss of national assets, less sales tax and unemployment will increase.

There has been a crisis in the sugar industry of Pakistan especially the sugar mills in Sindh from last 3 years. This crisis has affect owners of the sugar mills, employees of the sugar mills and raw material suppliers. As the profit of these sugar mills are not improving which result in low value to shareholders and affects the owners of sugar mills. Suppliers of raw material complain of not getting good prices of raw material and very late payments from the sugar mills and in last the employees of sugar mills are not getting paid because profits has converted in to negative.

Sugar mills are facing severe liquidity problems they don't have enough cash to pay a good price to suppliers and above all pay their suppliers on time. This problem has gone so worst that they are not able to pay their legal liabilities. Considering the situation of the sugar mills banks are not willing to advance any further loans.

Solution to all the problems mention above lies in the efficient management of working capital. Components of working capital which includes inventory management, receivable management, payables management and cash conversion cycle if controlled efficiently than all of the problems will be solved and the sugar industry of Pakistan will once again progress and contribute to the GDP of Pakistan in a better way than past.

Many researchers have worked on the importance of working capital management. The work of Shin and Soenen(1998), Deloof(2003) and Padachi(2006) are most important. The results concluded that working capital management is essential to increase the profitability of the firm. There have been very few researches with the

respect to sugar industry in Pakistan which is a motivating force to work on this issue with reference to the sugar industry of Pakistan.

Considering the importance of working capital management objective of this research is to find that which factors of working capital management plays important role and affect the profitability of sugar mills in Pakistan. Variables taken for conducting this research are sales, sales growth, current ratio measure of liquidity, gearing ratio measure of debt and working capital componentsno of days accounts receivables, no of days accounts payable and no of days inventory. For the research data sample of 19 firms which are currently enlisted at Karachi Stock Exchange for the years 1999 – 2009 is taken.

1.2 Problem Statement

The objective of this study is to examine does working capital management affect the firm profitability in the sugar industry of Pakistan?

1.3 Outline of the Study

The first chapter of the research focuses on giving basic view of the research and provides information on the overview, issues, purpose and basic theories on the working capital management. In the second chapter existing work by various researchers and past empirical studies is discus. The third chapter provided details regarding practically carrying out of the research and described data collection and analysis procedures. The fourth chapter gives details regarding the results of the research. Finally the fifth chapter includes the conclusion of the research.

LITERATURE REVIEW

Working capital management has been a concern for all firms but small firms should give more importance to this issue because they cannot afford to survive without cash (Peel, Wilson and Howorth, 2000). Many researchers have worked on the same issue but pioneer study of Shin and Soenen (1998) and Deloof (2003) have found that working capital management stronglyaffects the corporate profitability. Therefore sugar mills should address this issue seriously. Maccini and Blinder (1991) suggested that conventional approach that is to invest highly in working capital can also increase profitability. Maccini and Blinder (1991) suggested that if more investment is done on inventory than it will save supply time and money due to availability and fluctuations in prices and production process is also not disturbed. Hicks and Czyzewski(1992) analyzed that the firms which have greater cash balances have high return on assets. Jose, Lancaster and Stevens (1996) performed the research to find out the relationship between working capital management and firm's profitability by taking net trading cycle as a measure of working capital management on specific industry, the result was not that significant. After observing the Industry nature and size of the industry Jose et al. (1996) suggested that aggressive liquidity management increases the profitability.

Shin and Soenen (1998) took a sample of United States firms. To analyze the relationship between profitability and working capital Shin and Soenen (1998) use Net Trading Cycle as a measure of working capital management. The result suggested that Net Trading Cycle is indirectly related to profitability while in previous research on specific industry, the result was not that significant (Shin and Soenen, 1993).

The general thought which prevails is that profitability can be increase by decreasing the working capital investment. It can be done by decreasing the portion of current

assets. Wang (2002) took a sample of Taiwanese and Japanese firms and Deloof (2003) took a sample of Belgium Firms. The results suggested that profitability depends on how the working capital management is handle by the management. Deloof(2003) stated that no of days inventory and no of days accounts receivable is indirectly related to profitability.Deloof (2003) also stated that if the cash conversion cycle is shorter than the profitability will be increased. Thus efficient working capital management is very important to increases the value of the shareholders (Wang, 2002; Deloof, 2003).

Tryfonidis and Lazaridis(2006) carried out a research for the companies listed in Athens Stock Exchange. Tryfonidis and Lazaridis (2006) analyzed the relationship between working capital management and profitability of the firms. The variable for the measurement of profitably was gross operating profit in their research. Significant relationship between the cash conversion cycle and profitability was reported. Tryfonidis and Lazaridis (2006) stated that the profit can be maximize by taking care of every component of working capital at individual level.

Padachi(2006) studied different behaviors in the working capital management for a sample of 58 small Mauritian firms for the year 1998 – 2003. Padachi (2006) stated that if the working capital is managed efficiently than it will add up to the firms value and increase profitability. The research showed that no of days inventories and no of days receivable are indirectly related to profitability.

Uyar(2009) evaluate the relationship between the firm size, profitability and the cash conversion cycle by using correlation and annova techniques for the companies enlisted in Istanbul Stock Exchange. The outcome was that that the cash conversion cycle of manufacturing sector was greater as compared to the whole sale industry. In addition to that it was analyzed that the size of the firm and profitability has

significant negative relation with cash conversion cycle.Gill, Biger and Mathur(2010) studied the relationship between working capital management and firm's profitability for the sample of 88 firms listed at New York stock exchange for the period of 2005 to 2007 and found significant relationship between the two variables. Zuberi (2010) took a sample of Pakistan's automobile sector and concluded that the growth and current ratio of the firms in automobile sector have direct relation with the profitability of the firms. Ding, Guariglia and Knight (2010) took a sample of over 120,000 Chinese firms and concluded that working capital management significantly affects the profitability of firms.

Alipour (2011) took a sample of 1063 top firms listed in Tehran stock exchange and found a negative significant relationship between no of days accounts receivable, Inventory Turnover and cash conversion cycle where as positive significant relation with no of days accounts payables with profitability and hence concluded that working capital management significantly affects the profitability of the firms. Enqvist, Graham, Nikkinen (2012) worked on the sample of Finland firms and studied the relationship of working capital management and profitability on different business cycles and concluded that there is a significant negative relationship between cash conversion cycle and profitability of firms. The results suggested that efficient management of inventory and accounts receivable days significantly affects the corporate profitability of the firms.

In Pakistan there have been few researches on working capital management. Sana and Shah (2006) worked on oil and gas sector. They took a very small sample of consisting only 7 firms and they concluded that profitability and value of shareholders can be increased by managing the working capital efficiently. Nazir and Afza (2007) in their research analyze the relationship between aggressive and conventional way of

investing in working capital for 205 firms for 17 different sub sectors. Results showed that there is a negative relationship between aggressive approach in working capital investment and the profitability of the firms. Nasr and Rehman(2007) analyzed the relationship between the profitability and components of working capital management which includes no of days inventory, no of days accounts receivable, no of days accounts payable and cash conversion cycle. The result showed that there is negative relationship between them. In the year Nazir and Afza(2008) analyzed the working capital management for 204 firms.

Though researchers have studied the relationship between the components of working capital management and the corporate profitability with reference to Pakistan but it's not enough. There is still lack of evidence of relationship between the two variables. This reason has been a motivational force to do a research on the sugar sector of Pakistan. For this purpose sample of 19 sugar firms listed on Karachi stock exchange has been taken during 1999-2009.

RESEARCH METHODS

3.1 Method of Data Collection

The secondary data necessarily required to perform the research was gathered from the official sites of the sugar firms. Additionally, some of the required data was abstracted from the library of State Bank and Karachi stock exchange. Rest of the data is collected from annual reports, SBP analysis reports and economical surveys.

3.2 Sample Size

There are 35 Sugar mills listed at Karachi Stock Exchange out of which 19 are selected. Those firms are not included whose data was not available or observations were missing for few years. The data used for the purpose of research consisted of 11 years annual data of the variables used in research. Data of all the variables belonged to period starting from fiscal year 1999 to fiscal year 2009 because this is the period where many of new sugar mills were installed and many of them were shutdown. There are total 209 observations.

3.3 Research Model Developed

Person Correlation is used to calculate the relationship between the different variables use in this research. Working capital components are inventory, receivables and payables. To find the effect of working capital management on profitability on sugar firms regression model is developed using empirical framework used by Padachi(2006) and Deloof(2003).

We specify our models as;

$NOI = \beta_0 + \beta_1 (lnS) + \beta_2 (SG) + \beta_3 (CR) + \beta_4 (GR) + \beta_5 (NDAR) + \beta_6 (NDI) + \beta_7 (NDAP) + \varepsilon it$

3.4 Variables to be Studied

Dependent Variables

NOI - Net operating income is (sales –cost of goods sold)/ (total assets)

Net operating income is used as a profitability and performance measure in this research. Shin and Soenen(1998) and Deloof(2003) also used NOI as a comprehensive measure of profitability in their researches. They stated that working capital management significantly affects the profitability of the firm.

Independent Variables

In this research three comprehensive components of working capital management Trade credit policy, Inventory policy and Payment policy are use. Many researchers which include Shin and Soenen(1998),Deloof(2003) and Padachi(2006) used same components for analyzing working capital management.

S - Sales are expressed in millions of PKR.

Natural log of Sales are included in the research to measure the size of the firms. It is assume that bigger the size more the profit. Shin and Soenen(1998), Deloof(2003) and Padachi(2006) also included sale as a measure of firm size and found positive and highly significant relation between sales and corporate profitability.

SG - Sales growth is (current year's sales - last year's sales)/last year's sales.

Sales growth is added in the research to measure the investment growth opportunity in the industry. Deloof(2003) included sales growth in his research and found positive and highly significant relation with profitability.

CR - Current ratio is current asset/current liabilities.

Current ratio is taken as the measure of liquidity in the firm. More the liquidity of the firm less will be investment in working capital and firm will easily pay its immediate liabilities and creditors but on other hand more liquidity means that less investment in inventory and less sales. It is found that current ratio have direct and significant relationship with profitability (Rehman and Afza, 2010).

GR - Gearing ratio is total fixed liability/total capital employed.

Gearing ratio is used to measure the leverage of the firm.Rehman and Afza(2010) used gearing ratio in the research and find negative relationship with profitability it means higher the debt less the profit.

NDAR - No of days accounts receivable is (A/R x 365)/sales.

No of days accounts receivable is included as a component of working capital management. Generous credit terms can increase sales as it allows more time for customers to check the goods from the supplier before paying the cost (Long, Malitz and Ravid, 1993; Deloof and Jegers, 1996). Customers enjoy advantage from longer credit terms as compare to taking a loan from financial institution (Petersen and Rajan, 1997). Therefore no of days accounts receivable significantly affect the profitability of the firm (Deloof 2003).

NDI - No of days inventory is (inventory x 365)/cost of goods sold.

Firms have different optimal level of investing in working capital some invest more some invest less. On one hand keeping low inventory result in high liquidity but on other hand keeping high inventory saves firm from stock out and also result in more sales. Many researchers have included NDI as one of the component of working capital management as NDI has a negative relation with NOI and significantly affect the profitability. The negative relation shows that low profit means less sales and less sales result in more inventory (Deloof, 2003).

NDAP - No of days accounts payable is (A/P x 365)/purchases.

No of days accounts payable is also an important component of working capital management. Firm enjoys more liquidity and gets the chance to examine the quality of goods before paying to their suppliers if they pay late but on other hand they miss the discount offered by the suppliers which they can avail by prompt payment. Padachi(2006) and Deloof(2003) in theirresearches found that no of days accounts payable significantly affect the profitability of the firm.

3.5 Hypothesis

This research primarily focused on following hypothesis:

H1: Sales has a significant impact on NOI.

H2: Sales Growth has a significant impact on NOI.

H3: Current Ratio has a significant impact on NOI.

H4: Gearing Ratio has a significant impact on NOI.

H5: No of Days Accounts Receivable has a significant impact on NOI.

H6: No of Days Inventory has a significant impact on NOI.

H7: No of Days Accounts Payable has a significant impact on NOI.

3.6 Statistical Technique

Pearson Correlation and Multiple Linear Regression are used in this research to study the relationship between variables.Pearson Correlation is use to understand the relationship of variables with each other whereas the general purpose of using multiple linear regression is to know more about the relationship between many independent variable or predictor variables and a dependent or criterion variable.

RESULTS

4.1 Findings and Interpretation of the Results

4.1.1 Descriptive Statistics

Table 4.1

Descriptive Statistics		
	Mean	Std. Deviation
Net Operating Income	.0983	.10327
Sales Growth	16.2946	51.78274
Log of Sales	3.0868	.26493
Gearing Ratio	58.3849	157.41084
Current Ratio	78.6536	42.82401
No of Days Acc Rec	14.3837	62.90187
No of Days Inventory	65.1477	67.25259
No of Days Acc Payable	96.9477	156.78692

Firms in the sugar industry of Pakistan on average have 98,300 PKR of Net Operating Income, 16.29% Sales Growth, 300,0000 PKR Sales, 0.58 Gearing Ratio, 0.78 Current Ratio, 14.38 days of receivable cycle, 65.14 days of inventory cycle and 96.94 days of payable cycle.

4.1.2 Correlations

Table 4.2

Correlations									
		NOI	SG	LnS	GR	CR	NDAR	NDI	NDAP
	NOI	1.000	.297	.362	-.096	.407	-.052	-.191	-.278
	SG		1.000	.317	-.005	-.007	-.006	-.170	-.053
	LnS			1.000	-.134	.418	-.043	.007	-.167
	GR				1.000	-.255	-.061	-.094	-.108
	CR					1.000	-.080	.168	-.180
	NDAR						1.000	-.039	.058
	NDI							1.000	-.072
	NDAP								1.000
Sig. (1-tailed)	NOI	.							
	SG	.000	.						
	LnS	.000	.000	.					
	GR	.109	.475	.043	.				
	CR	.000	.465	.000	.000	.			
	NDAR	.254	.469	.293	.218	.152	.		
	NDI	.007	.014	.463	.115	.015	.307	.	
	NDAP	.000	.247	.016	.083	.010	.229	.179	.

Here correlation between NOI and other independent variables has been checked. All working capital components are negatively related to NOI. Deloof(2003) concluded the same result for the Belgian's firm.The results shows that longer the no days accounts receivable, no if days inventory and no of days account payable lesser will be the net operating profit as all three components of working capital management have a negative relationship with net operating income.

Sales, Sales growth and Current Ratio have shown positive and significant relationships with profitability while Gearing Ratio has negative relationship.

4.1.3 Multiple Linear Regression

The results have been drawn by applying multiple linear regression on the data.

Table 4.3

Model Summary			
Model	R	R Square	Adjusted R Square
1	.594[a]	.353	.324

a. Predictors: (Constant), No of Days Accounts Receivable, No of Days Inventory, No of Days Accounts Payable, Sales Growth, Gearing Ratio, Current Ratio, Log of Sales

b. Dependent Variable: Net Operating Income

The model has adjusted R-squared of 0.324 that means approximately 32.4 % of the variance in the dependent variable NOI was accounted for by the model and 67.6 % of the variance remained unexplained.

The dependent variable of the research was NOI therefore; the Coefficients table was required to be analyzed and interpreted. The important points of the results have been discussed below.

Table 4.4

ANOVA					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	.621	7	.089	12.323	.000
Residual	1.138	158	.007		
Total	1.760	165			

The significance value of the F statistic is less than 0.05, which means that the variation explained by the model is not due to chance and model is effective.

4.1.4 Coefficients

Table 4.5

Coefficients							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-.0675570720	.087		-.775	.439		
Sales Growth	.0004272708	.000	.214	3.093	.002	.853	1.172
Log of Sales	.0419537310	.029	.108	1.423	.157	.716	1.398
Gearing Ratio	-.0000228505	.000	-.035	-.516	.607	.898	1.113
Current Ratio	.0008582428	.000	.356	4.751	.000	.730	1.371
No of Days Acc Rec	-.0000277332	.000	-.017	-.262	.794	.984	1.016
No of Days Inventory	-.0003588443	.000	-.234	-3.532	.001	.935	1.069
No of Days Acc Payable	-.0001345900	.000	-.204	-3.073	.002	.926	1.080

To check the effects of growth on profitability sales growth (SG) was included in the model. Sales growth refers here to the investment opportunities which a firm has with in the industry. Sales growth has a positive relation with profitability and significantly affecting it. It means if the growth will increase the profitability will also increase. Shin and Soenen (1998) and Deloof (2003) also concluded the same results that sales growth has a significant direct relationship with profitability.

Log of sales (lnS) hasproved statistically insignificant. Positive sign with its coefficient shows that bigger the size of the firm or more sales result in more profitability.

Gearing Ratio (GR) is statistically insignificant in this research but it has a negative relationship with net operating income which shows that higher will be the leverage

low will be the operating profitability of the firm. Same result was concluded by Deloof(2003), Shin and Soenen (1998), Rajan and Zingales (1995) and Myers and Majlof (1984) but in this case it is insignificant.

Current Ratio (CR) has proved statistically significant and has impact on NOI. It is according to the findings of Deloof (2003). It is the measure of liquidity so if the firms have ample cash available it will pay its creditors soon which will result in more profits.

No of Days Accounts Receivable (NDAR) has proved statistically insignificant. Its negative relation shows that if number of days accounts receivable is increased by 1 day there will be a loss in net operating income (divided by total assets) by 0.27 %. It is according to the findings of Raheman and Afza (2010).

A very strong significant indirect relation between net operating income and number of days accounts payable (NDAP) is shown by the regression analysis. The negative correlation between operating income and number of days accounts payable is confirmed by this negative relation in regression analysis. It is according to the findings of Deloof (2003). It also shows that if the firm pays to their creditors soon they will avail big discounts hence increasing the profitability.

No of Days Inventory (NDI) has proved statistically significant and has impact on NOI. This shows that by reducing the no of days inventory profitability can be improved or profitability can be increase by keeping the inventory for shorter period. Mostly researchers have found a significant negative impact of no of days inventory on the profitability of firms. It is according to the findings of Deloof(2003).

For further analysis sugar firms were divided in to 5 groups according to the firm's size. The firm's size was decided on the basis of two variables annual sales and value of total assets. The same test was performed for each group separately. The intervals for Annual sales and total assets were:

Group	Annual Sales			Total Assets		
1	1	—	500	1	—	500
2	500	—	1000	500	—	1000
3	1000	—	1500	1000	—	1500
4	1500	—	2000	1500	—	2000
5	2000	—	Above	2000	—	Above

If we take annual sales as a determinant for firm's size than for group 1 there is no variable which is significant. For group 2 Sales are significantly affecting the profitability of firms which has annual sales from 500 million to 1000 million. For group 3 current ratio is significantly affecting the profitability. For group 4 no variable is significant in the research and for group 5 which includes sugar mills which has annual sales from 2000 to above 2000 gearing ratio and no of days account receivable is significantly affecting the profitability of sugar mills. It shows that the larger firms have more debt and have more receivables and these both are indirectly related to profitability.

Now if we consider value of total assets as a determinant for firm's size than for group 1 and group 2 there is no variable which is significant. For group 3 no of days inventory is significantly affecting the profitability of sugar firms. For group 4 current ratio and no of days inventory both are significant in the research and for group 5 gearing ratio and no of days receivable are significantly affecting the profitability of sugar firms which shows that firms which has comparatively greater total assets have

more debt and their no of days account receivable are high which effect the

profitability as they both have negative relation with profitability.

4.2 Hypothesis Assessment Summary

Table 4.6

Hypothesis Assessment Summary Table			
Hypothesis	β	P-value	Empirical Conclusion
H1: Sales Growth has a significant impact on NOI.	.0004272708	.002	Accept
H2: Sales has a significant impact on NOI.	.0419537310	.157	Reject
H3: Gearing Ratio has a significant impact on NOI.	-.0000228505	.607	Reject
H4: Current Ratio has a significant impact on NOI.	.0008582428	.000	Accept
H5: No of Days Accounts Receivable has a significant impact on NOI.	-.0000277332	.794	Reject
H6: No of Days Inventory has a significant impact on NOI.	-.0003588443	.001	Accept
H7: No of Days Accounts Payable has a significant impact on NOI.	-.0001345900	.002	Accept

CONCLUSIONS, DISCUSSIONS, IMPLICATIONS AND FUTURE RESEARCH

5.1 Conclusion

In this research no ofdays accounts receivable, no of days account payable and no of days inventory are taken as a comprehensive components of working capital management, by using these variables the efficiency of working capital management can easily be check. The results shows that longer these components lesser will be the net operating profit as these have a negative relationship with net operating income. Firms can easily increase value for the shareholders by keeping the days to optimal level. In this research no of days payable and no of days inventory is significant and are affecting the operating profitability. Deloof (2003) concluded the same result for the study of Belgian firms.

Current Ratio (CR) has proved statistically significant and has impact on NOI whereas gearing ratio is statistically insignificant in this research but it has a negative relationship with net operating income which shows that higher will be the leverage low will be the operating profitability of the firm. Same result was concluded by Deloof (2003), Shin and Soenen (1998), Rajan and Zingales (1995) and Myers and Majlof (1984) but in this case gearing ratio is insignificant.

Sales growth and natural log of sales have positive relationship with profitability but sales growth in significant whereas natural log of sales has proven to be insignificant.

5.2 Discussions

Sugar sector which is the second biggest sector in manufacturing sector of Pakistan contributes to the economy significantly. Keeping in mind the importance of

sugar sector in the economy of Pakistan objective of this research is to analyze the affect of working capital management on firm's profitability in the sugar sector of Pakistan. To carry out the research data from 19 sugar mills which are currently listed at Karachi Stock Exchange is analyzed. The results shows that profitability of sugar mills are significantly affected by the efficient management of working capital and working capital management play a vital role in creating a value for the shareholders.

5.3   Implications

Many recommendations can be drawn from the above research results. Every sugar mill should give due importance to working capital management. Sugar mills should make such collection and payment policies which are in favor of the firm and existing policies should be thoroughly reviewed. Sugar mills should decrease there payment and receivable cycle. This can only be done when there will be professional management. The results suggest that sugar mills should keep optimum level of inventory and cash conversion cycle. This could only be possible when sugar mills will give due importance to every component of cash conversion cycle. Sugar mills should hire professional human resource to take decisions related to finance. There are many sugar mills where only one person is looking after the whole department. In order to maximize the profit sugar mills should manage there working capital efficiently.

5.4   Future Research

Every sector in manufacturing sector should be analyzed at micro level for efficient working capital management so it can be understand that which factors affects the working capital management more and how can working capital management can increase profitability in different sectors of our country.

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Appendix

7.1 Firms Size (Sales) – Group wise analysis

Coefficients (Group 1)							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-.700943835	.524		-1.337	.195		
Sales Growth	.000423181	.000	.252	1.157	.260	.532	1.879
Log of Sales	.270367609	.192	.320	1.407	.173	.490	2.042
Gearing Ratio	.000016896	.000	.040	.239	.813	.893	1.120
Current Ratio	.000165261	.001	.042	.192	.849	.539	1.854
No of Days Acc Rec	-.000013999	.000	-.017	-.105	.918	.932	1.073
No of Days Inventory	.000254801	.000	.133	.677	.506	.658	1.519
No of Days Acc Payable	-.000115216	.000	-.289	-1.621	.119	.794	1.259

Coefficients (Group 2)							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-.771620304	.300		-2.571	.015		
Sales Growth	.000262256	.000	.091	.635	.530	.650	1.539
Log of Sales	.279955851	.102	.389	2.755	.010	.663	1.509
Gearing Ratio	-.000231712	.000	-.262	-1.858	.073	.663	1.508
Current Ratio	.001175023	.001	.326	2.294	.029	.654	1.529
No of Days Acc Rec	.000391760	.001	.070	.588	.561	.933	1.071
No of Days Inventory	-.000380582	.000	-.205	-1.576	.125	.784	1.275
No of Days Acc Payable	-.000261420	.000	-.169	-1.368	.181	.864	1.157

Coefficients (Group 3)							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-.892370931	.477		-1.873	.080		
Sales Growth	.000674180	.001	.261	1.219	.240	.416	2.401
Log of Sales	.303358240	.154	.421	1.967	.067	.416	2.404
Gearing Ratio	.000022288	.000	.047	.306	.763	.808	1.237
Current Ratio	.001256087	.000	.528	3.000	.008	.616	1.624
No of Days Acc Rec	-.001836587	.001	-.298	-1.717	.105	.634	1.577
No of Days Inventory	-.000457813	.000	-.161	-1.017	.324	.756	1.322
No of Days Acc Payable	-.000141049	.000	-.099	-.651	.524	.824	1.214

Coefficients (Group 4)							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.1755865245	.292		.601	.552		
Sales Growth	.0001263171	.000	.055	.343	.733	.744	1.343
Log of Sales	-.0045226467	.091	-.008	-.050	.960	.768	1.302
Gearing Ratio	-.0008531255	.001	-.177	-1.019	.316	.628	1.592
Current Ratio	.0005845067	.001	.143	.878	.386	.716	1.397
No of Days Acc Rec	-.0019008996	.002	-.170	-1.059	.297	.731	1.368
No of Days Inventory	-.0006042946	.000	-.404	-2.412	.022	.674	1.485
No of Days Acc Payable	.0000503957	.000	.025	.156	.877	.734	1.363

<table>
<tr><td colspan="9" align="center">Coefficients (Group 5)</td></tr>
</table>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.399514882	.202		1.978	.059		
Sales Growth	.000168083	.000	.144	.992	.331	.805	1.242
Log of Sales	-.068682071	.057	-.203	-1.209	.239	.605	1.652
Gearing Ratio	-.002444838	.001	-.574	-2.921	.007	.442	2.261
Current Ratio	.000476082	.000	.327	1.838	.079	.539	1.856
No of Days Acc Rec	-.003031498	.001	-.542	-2.955	.007	.508	1.968
No of Days Inventory	-.000124739	.000	-.142	-.764	.452	.496	2.016
No of Days Acc Payable	-.000016939	.000	-.036	-.270	.789	.970	1.031

7.2 Firms Size (Total Assets) – Groups Wise Analysis

<table>
<tr><td colspan="9" align="center">Coefficients (Group 1)</td></tr>
</table>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-.700943835	.524		-1.337	.195		
Sales Growth	.000423181	.000	.252	1.157	.260	.532	1.879
Log of Sales	.270367609	.192	.320	1.407	.173	.490	2.042
Gearing Ratio	.000016896	.000	.040	.239	.813	.893	1.120
Current Ratio	.000165261	.001	.042	.192	.849	.539	1.854
No of Days Acc Rec	-.000013999	.000	-.017	-.105	.918	.932	1.073
No of Days Inventory	.000254801	.000	.133	.677	.506	.658	1.519
No of Days Acc Payable	-.000115216	.000	-.289	-1.621	.119	.794	1.259

Coefficients (Group 2)							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-.556561204	.352		-1.583	.126		
Sales Growth	.000660736	.001	.248	1.319	.200	.563	1.776
Log of Sales	.210681378	.115	.353	1.838	.078	.541	1.850
Gearing Ratio	-.000954642	.001	-.208	-1.368	.184	.862	1.160
Current Ratio	.000878709	.001	.169	1.097	.284	.837	1.195
No of Days Acc Rec	-.000093068	.001	-.019	-.117	.908	.790	1.266
No of Days Inventory	-.000271184	.000	-.138	-.852	.403	.766	1.306
No of Days Acc Payable	-.000076527	.000	-.049	-.321	.751	.862	1.160

Coefficients (Group 3)							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.24381567	.343		.711	.483		
Sales Growth	.00015881	.000	.061	.395	.695	.698	1.432
Log of Sales	-.04129506	.113	-.073	-.366	.717	.416	2.405
Gearing Ratio	-.00053858	.001	-.177	-.727	.473	.280	3.573
Current Ratio	.00096363	.001	.308	1.537	.135	.410	2.440
No of Days Acc Rec	-.00228643	.002	-.185	-1.077	.290	.557	1.795
No of Days Inventory	-.00079685	.000	-.411	-2.441	.021	.580	1.723
No of Days Acc Payable	-.00027140	.000	-.155	-.822	.418	.464	2.155

Coefficients (Group 4)							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-.290060122	.339		-.856	.402		
Sales Growth	.000132821	.001	.054	.262	.796	.621	1.611
Log of Sales	.106142447	.105	.203	1.008	.325	.642	1.558
Gearing Ratio	.000032286	.000	.063	.334	.742	.743	1.347
Current Ratio	.001429609	.000	.577	3.052	.006	.730	1.369
No of Days Acc Rec	-.000431413	.002	-.047	-.219	.829	.557	1.794
No of Days Inventory	-.000667741	.000	-.455	-2.491	.022	.780	1.282
No of Days Acc Payable	.000147285	.000	.084	.407	.688	.618	1.619

Coefficients (Group 5)							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.3995148822	.202		1.978	.059		
Sales Growth	.0001680827	.000	.144	.992	.331	.805	1.242
Log of Sales	-.0686820710	.057	-.203	-1.209	.239	.605	1.652
Gearing Ratio	-.0024448381	.001	-.574	-2.921	.007	.442	2.261
Current Ratio	.0004760820	.000	.327	1.838	.079	.539	1.856
No of Days Acc Rec	-.0030314979	.001	-.542	-2.955	.007	.508	1.968
No of Days Inventory	-.0001247390	.000	-.142	-.764	.452	.496	2.016
No of Days Acc Payable	-.0000169388	.000	-.036	-.270	.789	.970	1.031