A Study on Effective Utilization of Working Capital Management

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Abstract

This preliminary study was made with an attempt to analyze the impact of working capital on company's performance. Audited financial statements of a sample of 8 listed companies in the Edible Oil and Solvent Extraction Industry was used to perform this analysis. This analysis has been performed on the historical data of the companies over a period of four year i.e. from 2015-2018. We have viewed the performance of these companies over these periods and considered their profitability to be a measure as their performance index. The cash conversion cycle of a company measures the efficiency of a company to manage its Working Capital. A regression analysis was done to establish a relationship between the Working Capital and the Profitability of a company and another regression analysis was also done to see the relationship between the Cash Conversion Cycle and the profitability of the company. As per the coefficients of the Regression analysis, it is concluded that as the number of days in Cash Conversion Cycle increases, the profitability will also increase, because there would be a 0.05% increase in the net profit if the cash conversion cycle increases by one day. We also accept that there is a significant linear relationship between Cash Conversion Cycle and Profitability, and cash conversion cycle is nothing but efficient use of working capital and therefore, the use of Working Capital will impact the performance of the business.

Keywords: Working capital, audited financial statement, cash conversion cycle, profitability

I. INTRODUCTION:

Working Capital is the difference between the current assets and current liability of a firm on the date of the balance sheet is drawn up. It can also be defined as the net investment in current assets of the firm for the support of everyday transaction. The management of such assets and liability are said working capital management.

Working Capital Management is a conventional part of financial management as a subject. It refers to a firm's managerial accounting strategy designed to control and utilize current assets and current liabilities,

the two components of working capital, to check the most financially efficient operation of the company. **Working Capital Cycle** is the period required to convert the current assets and current liability to cash. Basically, it is the duration between supplied goods payment and the cash memo accumulated from the sale of the above goods. **The objective of working capital management** is to ensure that the firm is undisturbed in its operations and that it has sufficient cash flow to satisfy both maturing short term debt and upcoming operational expenses.

II. Review of Literature

- Pass C.L., Pike R.H(1984), she considered that in the course of recent years major hypothetical advancements have happened in the territories of longer-term speculation and money related basic leadership. A significant number of these new ideas and the related systems are presently being utilized effectively in mechanical practice. By differentiate, far less consideration has been paid to the region of here and now fund, specifically that of working capital administration. Such disregard may be worthy were working capital contemplations of generally little significance to the firm, however working capital administration has a critical job to play in upgrading the productivity and development of the firm. Without a doubt, encounter appears that insufficient arranging and control of working capital is one of the more typical reasons for business disappointment.
- Herzfeld B1 (1990), examined that "Money is above anything"- - so say the cash managers who share the duty of maintaining this country's businesses. What's more, with banks requesting more from their forthcoming borrowers, more noteworthy accentuation has been put on those responsible for purported working capital administration. Basically, the reason for that capacity is to verify that the organization has enough resources for work its business.
- Mehmet SEN, Eda ORUC (2005) the examination " Relationship between the efficiency of working capital management and company size ", as it is known, one reason which cause change in working capital starting with one period then onto the next is the adjustment in administration effectiveness. In this study, the impact of progress in administration proficiency in working capital administration is to the adjustment in working capital by analyzing the organization size and segments. In all segments considered, in the adjustment in working capital, and observe the impact of decreasing of proficiency in stock administration. It is likewise seen that proficiency change in the administration of the transient business receivables and the fleeting business liabilities by the organization sizes and parts make a constructive outcome in to the adjustment in working capital.
- Dev Strischek (2003) studied how to quantify the impact of working capital management for decision making and advisory purpose by a shareholder valuation tool. The period of study is from January 2000

to December 2001 for Green Company. This article has concludes how working capital management effects the cash flows, which in turn adds value to the company's equity.

- Rajeswara, Rao K. (1985), He examined the working capital policies of Public Enterprises in India and concluded that most of the selected firms were enable to maintain working capital efficiency.

III. Research Design

Scope of Study-

This paper analyzes the financial statements of Edible Oil and Solvent Extraction Companies The resulting study will help the company in managing and planning the movement of current assets and the current liabilities.

1) Review the working capital management of the company.
2) Compare the relationship of working capital and profitability through the research.
3) Study of how the working capital influence the performance of the firm.

Statement of problem-

1. Cash-to-cash cycle time is the time duration it takes working capital to move through your supply chain from payment for goods to receipt of sales.
2. Inventory optimization is balancing supply with the demand of the goods so that the firm can meet customer requirements by maintaining the appropriate amount of stock .

Source of Data-

Our data is primarily based on Secondary source of information which consists of annual reports of the Gujarat Ambuja Exports, KSE, Agro Tech Foods, etc. Data used include working capital and profit after tax for the period of 2015-2018. The data was used to find out the different ratios to know the affectivity of the working capital in a firm.

Data Analysis Tools-

The following data analysis tools have been used for this research:

1. Working Capital

$$Working\ Capital = Current\ Asses - Current\ Liabilities$$

Current assets of a company would include assets which are realizable within a period of 12 months like cash, accounts receivable, inventories of raw materials and finished goods etc. and Current Liabilities would include liabilities that are due within a period of 12 months like Accounts payable etc.

2. Cash Conversion Cycle

$$Cash\ Conversion\ Cycle = Days\ Inventory\ Outstanding + Days\ Receivables\ Outstanding - Days\ Payable\ Outstanding$$

3. Regression Analysis

We have used linear regression model for the analysis purpose:

$$y = a + bx + \varepsilon$$

Where, y = Dependent variable

X = Independent variable

a and b = Intercepts

ε = Standard error

Expected Outcome-

We expect that the Working Capital management in an industry will have an impact on the performance of the industry.

IV. Data Analysis

The data of 8 listed companies in the Edible Oil and Solvent Extraction Industry was used to perform this analysis. This analysis has been performed on the historical data of the companies over a period of four years. The summary of year-wise Working Capital of each company over a period of four years is as follows:

(₹ in Crores)

Summary of Working Capital of each company for four years				
Company Name	**18-Mar**	**17-Mar**	**16-Mar**	**15-Mar**
GujaratAmbuja Exports	197.97	81.45	255.10	226.75
KSE	121.05	63.48	50.77	48.80
Agro Tech Foods	104.87	70.47	50.11	51.62
AVT Natural	143.69	170.69	146.14	134.68
Kriti Nutrients	18.68	9.03	4.78	1.78
Anik Industries	206.37	178.94	143.99	134.08
Poona Dal	31.53	28.89	18.83	16.88
J R Foods Ltd	7.56	4.94	3.73	-1.41

The cash conversion cycle of a company measures the efficiency of a company to manage its Working Capital. The Cash Conversion Cycle measures the length of time between a company's purchase of inventory and the receipts of cash from its customers or accounts receivable. It also shows the duration for which a company's cash remains tied up in its operations. Hence, we have calculated the Cash Conversion Cycle of

each of the above companies over a period of five years. The summary of year-wise Cash Conversion Cycle is given in the table below:

(₹ in Crores)

Summary of Cash Conversion Cycle				
Company Name	**18-Mar**	**17-Mar**	**16-Mar**	**15-Mar**
Gujarat Ambuja Exports	86	76	64	71
KSE	22	23	23	21
Agro Tech Foods	20	37	54	31
AVT Natural	125	132	141	146
Kriti Nutrients	28	31	25	31
Anik Industries	30	88	185	33
Poona Dal	-37	-2	12	34
J R Foods Ltd	25	23	13	5

We have then calculated the various statistical measures for the above historical data using the descriptive statistics tool in excel. The same has been summarized below:

Summary of Descriptive Statistics of Working Capital									
Company Name	Mean	Standard Error	Median	Standard Deviation	Sample Variance	Kurtosis	Skewness	Minimum	Maximum
GujAmb Exports	190	38	212	76	5812	2	-1	81	255
KSE	71	17	57	34	1155	3	2	49	121
Agro Tech Foods	69	13	61	25	649	1	1	50	105
AVT Natural	149	8	145	15	237	2	1	135	171
Kriti Nutrients	9	4	7	7	54	1	1	2	19
Anik Industries	166	17	161	33	1100	-3	0	134	206
Poona Dal	24	4	24	7	53	-5	0	17	32
J R Foods Ltd	4	2	4	4	14	2	-1	-1	8

Summary of Descriptive Statistics of Cash Conversion Cycle									
Company Name	Mean	Standard Error	Median	Standard Deviation	Sample Variance	Kurtosis	Skewness	Minimum	Maximum
GujAmb Exports	74	5	73	9	88	0	0	64	86
KSE	22	1	22	1	1	-3	0	21	23
Agro Tech Foods	35	7	34	14	199	1	1	20	54

AVT Natural	136	5	136	9	87	-3	0	125	146
Kriti Nutri-ents	28	1	29	3	8	-1	-1	25	31
Anik Indus-tries	84	36	61	73	5267	1	1	30	185
Poona Dal	2	15	5	30	887	1	-1	-37	34
J R Foods Ltd	17	5	18	9	84	-2	-1	5	25

We have then viewed the performance of these companies over these periods and considered their profitability to be a measure as their performance index. An average of the profitability ratios for the four years were taken for each of the company.

A regression analysis was done to establish a relationship between the Working Capital and the Profitability of a company. We have used the regression tool in excel to perform the regression analysis. The result of the regression analysis is as follows:

Regression Statistics	
Multiple R	0.66
R Square	0.44
Adjusted R Square	0.34
Standard Error	2.10
Observations	8.00

ANOVA

	Df	*SS*	*MS*	*F*	*Significance F*
Regression	1.00	20.50	20.50	4.63	0.07
Residual	6.00	26.55	4.42		
Total	7.00	47.05			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	1.50	1.18	1.28	0.25	-1.38	4.39
Working Capital	0.02	0.01	2.15	0.07	0.00	0.05

A regression analysis was also done to see the relationship between the Cash Conversion Cycle and the profitability of the company. The result of the regression analysis is as follows:

Regression Statistics	
Multiple R	0.90
R Square	0.81
Adjusted R Square	0.77
Standard Error	1.23
Observations	8.00

ANOVA

	Df	*SS*	*MS*	*F*	*Significance F*
Regression	1.00	37.92	37.92	24.91	0.00
Residual	6.00	9.13	1.52		
Total	7.00	47.05			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.89	0.68	1.31	0.24	-0.77	2.54
Cash Conversion Cycle	0.05	0.01	4.99	0.00	0.03	0.08

V. Interpretation

1. Working Capital

Working capital is a measure which shows the liquidity position of a company and it also tells us, as to whether a company will be able to pay off its dues or liabilities which are due in the next 12 months and by its assets that will be realized in cash in the next 12 months. Hence, a positive Working Capital means that the company will be able to pay off its short-term liabilities using its short-term assets. A negative Working capital on the other hand indicates that the company will fail in paying off its short-term liabilities or dues in the next twelve months or will make a delay in paying off its suppliers.

2. Cash Conversion Cycle

The Cash Conversion Cycle of a company reveals, how long it takes a business from the time it has to pay for inventory to its suppliers until it collects cash from its customers. Hence, a shorter Cash Conversion Cycle is the best for a business and as the Cash conversion cycle of a business keeps increasing over the years, it is a bad indicator for the business and may eventually lead into bankruptcy or liquidation. The Cash Conversion Cycle can be negative also where the business can immediately realize its cash from its customers but pays to its suppliers after a longer period.

3. Regression Analysis

The Regression analysis explains us about the relationship between two variables and how strong is the relationship between two variables and if there is a strong relationship then are these variables significantly related to each other. In linear relationship, the coefficient of determination (i.e., square of coefficient of correlation = R-square) shows how strongly the two variables are related to each other. The R^2 measures the percent of total variation in the dependent variable. The closer the R-square to one the stronger is the relationship between two variables. In addition to analyzing R^2, we must test whether the relationship between he dependent variable and independent variable is significant and whether the linear model is a good fit for

the data. We do this by analyzing the p-value (or confidence interval) associated with the independent variable and the regression's residual plot.

The p-value of the independent variable is the result of the hypothesis test, that tests whether there is a significant linear relationship, that is, it test whether the slope of the regression line is zero, H_0: $\beta = 0$ and H_a: $\beta \neq 0$. If the coefficient of p-value is less than 0.05, then, we reject the null hypothesis and conclude that we have sufficient evidence to be 95% confident that there is a significant linear relationship between the dependent and independent variables. A confidence interval associated with an independent variable's coefficient indicates the likely range for that coefficient. If the 95% confidence interval does not contain zero, we can be 95% confident that there is a significant linear relationship between the variables.

VI. Findings and Suggestions

- As per Table no.1 the working capital for all the companies except AVT Natural, have been increasing over the periods, which means that the other 7 companies have improved on increasing their working capital to pay off its current liabilities, whereas for AVT Natural, the working capitals have decreased but still they've not fallen enough to not meet their current liabilities. Hence, it is suggested that these companies must not let their working capitals to decrease further and keep it constant at this level only.

The working Capital of J R Foods in the year 2015 was not enough to meet its short-term obligations but the management of J R Foods have taken due care of this situation and increased their working capital over the years and they are now in a position where they can easily pay off their short-term debts.

- As per Table no. 2 the Cash Conversion Cycle of four companies viz. Agro tech Foods, AVT Natural, Anik Industries and Poona Dal have been decreasing, which is a good sign that these companies are trying to reduce their Cash Conversion Cycle. It is suggested that these companies must continue to reduce their Cash Conversion Cycle to improve the efficiency of Working Capital management.

Two companies viz. KSE and Kriti Nutrients have kept their cash conversion cycle to be constant between 20 to 30 days over the period of four years which shows that these companies have been managing their Working Capital ideally for a long period of time and must continue with the same practice and try to further reduce the cycle.

The Cash Conversion Cycle for the other two companies viz. Gujarat AmbujaExports and J R Foods Ltd were seen to have been increasing over the periods and this has led to an inefficient management of Working Capital and these companies need to find ways to reduce this cycle, either by increasing their control over the receivables or by negotiating with their vendors.

The working capital of AVT Natural has decreased but at the same time their Cash Conversion Cycle has also decreased, which means that they are efficiently using their financial resources to manage their day to day business operations.

- The first regression analysis was performed between Average Working Capital and Average Net-profit ratio of all the above companies. The null hypothesis for this would be:

H_0: The amount of working capital has no impact on the performance of an enterprise.

H_a: The amount of working capital impacts the performance of an enterprise.

The regression analysis of Output summary 1 reveals that the R-Square for these two variables is very less which equals to 0.44 and also the p-value for this regression analysis is 0.07 which is greater than 0.05 and hence at 95% confidence level, we fail to reject the null hypothesis. Therefore, there is no impact on the performance of an enterprise with the amount of working capital.

- The second regression analysis was performed between Average Cash Conversion Cycle and Average Net-profit ratio of all the above companies. The null hypothesis for this would be:

H_0: The Cash Conversion Cycle has no impact on the performance of an enterprise.

H_a: The Cash Conversion Cycle has impact on the performance of an enterprise.

The regression analysis of Output summary 2 reveals that the R-square for this analysis is 0.81 which is very close to 1 and hence there will be a huge variation on the profitability or performance of a business with change in Cash Conversion Cycle. Also, the p-value of this analysis is 0.00 which is less than 0.05. Hence, at 95% confidence level there is a significant relationship between Cash Conversion Cycle and Profitability of the enterprise and we do not fail to reject the null hypothesis. Therefore, the Cash Conversion Cycle has an impact on the profitability of that enterprise.

As per the coefficients of the Regression analysis, we can conclude that as the number of days in Cash Conversion Cycle increases, the profitability will also increase, because there would be a 0.05% increase in the net profit if the cash conversion cycle increases by one day. Now, there are a lot of other indicators who influence the profitability of the business. If the cash conversion cycle increase that would mean that the accounts receivable has been realized late and there has been an increase in the terms of payment. The customers would also buy the product from a businessthatgives themmore credit than the competitor enterprises. This would increase the sales of an enterprise and thus lead to an increased profitability. It is suggested to companies to efficiently use their working capital not to advance any long credit period to customers. As giving an increased credit period would require more working capital and hence, this is not recommended to be followed.

We also accept that there is a significant linear relationship between Cash Conversion Cycle and Profitability, and cash conversion cycle is nothing but efficient use of working capital and therefore, the use of Working Capital will impact the performance of the business.

VII. Conclusion

As per the coefficients of the Regression analysis, we can conclude that as the number of days in Cash Conversion Cycle increases, the profitability will also increase, because there would be a 0.05% increase in the net profit if the cash conversion cycle increases by one day. Now, there are a lot of other indicators who influence the profitability of the business. If the cash conversion cycle increase that would mean that the accounts receivable has been realized late and there has been an increase in the terms of payment. The customers would also buy the product from a business that gives them more credit than the competitor enterprises. This would increase the sales of an enterprise and thus lead to an increased profitability. It is suggested to companies to efficiently use their working capital not to advance any long credit period to customers. As giving an increased credit period would require more working capital and hence, this is not recommended to be followed.

We also accept that there is a significant linear relationship between Cash Conversion Cycle and Profitability, and cash conversion cycle is nothing but efficient use of working capital and therefore, the use of Working Capital will impact the performance of the business.

References

- An Overview of Working Capital Management and Corporate Financing

(Pass & Pike, 1984)

- How to understand Working Capital Management. B., H. (1990).
- Relationship between the efficiency of working capital management and company size. (Sen, Koksal, & Oruc, 2005)
- The Impact of Working Capital Investment on the Value of a Company. (Strischek, 2003)
- Rajeswara, Rao K. (1985) “Working Capital Planning and Control in Public Enterprises in India”, Ajantha Publications, Jaipur.