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AN ANALYTICAL STUDY OF CASH MANAGEMENT PRACTICES OF SELECTED STEEL COMPANIES

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ABSTRACT: In the present study researcher take sample of two steel company with the object to measure the impact of cash related ratio on cash conversion cycle of them. Secondary data in the form of annual report is collected for the period starting from 2013-14 to 2017-18. To fulfill this objective different ratio related to cash and cash conversion cycle are workout as well as regression and coefficient analysis is also done. Findings of the study reveal that except cash flow margin ratio, other ratio like current ratio and cash coverage ratio has positive impact on cash conversion cycle of the company. Whereas cash flow margin ratio has negative relation with cash conversion cycle.

Keywords: Cash Flow, Liquidity, cash conversion cycle.

INTRODUCTION

One of the essential element to run the business is cash because it is cash only through which company can do all the activity related to business. Its like a compulsory feature of any company not only that common men also needs cash for its livelihood to meet his expenses and so on. Without cash it is difficult to imaging today's world. Though many transaction can be done on credit basis, company required to pay cash whenever credit period gets over. So, as a cash is very important element for corporate, they need to manage it properly which can help them to get optimum return. Cash flow in the company shows the inflow and out flow of cash, it shows where the cash comes and where it is gone. Cash flow of the company classify into three activity which is operating activity, financial activity and investing activity respectively.

In addition, Cash is a money in the bank or in the business. It is not inventory, it is not accounts receivable (what you are owed), and it is not property. These might be converted to cash at some point in time, but it takes cash on hand or in the bank to pay suppliers, to pay the rent, and to meet the payroll. Profit growth does not necessarily mean more cash.

Cash is an important current asset for the operations of the business. Cash is the basic input require to keep running the business. It is also the output expected to

be realized by selling the service or product manufactured by the firm. The firm need to keep sufficient cash, neither less nor more. Cash shortage may disrupt the firm's manufacturing operations while excessive cash will simply remain idle. Without contributing anything towards the firm's profitability. Thus, a major function of the any financial manager is to maintain a sound cash position.

MEANING OF CASH FLOW

Flow generally define as an incoming and outgoing. As far as cash flow is concern, it includes the activity which collect and disburse the cash. In company form, there are numerous activity which cause the inflow and outflow of cash. Finance manager need proper synchronization of cash flow which ultimately lead to the sound financial position of the company. Three main activity included in the cash flow statement prepare by the company namely operating activity, investing activity and financial activity. Cash flow helps to get clear idea about the movement of cash and indicates the company that where the cash is come from and where it is invested or spends. Once movement of cash is clearly known then it is easier to detect the activity which no importance and company can correct or remove that activity for better management of cash flow.

REVIEW OF RELATED LITERATURE

- Ben EboAttom (2013) studied the 263 micro & small scale enterprise within kasoia in the Efutu-senga east municipality in the central region of Ghana. The data collected by the field work, August 2013 with the help of questionnaires collected from 263 enterprises and the information was related to preparation of various Budget, operating bank accounts, maintain track of cash receipts, have a track of cash payments, maintain proper books of accounts.

Thus, study revealed that the 77.78% of respondents have no knowledge about cash control procedures. The absence of appropriate cash management procedures has contributed significantly to the exposure of these enterprises to financial impropriety and misapplication of cash as a resource, leading to slow growth of most of the businesses.

The study recommended among other things, the need to initiate capacity building, training and sensitization of micro and small scale business operators on cash management practices.

- Bingilar Paymaster Frank and OyadonghanKereotu James (2014) carry out the study of selected food & beverages companies in Nigeria to check the relationship between cash flow and corporate performance.

Six food beverages companies quoted in the Nigerian Stock Exchange were selected. By using multiple regression techniques, data collected from annual report and accounts of the company were analyzed.

Result of the study shows that operating and financing cash flows have significant positive relationship with corporate performance, while investing cash flow and corporate performance have significant negative relationship. The researcher

also recommend that regulatory authorities should encourage external auditors to use cash flow ratios in evaluating the performance of these companies, which enables investors to make rational investment decisions.

- Carlos Arango et. al. (2013) surveyed in Canada, France, Germany and Netherlands for testing the assumption that cash was still the most efficient payment instrument and people hold cash for precautionary reasons when facing uncertainty about their future purchases.

Result shown that two factor namely minimum cash holdings and cash first were significant determinants of the high shares of low-value cash payments in Canada, France and Germany but in Netherlands significant share of low value card transaction were found.

- Muhammad Sohail Tahir et. al. (2015) carry out reviews of different financial theories such as trade off theory, pecking order theory & free cash flow theory in the decision making of corporate cash management practices.

Researchers conclude that this three theories were not mutually exclusive. The theories predict the uncertain role of different financial environment in cash holding behavior of the firms. In addition to it, distinctive nature of each sector may differently control the firm's cash level.

- Richard Kofi Akoto et. al. (2013) surveyed among 13 listed manufacturing firms in Ghana covering the period from 2005-2009 for examine the relationship between working capital management practices and profitability.

According to study profitability and accounts receivable days have significantly negative relationship. Profitability influenced significantly positive to firms cash conversion cycle, current assets ratio, size and current assets turnover.

RESEARCH GAP

Researcher found that there is still need to do research on the area of cash management because in modern days cash has very vital scope and an important element of business organization. Past study use the different aspect to measure the cash management pattern and achieve optimum cash balance in company. This study shows how the company affected because of change in cash flow of the company and other aspects related to cash.

SAMPLE PROFILE

TATA Steel Ltd.

TATA Steel Ltd (Tata Iron and Steel Company Limited (TISCO)) is an Indian multinational steel-production organization headquartered in Mumbai, Maharashtra, India, and an auxiliary of the Tata Group.

It is one of the best steel producing organizations all around with yearly crude steel conveyances of 27.5 million tons (in FY17), and the second biggest steel

organization in India (estimated by domestic production) with a yearly limit of 13 million tons after SAIL.

TATA Steel has manufacturing activity in 26 nations, including Australia, China, India, Netherlands, Singapore, Thailand and the United Kingdom, and employs almost 80,500 individuals. Its biggest plant situated in Jamshedpur, Jharkhand. In 2007 Tata Steel acquired the UK-based steel producer Corus. It was positioned 486th in the 2014 Fortune Global 500 positioning of the world's biggest enterprises. It was the seventh most important Indian brand of 2013 according to Brand Finance.

JSW Steel Ltd.

JSW Steel Ltd. is The flagship company of around \$11 billion JSW Group, JSW Steel is one of India's leading integrated steel manufacturers. (with a capacity of 18 MTPA). Company is one of the fastest growing companies in India with a presence in over 140 countries. JSW Steel is an Indian steel company which is owned by the JSW Group based in Mumbai, Maharashtra, India. Company, after merger of ISPAT steel, has become second largest private sector steel company in India. A \$11 billion conglomerate, with presence across India, South America & Africa, USA, the JSW Group is a part of the O.P. Jindal Group with strong presence across core economic sectors, namely, Steel, Cement, Energy, Infrastructure, Sports & Ventures. JSW's history start from 1982, when Piramal Steel Limited acquired by the Jindal Group, which operated a mini steel mill at Tarapur in Maharashtra and renamed it as Jindal Iron and Steel Company (JISCO).

First Steel plant set up by The Group in 1982 at Vasind near Mumbai. Soon after that, it acquired Piramal Steel Ltd., operated a mini steel mill at Tarapur in Maharashtra. The Jindals, who had wide experience in the steel industry, renamed it as Jindal Iron and Steel Co. Ltd. (JISCO). (JVSL) Jindal Vijayanagar Steel Ltd. was set up in 1994.

Measurement of variables and abbreviation

Table-1

A table showing measurement of variables and abbreviation

Variable	Measurement	Abbreviation
Cash Conversion Cycle	DIO+DSO-DPO	CCC
Current Ratio	Current Asset/Current Liabilities	CR
Cash coverage ratio	Cash/current liabilities	CCR
Cash flow margin ratio	Operating cash flow/Net sales	CFMR

RESEARCH METHODOLOGY

1. Objectives of study

Following are the objectives of the study

1. To know about cash management and its various elements.
2. To measure the Cash Conversion Cycle of selected sample.
3. To measure the Cash Coverage Ratio of selected sample.

4. To measure the Cash Flow Margin Ratio of selected sample.
5. To measure the Current Ratio of selected sample.

2. Hypothesis

Researcher formulate following hypothesis to test the impact of different aspect under the study.

Null Hypothesis

H0: There is no significant impact of current ratio on cash conversion cycle of selected sample.

H0: There is no significant impact of cash coverage ratio on cash conversion cycle of selected sample.

H0: There is no significant impact of cash flow margin ratio on cash conversion cycle of selected sample.

3. Period of study

Five year starting from 2012-13 to 2016-17 is taken for this research.

4. Scope of study

All the steel manufacturing companies in India stand as a population for the study out of which two companies are selected with the help of convenience sampling for this study.

5. Tools and Techniques

In this study various ratio like current ratio, cash flow margin ratio, cash coverage ratio and cash conversion cycle are used. The different statistical tool like regression, coefficient of correlation etc. are used to analyze the data and verify the hypothesis.

6. Data collection and Analysis

As this research based on secondary data, data is collected from the official website of TATA steel Ltd. And JSW Steel Ltd. and other related websites.

7. Findings and conclusion

Research conclude the research and shows the findings of the study.

DATA ANALYSIS

Table-2

A table showing Descriptive Statistics

	Mean	Std. Deviation	N
Cash Conversion Cycle	-27.70	38.37	10
Current Ratio	0.80	0.22	10
Cash Coverage Ratio	5.47	4.78	10
Cash flow Margin Ratio	17.53	5.26	10

Table-2 shows descriptive statistics. The Cash Conversion Cycle shows mean -27.70 that is around -28 days. Here the negative cash conversion cycle explain that company receive cash quicker than paying to creditors or in other words company allows very few days of credit to debtors whereas company receive more days to pay its creditors. The average current ratio is 0.80 which indicates poor condition of current assets against current liability as standard position of current ratio should be 2:1. The mean of cash coverage ratio which is also known as cash to current assets

ratio is 5.47%, this indicates a liquidity position of company to meet its current liability, it also show standard deviation of 4.78%. Cash flow margin is the ratio based on the operating cash flow of the company which divided by net sales. The mean of this ratio is 17.53% and standard deviation is 5.26, which reveal that company having 17.53% operating cash with it against every 100% of net sales value.

Table-3

A table showing Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.663 ^a	.439	.159	35.18554	1.213
a. Predictors: (Constant), Cash flow Margin Ratio, Current Ratio, Cash Coverage Ratio					
b. Dependent Variable: Cash Conversion Cycle					

Regression analysis is the process of forming a mathematical model or function that can be used to predict or determine one variable by another variable or other variables. Regression is a statistical method for estimating the relationship between one or more independent (predictor) variables and a dependent (criterion) variable. Various values (terms) of regression are explained below.

- **R:** R is the square root of R-squared and is the correlation between the observed and predicated values of the dependent variable.

The coefficient (0.663) is positive which imply that there is a direct proportional relationship between the cash management factor and cash conversion cycle.

- **R-square:** R-square is the proportion of variance in the dependent variable (cash conversion cycle) which can be predicted from the independent variables (predictors). The value indicate that 43.9% of the variance in cash conversion cycle can be predicted from the predictor variables. R-square is also called the coefficient of determination. (cortinhas& black 2012).
- **Adjusted R-square:** Adjusted R-square explain that as predictors are added to the model, each predictor will explain some of the variance in the dependent variable simply due to chance. Thus one could continue to add predictors to the model which would continue to improve the ability of the predictors to explain the dependent variable, although sometimes increase in R-square would be simply due to chance variation in that particular sample.

Here, the adjusted R-square used to yield a more honest value to estimate the R-squared for the population. The value of R-square was 0.439, while the value of Adjusted R-square was 0.159.

To check whether the regression model is fit for the data collected or not, validation of R² is necessary. As per the general rule, 0% R² shows none of the variability of the response data around its mean and 100% R² indicate that the model explains all the variability of the response data around its mean. It is general tendency that higher percentage of R², the better the model fits to the data but it is not always be the true as R² may be higher as more variable added in the model.

In this study, the value of R² is 0.439 which indicate that model is fits to the data collected, on the basis of which further analysis can easily be done. P value

which is also referred as observed significance level is used to obtain statistical conclusion in hypothesis testing.

Table-4
A table showing Analysis of Variance^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5819.97	3	1939.989	1.567	.292 ^b
	Residual	7428.13	6	1238.022		
	Total	13248.10	9			
a. Dependent Variable: Cash Conversion Cycle						
b. Predictors: (Constant), Cash flow Margin Ratio, Current Ratio, Cash Coverage Ratio						

▪ **F and Sig.:** The F-Value is 1.567. The p-value associated with this F-value is 0.292. This values are used to determine that whether the independent variables reliably predict the dependent variable or not.

Table-5
A table showing coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-25.624	98.607		-0.260	0.804
	Current Ratio	98.482	130.936	0.553	0.752	0.480
	Cash Coverage Ratio	-1.601	6.216	-0.199	-0.258	0.805
	Cash flow Margin Ratio	-4.135	2.543	-0.567	-1.626	0.155
a. Dependent Variable: Cash Conversion Cycle						

The statement shown in above table regarding cash management practices is chose from the data instrument to be tested in this regression analysis as it was likely to affect the cash conversion cycle of a business.

Dependent variable: Cash Conversion Cycle.

The first variable (constant) represents the constant, also referred to in textbooks as the Y intercept, the height of the regression line when it crosses the Y axis. In other words, this is the predicted value of Cash Conversion Cycle when all other statements are 0.

β – These are the values for the regression equation for predicting dependent variable from the independent variable. These are called unstandardized coefficient because they were measured in their natural units. As such, the coefficient cannot be compared with one another to determine which one was more influential in the model, because they can be measured on different scales.

These estimates inform one about the relationship between the independent variables and the dependent variable. These estimates indicate the amount of change in the cash conversion cycle that would be predicted by a 1 unit change in the predictor.

Std. error – These are the standard errors associated with the coefficients. The standard error is used for testing whether the parameter was significantly different from 0 by dividing the parameter estimate by the standard error to obtain a T-value (column T-values and P-values).

T and Sig. – These columns provide the T-value and 2 tailed P-value used in testing the null hypothesis that the coefficient/parameter is 0. Coefficient having P-values less than alpha are statistically significant for a two tail test.

$$Y \text{ (predicted)} = b_0 + b_1 \times 1 + b_2 \times 2 + b_3 \times 3 + b_4 \times 4$$

Cash Conversion Cycle (predicted) = -25.624 + 98.482 current ratio – 1.601 cash coverage ratio - 4.135 cash flow margin.

This equation estimate the relationship about independent variable and dependent variable.

These estimates indicate the amount of change in cash conversion cycle that would be predicted by a 1 unit change in the predictor.

“Current Ratio”- The coefficient (Parameter estimate) was 98.482. So, for every unit change in current ratio, a 98.482 unit change in cash conversion cycle was predicted, holding all other variable constant.

Cash Coverage ratio- the coefficient (Parameter estimate) was -1.601. So, for every unit change in cash coverage ratio, a -1.601 unit change in cash conversion cycle was predicted, holding all other variables constant. (It does not matter at what value one holds the other statement constant, because it is a linear model).

Cash flow margin- the coefficient (parameter estimate) was -4.135. So, for every unit of change in cash flow margin ratio, a -4.135 unit change in cash conversion cycle was predicted, holding all other variable constant. (It does not matter at what value one holds the statement constant because it is linear model).

Table-6
A table showing correlations

		CCC	CR	CCR	CFMR
Pearson Correlation	CCC	1.000	0.275	0.095	-0.541
	CR	0.275	1.000	0.896	0.175
	CCR	0.095	0.896	1.000	0.355
	CFMR	-0.541	0.175	0.355	1.000
Sig. (1-tailed)	CCC	.	0.221	0.397	0.053
	CR	0.221	.	0.000	0.314
	CCR	0.397	0.00	.	0.157
	CFMR	0.053	0.314	0.157	.
N	CCC	10	10	10	10
	CR	10	10	10	10
	CCR	10	10	10	10
	CFMR	10	10	10	10

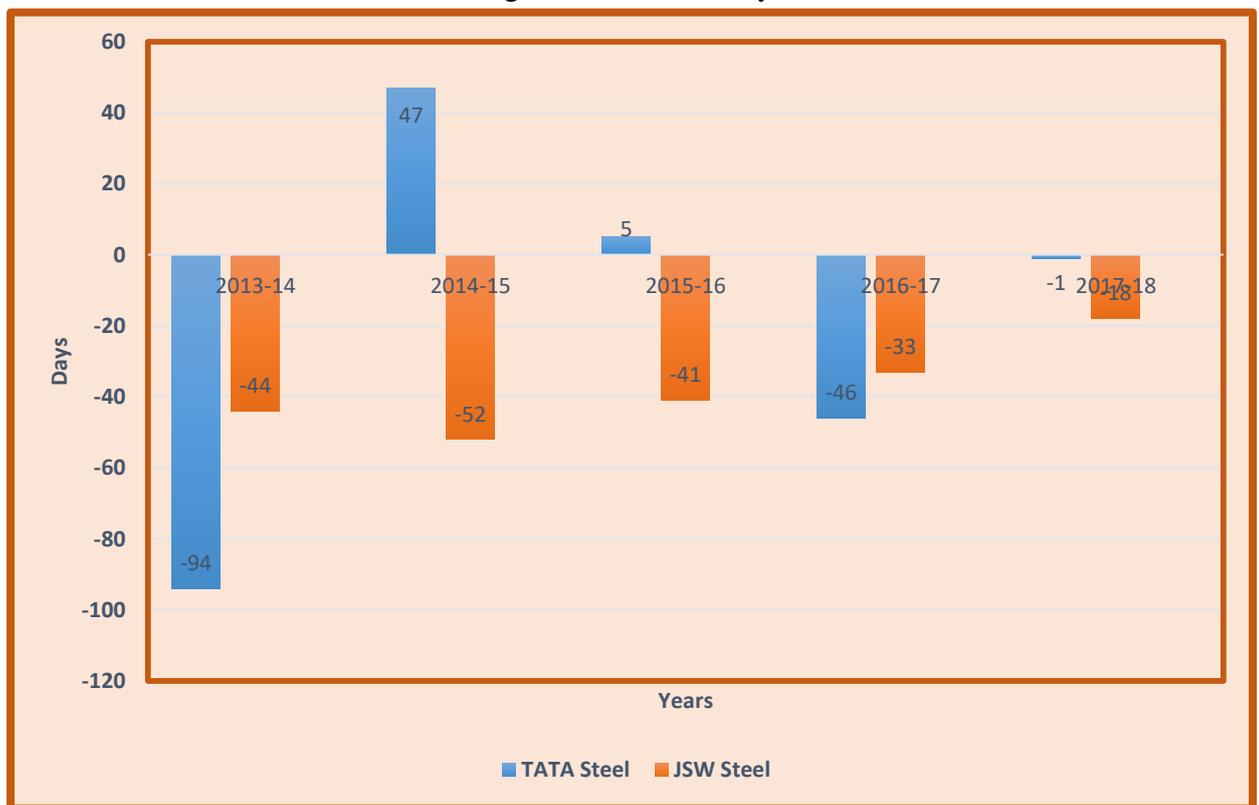
In the above table, Positive values indicate a directly proportional relationship between the variables and a negative value indicates an inverse relationship.

All significant relationship are indicated by a * or **. A (*) correlation is significant at the 0.05 level (2-tailed). A (**) correlation is significant at the 0.01 level (2-tailed).

For the Pearsons correlation, two factor namely dependent and independent are used. The cash conversion cycle is dependent factor whereas current ratio, cash coverage ratio and cash flow margin ratio are independent factor.

The cash conversion cycle having positive relation with current ratio which reveal that by increase in current ratio the cash conversion cycle can also be increase. Along with it, cash conversion cycle also shows the positive relation with the cash coverage ratio. Cash flow margin ratio has negative relation with cash conversion cycle, resulting decrease in CCC by increase in this ratio.

Chart-1
A chart showing cash conversion cycle



The following chart shows the cash conversion cycle of selected samples on Y-axis and years on X-axis. TATA Steel has very fluctuating trend through out all the five years as in 2013-14 having -94 days of cash conversion cycle which dramatically increase to 47 in next year and again goes down in 2016-17. In short TATA Steel has no fixed cash conversion cycle which ultimately reflect that there is need to have uniform policy for inventory, debtors and creditors which makes company able to achieve stable cash conversion cycle.

On other hand, JSW Steel show negative cash conversion cycle for all the years cover under this study and having normal fluctuation in it.

Chart-2
A chart showing current ratio



The above chart showing the current ratio of selected sample. According to this chart, none of the company can achieve the standard current ratio which is 2:1. Both this company having less current assets as compared to its current liabilities. Which simply indicates that there is need to manage the current assets in such a manner which can achieve the standard current ratio. Only in 2017-18, TATA Steel has more current assets then its liabilities.

Chart-3
A chart showing cash coverage ratio



As cash coverage ratio show the cash availability against the current liabilities of the company, above chart imply that both the company has on an average 5.47% of cash against 100% current liability. Which definitely need to improve for better cash management. Tata steel on the year 2017-18 has drastic increment of 17.92% from 3.93% of last year, which definitely acceptable change.

Chart-4

A chart showing cash flow margin ratio



This chart show the figure of cash flow margin ratio. The ratio shows the availability of operating cash against the net sales of the company. Clearly, TATA Steel shows better ratio than the JSW Steel.

HYPOTHESIS TESTING

To check the hypothesis formulated by researcher, pearsons correlation analysis is use. On the basis of significance value obtained by the correlation, it can be decide that whether the null hypothesis is rejected or not rejected.

Following table shows whether the null hypothesis is rejected or not rejected.

-	Null Hypothesis	Result
H0	There is no significant impact of current ratio on cash conversion cycle of selected sample.	Rejected
H0	There is no significant impact of cash coverage ratio on cash conversion cycle of selected sample.	Rejected
H0	There is no significant impact of cash flow margin ratio on cash conversion cycle of selected sample.	Rejected

First hypothesis is rejected which means that the current ratio does having significant impact on cash conversion cycle of the firm. Which means, through the better current ratio firm can improve CCC because there is impact of current ratio over the CCC.

The second hypothesis is get rejected which shows that there is significant impact of cash coverage ratio on CCC of selected companies. As the cash balance become higher in compare to current liability according to cash coverage ratio, company can efficiently use it not only to pay its debt quicker but also enjoy good liquidity position of company which further improve the CCC of the company.

The third hypothesis is also get rejected which indicate that cash flow margin has significant impact on CCC. Since the net operating cash flow increase as compared to net sales, the CCC of selected sample can positively get growth. The more operating cash flow result in more opportunity to grab market advantage and consequently less debtor amount which ultimately give better CCC.

FINDINGS

The study conducted on two steel companies of India for which data for the five annual report (2013-14 to 2017-18) are collected. The researcher find that the cash management practices of the selected company is having impact on the CCC of the companies. The correlation shows that the change in the current ratio, cash flow margin ratio and cash coverage ratio brings the relatively change in the cash conversion cycle of the company.

With 0.275 current ratio shows positive relation with the CCC which indicate that change in current ratio will change the CCC. Similarly, the cash coverage ratio is having positive relation with CCC with 0.095 correlation which indicates that by change in the cash availability against the current liabilities the CCC of the companies also get change.

Cash flow margin ratio which show the available operating cash flow against the net sales of the company is showing negative relation with CCC as having -0.541 value of correlation. It makes clear that as the operating cash flow increases as compared to net sales, the CCC get changed negatively.

CONCLUSION

From the analysis of the data related to various element of cash management practices, it can be conclude that the TATA Steel has scope to increase its liquidity by managing the cash conversion cycle more efficiently and other element of cash. JSW Steel on other side shows the average performance in the ratio workout in this study, in this situation company need to focus on its more stable cash management strategies which ultimately helps to effective management of cash in future.

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