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# A Study on Receivables Management in Select Companies of Indian Steel Industry

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#### Abstract:

In recent years private and public organizations have experienced significant changes in both size and complexity. As significance, the management process has become more complex, requiring greater skills in planning, analysis, and control for developing core competencies. In this scenario firm's profitability is an important indicator for attractiveness. This profitability is determined partly by performance of its working capital management. An efficient of working capital management will yield an significant outcome and neglecting may result highly dangerous to any firm. The Steel industry is growing at a very high speed as per World Steel Organization (WSO). Three companies of Indian steel industry are selected as a sample to compare. The time period for the study is selected from 2006 to 2015 to analyze whether the companies really managed their receivables or not. The study used ratio analysis and ANOVA as tools to find out that the efficiency of receivables management during the study period. The study found out that the select companies of Steel Industry in India managed their receivables satisfactorily.

Keywords: Profitability, working capital management, receivable management, steel industry

#### 1. Introduction

Indian economy is expected to grow faster than other major emerging economies and projecting a growth rate at 7.5% in 2016 as against Chin's 6.3% as per International Monetary Fund (IMF), The Times of India (2015). Country's economic growth is depending mainly on its basic industry growth rate and steel industry is considered as the primary vehicles of economic development. World steel association (WSA) has projected Indian steel demand to grow by 6.2% in 2015 and by 7.3% in 2016 as compared to global steel use growth of 0.5% and 1.4% respectively. Chinese steel use is projected to decline in both these years by 0.5%. In 2014, the world crude steel production reached 1665 million tonnes (mt) and showed a growth of 1% over 2013. Almost every sector of the Indian economy is decent on the steel sector. According to the study of Mitra, Mukherjee, P. and Roy, D (2010) Global Competitiveness of Indian steel industry is increasing after Chinese steel and the competitive advantages is gained due to the factors like labour cost, availability of raw materials, cost of energy consumed etc. The country is therefore potentially ready to face the challenges that confront this industry in this age of globalization.

To remain buoyant in the global market, Porter's (1980) generic strategy of overall cost leadership may be the ideal choice of this sector in India. To ensure the competitive edge in the global market and accelerate the growth rate within country reduction of manufacturing cost is important. However, there are couples of threats that are affecting the overall performance of the Indian steel sector. The production of Chinese steel mastered the art of mixing low-grade iron ore with high-grade ore to make acceptable quality of steel is the biggest threat for Indian companies, low price steel are the biggest threat to the viability of the steel industry in India and the U.K. A sharp depreciation of currencies in Russia and Japan has improved their competitive position via exports. In addition domestic per capita steel consumption is only 57.8 Kg against a global average of 225.2 kg in 2013 according to World Steel Organization. To be on the boat the steel industry has to concentrate on the following aspects like Reduction in operating cost, Reduction in working capital, Reduction in product inventory, Improvement in techno-economic parameters, and Substitution of raw materials by their cheaper versions.

In such a scenario if Indian firms working capital management or liquidity management plays an important role. For liquidity management analysis, one cannot think without ratios analysis. Ratio analysis as a tool for measurement of financial performance helps to identify organizational strengths and weaknesses by detecting financial anomalies and focusing attention on issues of organizational importance. We want to examine and analyze the short term liquidity management of three selected steel companies. It is worth noting that creating value with cash flow, high profitability and better consumer service are fundamental challenges to all

It is worth noting that creating value with cash flow, high profitability and better consumer service are fundamental challenges to all types of business. In this regard, the aim of any company is to increase the profit by increasing sales and reducing cost. A trader very often buys and sells goods on a credit basis. The credit is one of the instruments to promote sales in the competitive world. In the event of credit sales, the sundry debtors are one of the significant and major components in the Receivables Management. The

objectives of Receivable Management are to increase the volume of sales, to ensure credit worthiness or financial soundness of the concern and to measure the effective handling of accounts Receivables. In a business concern, the accounts receivable is considered to be the most important aspect of financial planning and control next only to inventories and cash. The term 'Accounts Receivable' is defined as 'debt owed to the firm by customers arising from sale of goods or services". The word 'Account Receivables' is also known as 'Sundry Debtors' or 'Trade Debtors' or 'Book Debts'. The Sundry Debtors may be defined as "money due from a customer for sale of goods or services in the ordinary course of business".

The study includes companies both from public and private sector in India in order to identify the key factors that have contributed to not so rosy performance of the Iron and Steel Industry in India.

## 2. Objective of the Study

The objective of this paper was to analyze the efficiency of receivable management in selected steel companies of India.

#### 3. Literature Review

In this study an attempt has been made to review the research works already undertaken in the area of Receivable Management to understand the methodology adapted by earlier researchers and the research gap. A review of selected studies has been given under. In a paper Manoj Anand (2001) analyzed the firm's inventory, receivables and payables in order to achieve a balance between risk and return and thereby contribute positively to the creation of a firm value. The study has been designed to identify some quantitative working capital benchmarks in order to help Corporate India to manage its working capital more efficiently. Ioannis Lazaridis and Dimitrios Tryfonidis (2002) analyzed the relationship between corporate profitability and working capital management. A sample of 131 companies listed in the Athens Stock is used for the study. The result of the study showed that there were significant returns between profitability, measured through gross operating profit, and the cash conversion cycle. It is found that the manager should be efficient enough in handling the cash conversion cycle and keeping optimum level of account Receivables, account payables and inventory. According to Pedro Juan Garcia Teruel and Pedro Martinez Solano (2003) the SME firms have efficiently managed their accounts receivable and inventories. The study used a sample of small and medium-sized Spanish firms. However, the study also suggested that the manager can only add more value to the company by reducing the cash conversion cycle and by improving the firm's profitability. Bardia (2004) analyzed the relationship between profitability and liquidity position of Tata Iron and Steel Company (TISCO). He studied the trend analysis of current assets, current liabilities and Net Working Capital along with hypothesis testing by Chi-square test. In addition, he suggested improving the efficiency of the liquidity management of the company. In another study, Bardia (2006) made a financial comparison between the liquidity trends of SAIL and TISCO. He provided a basis to judge whether the liquidity policies pursued by the companies are satisfactory or some improvement is required in the area of financial management. In that study, he also added the relationship between working capital and sales based on working capital turnover ratio and statistical technique of regression. In a study Kesseven Padachi (2006) examined profitability and the relation between working capital Management and corporate profitability. The results of regression show that high investment in inventories and receivables is associated with lower profitability. An analysis of the liquidity, profitability and operational efficiency of the five industries showed significant changes and how best practices in the paper industry have contributed to the performance. The study also revealed an Increasing trend in the short-term component of working capital financing. Hitesh and Shukla J (2007) examined the Receivable Management of sample companies using working capital ratios and ANOVA test. The authors found that there was significant relationship between and within the groups of the sample companies. The study found that the pharmacy industries were efficient in managing their Receivables. Mitra Mukherjee and Roy (2008) studied in their earlier paper, a comparative study on DSP and TISCO to evaluate the suitability of the liquidity policies adopted by these two companies. For comparison, current asset ratio, inventory turnover ratio and debtor turnover ratio have been taken into consideration to study the liquidity position. Haitham Nobanee and Maryam Al Hajjar (2009) investigated the relationship between working capital management, corporate performance and operating cash flow. The results suggested that managers can increase profitability and operating cash flow of their firms by shortening the cash conversion cycle, and by shortening the receivable collection period. The results also suggest that shortening the inventory conversion period and lengthening the payable deferral period reducing profitability and operating cash flow of firms instead of increasing them. A. Jeyachitra, E. Bennet, P.Nageswari & S. Parasuraman (2010) study the efficiency of the receivables managed by the Cement Industry during the study period with help of a sample of ten companies. They concluded that the cement industry was efficiently managing their receivables and based on the future sales forecast, the sales turnover and profit would be good in the near future. The above literature provided an overview of the working capital management from different industries. This study also analyzed the Receivable Management of Indian Automobile Industry using the methodology and tools used by the earlier studies. This study has used six ratios and two way ANOVA test to analyze the Working Capital Management. Paul, Pinku (2014) study the receivable management in select companies of Indian automobile industry with the help of sample of three companies. The study concluded that the performance of the companies in the Automobile Industry in respect of Receivables Management was satisfactory. The study used four ratios and two way ANOVA test to analyze the receivable management.

Relate to the above differences, in this article our objective is to compare the receivable management in steel industry. The study will be proceeding by taking a sample of top three steel companies of India.

#### 4. Methodology

As per World Steel Organization, in 2013 India was in forth rank for crude steel production after China, Japan and United States. India emerged top fifteen exporter of steel. So, it is natural that emerging industry may require huge amount of working capital that too for receivable management. Hence, the researchers chose receivable management of steel industry for their study.

This paper is elaborately divided into the broad heading like sources of data, companies covered, period of the study, tools used for the analysis.

#### 4.1. Sources of Data

This paper is based on secondary data taken from the financial reports of the companies.

#### 4.2. Companies Covered

We have selected for our study Steel Authority India Limited (SAIL) a public sector steel plant of India which rank 28th in global steel producing companies produces 13.5 million tonnes crude steel production as per WSO. Tata steel and JSW Steel Limited rank no land 2 from India in WSO by producing 25.3 and 11.8 million tonnes crude steel production. Tata Steel is Asia's first and India's largest integrated steel plant and is the lowest cost producer according to world steel dynamics. The installed capacity of Tata Steel is 5 Mt per year. Tata Steel in the new millennium has aimed to become a supplier of choice by delighting its customers with services and products.

#### 4.3. Period of Study

The study covers a period of ten years from 2006 to 2015.

## 4.4. Scope of the Study

The present study was conducted by using the data of steel industry. There is greater scope to do the evaluation for other industries like manufacturing, service sector etc and also a comparative study within Industries.

#### 4.5. Tools used for the Analysis

The Ratios are effective tools to evaluate the Receivable Management. Hence, the present study used ratios for the purpose of analysis. The ratios used in this study include Receivables to Current Asset Ratio, Receivables to Total Asset Ratio, Receivables to Sales Ratio, receivable Turnover Ratio (Times) and Average Collection Period (In Days). ANOVA is used to conduct the statistical analysis for the study.

#### 5. Analysis for the Study

#### 5.1. Hypotheses of the Study

The present study tested the following two null hypotheses.

- H1: There is no significant difference in the ratios of Receivable Management within the groups of sample companies.
- H2: There is no significant difference in the ratios of Receivable Management between the groups of sample companies.

## 5.2. Analysis and Interpretation of Data

### 5.2.1. Receivables to Current Assets Ratio

Receivables as a percentage of current assets would reveal the size of receivables in current assets and the opportunity cost associated with the same; higher the percentage, higher the cost of carrying the receivables. It is therefore desired that a firm needs to carry the least percentage of receivables as possible without affecting the sales volume. This ratio is calculated as = [(closing receivables / current assets) \* 100]. Table-1 provides the ratios of receivables to current assets of the sample companies.

Years	Tata Steel	SAIL	Jindal Steel and Power Ltd.	Mean

2006	12.73	10.82	20.1	14.55
2007	4.61	11.36	17.78	11.25
2008	1.47	11.58	8.71	7.25
2009	6.19	8.76	7.67	7.54
2010	3.55	8.92	10.59	7.69
2011	2.34	11.3	10.19	7.94
2012	7.03	16.75	9.94	11.24
2013	6.93	15.98	12.28	11.73
2014	6.67	20.39	11.02	12.69
2015	4.15	11.21	11.4	8.92
Mean	5.57	12.71	11.97	10.08

Table 1: Receivables to Current Assets Ratio

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Rows	174.9841	9	19.44268	1.917854	0.114566	2.456281
Columns	308.3284	2	154.1642	15.20698	0.000136	3.554557
Error	182.4791	18	10.13773			
Total	665.7916	29				

The above table reveals that the ratio of receivables to current asset. It is found that SAIL has large amount of receivables as a part of current assets, followed by Jindal Steel and Power Ltd. and Tata Steel. The two-way ANOVA result reveals that for the data of within the group, calculated value of F (1.92) was lesser than the critical value of F (2.46) that leads to the conclusion that there was no significant difference in the ratios of receivables to current assets within the group. Data makes us clear that calculated value of F for between the group (15.21) was greater than critical value of F (3.55), that leads to the conclusion that the there was significant difference in the ratio of receivables to current assets of the sample companies.

## 5.2.2. Receivables to Total Assets Ratio

Another indicator of effective management of receivables, i.e. the percentages of receivables to total assets is found out using the following formula = [(closing receivables / total assets) \* 100]. Receivables to total assets ratio of the sample companies is presented in Table-2.

Years	Tata Steel	SAIL	Jindal Steel and Power Ltd.	Mean
2006	2.93	8.06	5.19	5.39
2007	2.03	6.84	4.21	4.36
2008	1.01	7.46	2.95	3.81
2009	0.94	5.56	2.72	3.07
2010	0.59	5.11	3.1	2.93
2011	0.47	5.43	2.8	2.90
2012	0.94	6.24	2.67	3.28
2013	0.78	5.25	3.58	3.20
2014	0.69	5.96	3.17	3.27
2015	0.42	3.21	2.86	2.16
Mean	1.08	5.91	3.33	3.44

Table 2: Receivables to Total Assets Ratio

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Rows	21.65194	9	2.405771	6.605758	0.000354	2.456281
Columns	116.9361	2	58.46803	160.5414	3.35E-12	3.554557
Error	6.555473	18	0.364193			
Total	145.1435	29				

From the above Table 2 it was found that Tata Steel has best performance of receivables to total assets. It was followed Jindal Steel and Power Ltd. and SAIL. SAIL has the highest receivables to total asset ratio of 5.91 compared to other two companies. The two-way ANOVA result for the ratios of receivables to total assets shows that F calculated for within the group (6.61) was greater than that of the critical value (2.46), which suggests that the ratio of receivables to total assets has significant difference within the group. Further it was found that calculated value of F for between the groups (160.54) was greater than that of the critical value (3.55), that leads to the conclusion that the ratio of receivables to total assets has significant difference across the companies.

#### 5.2.3. Receivables to Sales Ratio

Receivables to sales ratio indicates the amount of receivables held by the business firm as a percentage of sales during a particular period. The main purpose of this ratio is to work out the efficiency of receivables management in the business organization. High ratio indicates that the business firm is doing business with huge debtors and vice versa. Higher the sales and lower the debtors indicate that the company has a good collection system. This ratio is calculated as = [(closing receivables / sales)\* 100]. The ratio of receivables to sales of the sample companies is presented in Table-3

Years	Tata Steel	SAIL	Jindal Steel and Power Ltd.	Mean
2006	3.56	6.76	11.56	7.29
2007	3.6	6.82	9.1	6.51
2008	2.76	7.72	5.31	5.26
2009	2.62	7.01	5.1	4.91
2010	1.74	8.62	8.45	6.27
2011	1.44	9.54	7.7	6.23
2012	2.66	10.27	6.79	6.57
2013	2.09	9.96	9.54	7.20
2014	1.85	11.74	10.05	7.88
2015	1.18	6.98	9.37	5.84
Mean	2.35	8.54	8.30	6.40

Table 3: Receivables to Sales Ratio

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Rows	22.60003	9	2.511114	0.897986	0.546502	2.456281
Columns	245.8923	2	122.9462	43.9661	1.18E-07	3.554557
Error	50.33494	18	2.796386			

The above table reveals that SAIL has the highest receivables to sales percentage, followed by Jindal Steel and Power Ltd. and Tata steel. Two-way ANOVA result for the ratios of receivables to sales of sample companies were, F calculated between the groups (0.89) was less than that of the critical value (2.45) that leads to the conclusion that the receivables to sales ratio within the group of sample companies were same. While looking to the calculated value of F for between the groups was 43.97 against the critical value of 3.56. It was concluded that the receivables to sales ratios between the sample companies differ significantly.

## 5.2.4. Receivables Turn Over Ratio

Receivables turn over ratios measures the liquidity of debtors of a business firm and average collection period. It indicates the average time lag in days between sales and collection thereof. Debtors' velocity indicates receivables management efficiency rate. Higher receivables turnover and lower debtor collection period reflect the firm's ability of managing a larger volume of business without corresponding increase in receivables and vice versa.

This ratio is calculated as; Receivable turnover ratio in times = (sales / average' receivables). The average receivable is calculated as = [(opening, receivables + closing receivables) /2] Receivables turnover ratio is presented in Table-4

Years	Tata Steel	SAIL	Jindal Steel and Power Ltd.	Mean
2006	27	14.69	10.96	17.55
2007	29.98	16.17	11.36	19.17
2008	33.52	14.73	17.81	22.02
2009	41.23	14.21	22.62	26.02
2010	46.73	11.49	14.53	24.25
2011	68.45	11.36	14.09	31.30
2012	51.1	10.42	16.24	25.92
2013	44.91	9.68	12.83	22.47
2014	53.21	9.43	10.8	24.48
2015	66.21	10.54	10.14	28.96
Mean	46.23	12.27	14.14	24.21

Table 4: Receivables to Turn Over Ratio

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Rows	470.1182	9	52.23536	0.62358	0.762439	2.456281
Columns	7290.175	2	3645.088	43.51468	1.28E-07	3.554557
Error	1507.803	18	83.76684			
Total	9268.097	29				

From the above table it was found that the overall average ratio of the industry was 24.21 times. Tata Steel has the highest receivable turnover ratio and SAIL has the least. Two way ANOVA result for the receivables turn over ratios of the sample companies shows that the calculated value of F for within the group was 0.62 while the critical value was 2.56, it leads to the conclusion that there was no significant difference between the ratios of sample companies. While looking at the data of between the groups, calculated value of F (43.51) is higher than that of the critical value (3.55) means, there was significant difference between the ratios of sample companies.

## 5.2.5. Average Collection Period (in Days)

Average collection period in days is calculated = (365/ receivables turnover ratio).

Table- 5 below shows that the data of average collection period of the sample companies. The overall average of the industry to be considered on the basis of the sample companies was found to be 22.23 days. It was also to be noted that Tata Steel has the lowest average collection period, i.e., quickly converting the receivables, where as Jindal Steel and Power Ltd. has the highest, more than the industry average. Two-way ANOVA results for the average collection period of the sample companies were found, calculated value of within the group, F calculated was 0.91 against the critical value of 2.45, it makes us clear that the average collection period of sample companies does not differ significantly within the group.

While looking at the calculated value of F for between the groups was 50.20 as against critical value of 3.55, it leads to the conclusion that the average collection period of sample companies were not found same.

Years	Tata Steel	SAIL	Jindal Steel and Power Ltd.	Mean
2006	13.52	24.85	33.31	23.89
2007	12.17	22.57	32.13	22.29
2008	10.89	24.78	20.49	18.72
2009	8.85	25.69	16.14	16.89
2010	7.82	31.77	25.12	21.57
2011	5.33	32.13	25.9	21.12
2012	7.14	35.03	22.48	21.55
2013	8.13	37.71	28.45	24.76
2014	6.86	38.71	33.8	26.46
2015	5.51	34.63	35	25.05
Mean	8.62	30.79	27.28	22.23

Table 5: Average Collection Period

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Rows	233.7498	9	25.9722	0.9185	0.531437	2.456281
Columns	2839.226	2	1419.613	50.20425	4.34E-08	3.554557
Error	508.9816	18	28.27675			
Total	3581.957	29				

#### 6. Conclusion

The study reveals that the average level of the receivables to current asset ratio of the industry was 10.08 percent. While looking at the average of the receivables to total asset ratio of the industry was found to be 3.44 percent. Whereas in case of the average of the receivables to sales ratio of the industry was 6.40 percent. Now analysing the sample companies, it was found that Tata steel maintains these ratios below the industry average and Jindal Steel and Power Ltd has its receivables to total asset ratio below industry average. Whereas SAIL and Jindal Steel and Power Ltds' receivables to current asset and sales ratios are above industry average. The industry average of receivable turnover is 24.21 times and average collection period is 22.23 days. The present study found that the level of Receivable Management during the study period for Tata steel was good followed by Jindal Steel and Power Ltd. and SAIL respectively. The overall analysis indicates the fact that the performance of the companies in the Steel Industry in respect of Receivables Management was satisfactory.

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