S M A R T

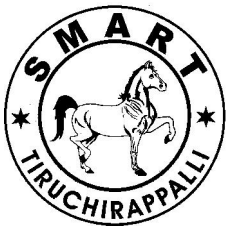
JOURNAL OF BUSINESS MANAGEMENT STUDIES

(An International Serial of Scientific Management and Advanced Research Trust)

Vol.6 **No. 1** **January - June 2010**

ISSN 0973 - 1598

Chief Editor
M. SELVAM, M.Com., Ph.D.,
Bharathidasan University,
India



SMART Journal is indexed and abstracted by Ulrich's Periodicals Directory, Intute Catalogue (University of Manchester) and CABELL'S Directory

SCIENTIFIC MANAGEMENT AND ADVANCED RESEARCH TRUST
(SMART)
TIRUCHIRAPPALLI (INDIA)
http://www.smartjournalbms.org

RECEIVABLE MANAGEMENT OF INDIAN CEMENT INDUSTRY IN A CHANGED SCENARIO

A. Jeyachitra, E.Bennet, P.Nageswari
Research Scholars, Department of Commerce and Financial Studies, Bharathidasan University, Tiruchirappalli, Tamil Nadu, India
and
S. Parasuraman
Head, Department of Commerce, Selvamm Arts & Science College, Namakkal, Tamil Nadu, India

Abstract

A firm's profitability is determined partly by way of its working capital management. An efficient management of working capital will yield significant results and its neglect can be highly dangerous to any firm. The Cement Industry is one of the fast growing industries in India. In 2009, there was an increase of 2.9% in sales of cement, when compared to the last two years of sales. This shows that the construction work in the country, especially the usage of cement in the housing industry, is on the increase. As cement industry is capital intensive and it has several players, it is really worth asking if these companies are efficiently managing their receivables. A sample of 10 companies were selected for this Study on the basis of high sales turnover and data for this study were collected for a period from 2001 to 2008 to analyze whether the sample companies really managed their receivables or not. The study used Ratio Analysis and ANOVA as tools to find out the efficiency of Receivable Management. Finally, it could be concluded that the cement industry was efficiently managing their receivables and based on the future sales forecast, the sales turnover and profit will be good in the near future.

Keywords: *Receivable Management, Ratio Analysis and ANOVA.*

1.0 Introduction

The manufacturing sector faces new challenges in the competitive world. 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 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 as the most important aspect of financial planning and control next to inventories and cash.

The term 'Accounts Receivable' is defined as 'debt owned 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". In India, many multinational companies spring up in real estate business that is currently booming up. New apartments spring up and the base for all these companies are brick and mortar. Cement is an important raw material for construction. Hence cement is considered to be one of the fast growing industries of the

economy. As this industry is it capital intensive and has several players, it is really worth exploring if these companies are efficiently managing their receivables.

1.1 Formulation of Credit Policies

The economic conditions, product pricing, product quality and the firm's credit policies are the chief influencing aspects on the level of a firm's account receivable. The credit policy, however, has a significant impact on sales. In other words, credit is one among many factors that stimulates the demand for a firm's product. The term credit policy refers to a firm's guidelines for determining quality of a trade accounts to be accepted, the length of the credit period, the cash discount and any special term such as seasonal dating, the collection programme and policy of discounting of bills.

Every firm has to determine credit policy and credit standard for efficient Receivable Management. The determination of credit policy involves a trade-off between the profit on additional sales that arise due to the credit being extended to its customers on the one hand and the cost of carrying those debtors and losses suffered on account of bad debts on the other hand. The credit standard refers to the minimum quality of credit worthiness of a credit applicant that is acceptable to the firm. In other words, the quality of the trade accounts to be accepted is called as credit standard.

1.2 Review of the Literature

An attempt has been made to review the research works already undertaken in the area of Receivable Management to understand research gap and methodology adopted by earlier researchers. A review of selected studies has been furnished.

Ioannis Lazaridis and Dimitrios Tryfonidis **(2002),** in their study, **"The Relationship between Working Capital Management and Profitability of Listed Companies in the Athens Stock Exchange",** examined the relationship between corporate profitability and working capital management. The study used a sample of 131 companies listed in the Athens Stock Exchange for the period 2001-2004. The study showed that there was significant returns between profitability, measured through gross operating profit, and the cash conversion cycle. The study concluded that the manager should be efficient enough in handling the cash conversion cycle and keeping optimum level of account receivables, account payables and inventory.

In a study, **"Effects of Working Capital Management on SME Profitability",** Pedro Juan Garcia Teruel and Pedro Martinez Solano **(2003),** examined the effects of working capital management on the profitability of a sample of small and medium-sized Spanish firms. The study concluded that the SME firms have efficiently managed their accounts receivable and inventories. However, the study suggested that the manager can only add more values to the company by reducing the cash conversion cycle and by improving the firm's profitability.

Jain P K and Praveen Kumar **(2006),** in their study, **"Working Capital Management Practices – A Study of Nifty Index Companies",** analysed the impact of working capital in listed companies of S&P CNX Nifty Index. The result of the study revealed that the sample Nifty companies had lower liquidity ratio. The company's current asset and quick asset were below the standard norms of 2:1 and 1:1 respectively. Further, the sample companies gained positive leverage, excess of creditors' payment period over debtors' and collection period during the study period. The study concluded that the sample companies must reduce their financing cost in order to have better profitability.

In their study entitled, **"A Study of Receivable Management of Indian Pharmaceutical Industry",** Hitesh and Shukla J **(2007),** examined the Receivable

Management of sample companies for the period from 1997 to 2006, 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 concluded that the pharmacy industries were efficient in managing their receivables.

S. Benjamin Christopher and A.L.Kamalavalli, in their study, **"Sensitivity of Profitability to Working Capital Management in Indian Corporate Hospitals",** studied the relationship between working capital management and corporate profitability of 14 sample corporate hospitals in India by using panel data analysis for the period 1996-97 to 2005-06. The correlation analysis revealed that eight variables were significantly associated with ROI. From regression analysis, it was evident that an increase of one unit in current ratio, cash turnover ratio, current assets to operating income and leverage decreases the profitability.

The above literature provide an overview of the working capital management from different industries. This study has analyzed the Receivable Management of Indian Cement Industry during the period 2001-2008. This Study has used six ratios and two way anova test to analyse the working capital management.

1.3 Statement of the Problem

As stated earlier, creating value with cash flow, high profitability, returns on investment and better customer service are real challenges to all types of business. The receivables, the key element of working capital, usually push up business revenue and help to earn profit. But they also affect liquidity and also increase chances of bad debts. It is to be noted that maximizing sales is possible only through credit sales. When firms do more credit sales, there is also the possibility of funds being locked up as receivables in the total current assets. Hence the Receivable Management is a real challenge that needs to be tackled. Under these circumstances, this Study was conducted to test how best the Cement Companies were able to manage these challenges to realise Receivable Management.

1.4 Objectives of the Study

The objective of this study is to analyze the efficiency of Receivable Management in the selected sample Cement Companies.

1.5 Hypotheses of the Study

The present study tested the following two null hypotheses.

NH1: There is no significant difference in the ratios of Receivable Management within the groups of sample companies.

NH2: There is no significant difference in the ratios of Receivable Management between the groups of sample companies.

1.6 Methodology of the Study

a. Sample Size

In order to meet the objectives of the Study, ten sample companies of the Cement Industry were selected on the basis of companies which recorded higher turnover of sales (more than 1000 crores) during the year 2008. The reason behind choosing the sales as a criteria is that higher the sales, higher the amount of working capital. It is a known fact that the company with high sales may have to have better Receivable Management. The sample companies include A C C Ltd., Ambuja Cements Ltd., Birla Corporation Ltd., Century Textiles & Inds. Ltd., Dalmia Cement (Bharat) Ltd., Grasim Industries Ltd., India Cements Ltd., Madras Cements Ltd., Prism Cement Ltd., and Shree Cement Ltd.

b. Period of the Study

The study covers a period of eight years from 01.01.2000 to 31.12. 2008.

c. Sources of Data

The present study is mainly based on secondary data. The data were collected from Prowess, a corporate database maintained by CMIE.

d. 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, Debtors Turnover Ratio (Times), Average Collection Period (In Days) and Receivables to Payables Ratio.

1.7 Ratios on Receivable Management

The following ratios are generally used to test Receivable Management.

a. Receivables to Current Asset Ratio

This ratio of receivables as a percentage of current assets would reveal the size of receivables with reference to current asset and the opportunity cost associated with the same. When the percentage of current asset is higher, it indicates the cost of carrying the receivables to be higher. It is therefore advised that a firm needs to carry the least percentage of receivables without affecting the sales volume. The ratio is calculated as follows.

$$\textbf{Current Assets Ratio} = \frac{\textbf{Closing Receivables}}{\textbf{Current Assets}} \times 100$$

b. Receivables to Total Asset Ratio

The ratio of Receivables to Total Assets depends on the industry, but generally a low number indicates that the company has too much money tied up with total assets that are not contributing to sales. It is a ratio of Receivables / Total Assets (or total average assets). The profit margins are an important consideration while analyzing this number. The percentage of Receivables to Total Assets is found out by using the following formula.

$$\textbf{Receivables to Total Asset Ratio} = \frac{\textbf{Closing Receivables}}{\textbf{Total Assets}} \times 100$$

c. Receivables to Sales Ratio

It 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 Receivable Management in the business organization. High ratio indicates that the business firm is doing business with huge debtors. Higher the sales and lower the debtors indicate that the company has a high rate of collection. This ratio is calculated with the following formula.

$$\textbf{Receivables to Sales Ratio} = \frac{\textbf{Closing Receivables}}{\textbf{Sales}} \times 100$$

d. Debtors Turnover Ratio (Times)

Debtors Turnover Ratio is termed as Receivable Turnover Ratio or Debtors Velocity. It indicates the number of times the receivables turn over in business during a particular period. In other words, it indicates how quickly the debtors are converted into cash. This ratio establishes the relationship between receivables and sales. Debtors Turnover Ratio 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. Higher receivables turnover ratio 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 with the following formula.

Debtors Turnover Ratio = Sales / Average Account Receivables

***Average Account Receivables = opening receivable + closing receivable/2**

e. Average Collection Period (In Days)

The average collection period is otherwise called Debt Collection Period. This technique of computation of average collection period indicates the efficiency of the debt collection period and the extent to which the debt have been converted into cash. Both the techniques are used to measure the quality of accounts receivable. It indicates the liquidity of trade debtors i.e., higher turnover ratio and shorter debt collection period indicate the prompt payments by debtors. Similarly, the low turnover ratio and higher collection period implies that payment of trade debtor are delayed. The Debt Collection Period can be determined as follows:

Average Collection Period = 365 days / Receivables Turnover Ratio

f. Receivables to Payables Ratio

The ratio of receivables to payable would help the finance manager to establish the relationship between credit offered to the customers and credit obtained from the supplier of the business firm. The ratio is computed as follows.

Receivables to Payables Ratio = Sales / Average Receivables

1.8 Analysis of the Study

Table 1 shows the Receivable Management ratios of Top Ten Cement Companies in India during the study period from 01.01.2000 to 31.12.2008. As stated earlier, the top ten cement companies include A C C Ltd., Ambuja Cements Ltd., Birla Corporation Ltd., Century Textiles & Inds. Ltd., Dalmia Cement (Bharat) Ltd., Grasim Industries Ltd., India Cements Ltd., Madras Cements Ltd., Prism Cement Ltd., and Shree Cement Ltd. For the purpose of this study, ratio wise analysis (in each column) was made in the following lines. Further, ratios of individual companies are compared with the average of top ten companies.

It is understood from **column-1 of Table-1 (Receivable to Current Asset Ratio)** that India Cements Ltd (62.76%) acquired larger amount of receivables as a part of current assets during the study period, and it is followed by Madras Cements Ltd (49.18%), Grasim Industries Ltd(48.77%), ACC Ltd(41.66), PRISM Cements Ltd(39.31%), Shree Cements Ltd(39.01%), Century Textiles & Industries Ltd (38.56%), Birla Corporation Ltd (34.24), and Ambuja Cements Ltd (29.87). It is also to be noted that Dalmia Cements Ltd (27.02) earned lowest amount of receivables as part of current assets. According to Gitman (2001), the manufacturing company, on an average, should have the funds for 37% of receivables to current assets. The receivable to current asset ratio of sample cement companies clearly shows that the Dalmia Cements Ltd **(27.02)** was a better performing firm. It was found that when compared to the ratio of sample companies with the industry average ratio (41.06), all sample firms did not perform efficiently in the area of Receivable Management during the Study Period.

From the **Ratio of Receivables to Total Assets** of the sample companies during the study period of 2001 to 2008, as given in **Table 1(column 2)**, it is clear that the India Cement Ltd (15.8) earned larger amount of receivable as a part of total assets, followed by the Century textiles & Inds Ltd (12.58), Birla

Corporation Ltd (10.86). But ACC Ltd (10.68) acquired the lowest percentage of receivable to total assets during the Study Period. The Industry Average Ratio of 9.89% was compared to the average of sample companies. The comparison indicates that the India Cement Ltd (15.8), ACC Ltd (10.68) and Madras Cement Ltd (10.59) earned higher ratio than that of the industry average ratio. When the industry average was taken as a benchmark, it is found that Ambuja Cements (4.60) recorded the best performance and lowest percentage of receivables to total assets. It was followed by other sample companies like Prism Cement Ltd (6.82), Dalmia Cement Ltd (8.36) and Shree Cement Ltd (8.62).

Table 1 (Column-3) shows the result of **Receivables to Sales Ratio** of the sample companies during the Study Period of 2001 to 2008. The Industry Average Ratio (Mean) was 11.11 in the year 2003 and highest ratio (20.97) was recorded in the year 2002. It is to be noted that the Ambuja Cement Ltd (7.15) was more efficient by holding less amount of receivables as percentage of sales while compared to the yearly industry average. But Madras Cement Ltd (15.72), Dalmia Cement Ltd (16.62) and India Cement Ltd (37.15) were found inefficient as these firms had the ratio above the industry average ratio (13.9).

It is understood from the above **table (column-4)** that the **Debtors' Turnover Ratio** as earned by sample companies varied between 7.382 to 12.49 times during the period of the Study. The overall industry average ratio was (10.01) times. The Ambuja Cements Ltd (17.76) earned large percentage of debtor turnover ratio when compared with other companies. It shows the efficient Receivable Management of Ambuja Cements Ltd that achieved higher turnover. It is to be noted that the ratio of India Cements Ltd (3.64), Madras Cements Ltd (7.04) and Dalmia Cements Ltd (7.12) were much below the industry average (10.01).

The **Average Collection Period Ratio** of the sample companies during the Study Period from 2001 to 2008 is given in **Table 1 (column-5)**. It is to be noted that on an average, the receivables collection period across the industry varied between 36 days (2007) and 74 days in (2002). The overall aggregate period was 50 days. As far as receivables turnover is concerned, the Ambuja Cement Ltd (24 days), Birla Cement Ltd (26 days) and Prism Cement Ltd (27days) performed well by holding receivables for a lesser period. The India Cements (144 days) seems to be inefficient while Dalmia Cement Ltd (53 days) was found to be at the next inefficient place. So these two companies held receivables for a higher time period than the industry average (50 days).

From **the Ratio of Receivables to Payable Ratio (column 6)** as earned by sample companies during the Study Period of 2001 to 2008, it is clear that Ambuja Cements Ltd (17.76) extended extremely higher units of credit to its customers during the entire Study Period compared to other sample companies. India Cements Ltd (3.64) extended much lower units of credits to its customer for every unit of credit it obtained from its suppliers. Prism Cement Ltd (14.18) and Birla Cements Ltd (13.95) earned large percentage of industry average ratio (10.01).

It is clear that Ambuja Cements Ltd has performed well during the Study Period as it recorded the best in five ratios out of six ratios used to test working capital management. The Dalmia Cement (Bharat) Ltd performed well in Receivable to Current Asset Ratio compared to the benchmark of 41.06 and the lowest amount of receivables as a part of current assets.

***Indicates the best performance among the 10 sample companies**

The results of the significance of Receivable Management ratios of the sample

companies during the Study Period (2001 to 2008) are given in **Table 2**. It is to be noted from the analysis that four ratios, namely, Receivable to Current Asset, Debtors Turnover, Average Collection Period and Receivables to Payable were significant and other two ratios, namely, Receivables to Total Asset and Receivables to Sales were not significant between the groups of sample companies. Therefore the null hypothesis **(NH1),** namely**, "there is no significant difference in the ratios of Receivable Management between the groups of the sample companies"** is partly accepted.

It is to be noted from the analysis that all the six ratios of Receivable Management were found to be significant. Therefore the null hypothesis **(NH2),** namely**, "there is no significant difference in the ratios of Receivable Management within the groups of the sample companies",** is rejected**.**

1.9 Findings and Suggestions of the Study

The following are the important findings of the Study.

1. The average benchmark for the receivables to current asset ratio of the Cement Industry during the Study Period was 41% percentage. From the analysis, it is found that the receivables to current asset ratio were efficiently managed by the sample Cement Companies during the Study Period. However, appropriate efforts have to be made to maintain management at this level.
2. The benchmark for receivables to total assets ratio was 9.89%. According to Gitman, the manufacturing industries maintained 26% of receivables to total assets ratio. The results of sample were below the average when compared with the benchmark of 9.89% and Gitman Standard of 26%. It is clear that the receivables were efficiently managed by sample companies during the Study Period. The sample companies have to put efforts in future to maintain this level.
3. The benchmark for the receivables to sales ratio is 13.9% (Average). It is found out that the average mean receivables to sales ratio was diminishing every year from 2001 to 2008. This indicates the possibility that ratio earned by firm may still go down in the years to come. It is also a sign that the sample company was becoming efficient. But India Cements alone was above the average (37.15%) when compared to the industrial benchmark average of 13.9%. This indicates that the company has been doing large amount of credit sales compared to other companies.
4. It is clear from **column 4 of Table 1** that the debtors' turnover ratio was efficiently managed by almost all the sample companies during the Study Period. The average turnover ratio (17.76 times) was more than the benchmark average (10.01times). The Ambuja Cements (17.76), Birla Cements (13.95) and Prism Cements (14.18) managed the receivables very well during the Study Period. The management of other sample companies should perform better in respect of this ratio.
5. It is found that the average collection period ratio was 50 days. The analysis between the groups shows that the collection period varied between 65 days to 37 days. It indicates that the industry collection period was less. The Ambuja Cement Ltd, Birla Cement Ltd, Century Textile and Industries Ltd, Grasim Cement Ltd, Prism Cement Ltd and Shree Cement Ltd were able to collect within a lesser period. The overall analysis of ratio shows that sample companies were efficiently managed in matters of collection.
6. The overall performance of the sample cement companies in the area of working

capital management was satisfactory during the Study Period.

7. But between the sample Cement Companies, they did not perform efficiently except the total asset ratio and sales turnover ratio.
8. The sample Cement Companies were concentrating only on increasing the sales turnover through credit sales and not through cash sales and hence they were unable to collect the credit amount within the average collection period.
9. The overall performance of India Cements Ltd, when compared to other sample companies, seems to be poor and they need to take necessary steps in improving the working capital management.

2.0 Scope for further study

The present study was conducted by using the data of Cement Industry. There is good scope to do the evaluation for other industries like manufacturing, servicing etc.

2.1 Conclusion

The present study found that the level of Receivable Management to current asset ratio of the sample companies in Cement Industry was found to be 41%. It shows that significant amount of current asset was reduced into receivables in Cement Industry. While looking at the receivable to total assets of the industry, it had about 9.89% of receivables against total assets. The debtors' turnover of the industry was about 10 times in a year. Besides, the level of investment in receivables as a percentage of sales was only 13.9% only. Finally it could be concluded that the Cement Industry was efficiently managing their receivables and based on the future sales forecast, the sales turnover and profit will be good in the near future.

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Table – 1
Receivable Management Ratios of Top Ten Indian Cement Companies

Name of the Company	Receivable to current Asset Ratio (%)	Receivable to Total Asset Ratio (%)	Receivables to Sales Ratio (%)	Debtors' Turnover Ratio (Times)	Average Collection Period (in days)	Receivables to Payables Ratio (%)
Average (Mean) Ratio	**41.06**	**9.89**	**13.9**	**10.01**	**50.01**	**10.01**
ACC Cements Ltd	41.66	10.68	11.45	9.46	41.05	9.46
Ambuja Cements Ltd	29.87	4.60*	7.15*	17.76*	24.96*	17.76*
Birla Corporation Ltd	34.24	10.86	7.66	13.95	26.48	13.95
Century Textiles & Indus Ltd	38.56	12.58	12.09	8.40	44.71	8.40
Dalmia Cement (Bharat) Ltd	27.20*	8.36	16.63	7.12	53.49	7.12
Grasim Industries Ltd	48.77	9.97	11.7	9.02	42.09	9.02
India Cements Ltd	62.76	15.8	37.15	3.64	144.2	3.64
Madras Cements Ltd	49.18	10.59	15.72	7.04	52.92	7.04
Prism Cements Ltd	39.31	6.82	7.67	14.18	27.21	14.18
Shree Cements Ltd	39.01	8.62	11.72	9.46	42.96	9.46

Source: Computed from PROWESS DATABASE

Table - 2
The Significance of the Ratios of Receivable Management

S.No	Receivable Management Ratios	Between the groups			Within the groups		
		F	F critical	Sig	F	F critical	Sig
1	Receivables to Current Asset Ratio	3.04*	2.15	S	10.09 *	2.03	S
2	Receivables to Total Asset Ratio	1.19* *	2.15	NS	4.39*	2.03	S
3	Receivables to Sales Ratio	1.48* *	2.15	NS	6.60*	2.03	S
4	Debtors Turnover Ratio (Times)	3.99*	2.15	S	14.57 *	2.03	S
5	Average Collection Period (in Days)	2.27*	2.15	S	10.72 *	2.03	S
6	Receivables to Payables Ratio	3.99*	2.15	S	14.57 *	2.03	S

Sources: computed from Table 1 to 6
***S – Significant at 5% level **NS – Not Significant**