

Examining Working Capital Management Practices of Construction Firms – A Comparative Study of HCC and SIL

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Abstract

Construction industry is the second largest employer of the country after agriculture and contributes around 8 per cent of GDP. Its role is very significant as far as the growths of many other industries are concerned because lot of industries depends on it. The present article attempts to analyze the working capital management practices of two significant players in the industry, namely, Hindustan Construction Company and Simplex infrastructure Ltd. This analysis becomes very relevant as many of the construction companies are assumed to face the problem of liquidity crunch. When a company suffers from liquidity crisis, the best response is to revisit the working capital management practices. The study makes use of efficiency indices like Current ratio, Quick ratio, inventory turnover ratio etc of working capital management. The time period considered for the study is from 2005-06 to 2013-14

Key word: liquidity, Working Capital, Inventory Turnover, Collection Period, Quick Ratio.

Introduction

The growth of the construction industry in India has been very impressive, mostly due to massive government impetus and high market sentiments. The construction industry in India is the second largest industry of the country after agriculture accounting for 8 percent of its GDP. It employs nearly 41 million people and its total market size has been at US\$ 126 billion. Construction activities in India are largely fragmented as only about 250 firms employ more than 500 people. The focus has changed from cost efficiency to time and competence.

With the continuous focus of government of India on urban development, the real estate industry is also poised for tremendous growth. Total infrastructure expenditure during the Twelfth Five Year Plan (2012 -2017) has nearly doubled to USD 1,025 billion from USD 514 billion in Eleventh Five Year Plan (2007 - 2012). This certainly suggests that there is huge potential for the construction sector to grow fast in time to come. As a result, there is an excellent opportunities for foreign construction companies to enter into India. There is a huge potential for foreign investment in the infrastructure and construction industry. This is clearly evident as a large number of foreign

construction companies, including those from South East Asia, have entered the Indian market. There is no denying the fact that the Indian Construction sector gives quite an attractive proposition for foreign players. The Government of India has already allowed 100% Foreign Direct Investment (FDI) in the real estate industry to stimulate construction activities throughout the country. Further, the boom in demand for private sector housing and commercial building will go a long way in stimulating further demand for the construction related activities. However, high gestation periods and shrinking finances have an adverse effect to some extent. It is important for foreign construction companies to ensure that proper due diligence is undertaken before they enter into new projects. They need to be careful while selecting project, an in-depth understanding of taxation structure is of great important, proper feasibility analysis and tie-up for funding would go a long way in smoothening the way forward.

Despite the promising outlook of the industry, there are some challenges which are a matter of concern for the construction industry. Some of the major challenges are detailed below:

- Of the 41 million people are engaged in this sector, less than 6 per cent enjoys the benefit of structured training and skill building.
- Skill up gradation of the workers is the immediate need of the hour.
- There is a need for unified regulatory framework. There is lack of efficient and stable regime for dispute resolution in contracts leading to costly and time-consuming disputes between the promoters of the project and contractors.
- Although in recent times, the flow of bank credit has improved to the construction industry, institutional finance is still inadequate. The cost of finance is high which results in high costs for the industry and the economy.
- The construction industry in India also suffers from poor state of technology which results in inefficiencies, wastage and low value added.
- There is a need for increasing investment in R&D which is around 0.03–0.05 per cent of the investment in construction as compared to 1.5–2 per cent in South East Asian countries and 4–6 per cent in developed economies

Construction companies are currently experiencing liquidity crunch due to tightening funding norms being employed by institutional financiers. The profit margins of

the companies are squeezing due to increasing commodity prices. The sector is faced with high operation, maintenance, and financial costs. Recent trends show that this is primarily due to increase in international prices and are thus unlikely to go down in the near future. When a company is going through liquidity crisis, the best things it can do is to revisit its working capital management practices and examine where further improvements are possible. Working Capital refers to firm's investment in short-term assets, viz. cash, short-term securities, accounts receivable (debtors) and inventories. This is called gross working capital. But the most popular concept of working capital is net working capital which the difference between current assets and current liabilities. Current liabilities are those claims of outsiders, which are expected to mature for payment within an accounting year and include creditors dues, bills payable, bank overdraft and outstanding expenses. Net working capital can be positive or negative. A negative net working capital occurs when current liabilities are in excess of current assets. Working Capital Management (WCM) refers to the management of short term financing requirements of a firm. This includes ensuring the optimum balance of working capital components receivables, inventory and payables and using the cash efficiently for day-to-day operations. Optimization of working capital balance can be achieved by minimizing the working capital requirements and realizing maximum possible revenues. If working capital is efficiently managed, it will increase firms' free cash flow, which in turn increases the firms' growth opportunities and return to shareholders. We will focus on net working capital for the purpose of present study which aims to examine the working capital management practices of two construction companies operating in India, namely, Hindustan Construction Company and Simplex Infrastructure Ltd.

Literature Review: Many studies have been conducted on working capital management practices of different companies in various sectors from time to time both in Indian perspective and abroad. Some of the studies which are relevant for the purpose of the present study are discussed below:

For small and growing businesses, an efficient working capital management is a vital component of success and survival; i.e both profitability and liquidity (Peel and Wilson, 1996). They further state that smaller firms should adopt formal working capital management routines so as to reduce the probability of business shutdown, as well as to enhance business performance.

Debasish Sur (1997) conducted a study on working capital management in Colgate (Palmolive) India Ltd and found that working capital management is not satisfying the conventional standard. Indrasena Reddy and Someshwar

Rao (1996) conducted a study on working capital management in HCL. He used seven ratios and statement of changes in working capital and observed that the company's working capital management is not up to the expected level. It should be improved by effective utilization and control of current assets.

The study undertaken by (Peel et al., 2000) concluded that smaller firms are inclined to have a relatively high proportion of current assets, less liquidity, exhibit volatile cash flows, and a high reliance on short-term debt.

Narasimhan and Murty (2001) emphasized on the need for many industries to improve their return on capital employed (ROCE) by concentrating on some critical areas such as cost control, reducing investment in working capital and improving working capital efficiency.

The recent work of Howorth and Westhead (2003), suggest that the focus of the small companies is generally on those areas of working capital management where they can expect to improve marginal returns.

Ghosh and Maji (2004) examined the efficiency of working capital management of the Indian cement companies from 1992-93 to 2001-02. Instead of using the common method of analyzing different working capital management ratios, three index values representing the average performance of the components of current assets, the degree of utilization of the total current assets in relation to sales and the efficiency in managing the working capital, have been computed for the selected firms over the ten year study period. They observed that the Indian cement industry did not perform remarkably during the period.

Reddy and Patkar (2004) studied the size and its components and liquidity management in factoring companies. They also studied the correlation between liquidity and profitability of factoring companies. They concluded that the sundry debtors and amount due to creditors are the major components of current assets and current liabilities respectively in determining the size of the working capital

Objectives: The objectives of the present study can be stated as below:

1. To examine the efficiency of Working Capital Management of Hindustan Construction Company and Simplex Infrastructure Ltd on the basis of some efficiency indices like Current ratio, Quick ratio, inventory turnover ratio etc.
2. To identify gap in their practices.
3. To suggest for further improvement in the practices.

Methodology of the study:

Sample: The present study is descriptive and analytical in nature. The sample consists of two construction companies, namely, Hindustan Construction Company and Simplex Infrastructure Ltd. They both come among the top 10 construction companies presently operating in India and are closely comparable on the basis of their annual turnover and profit margins.

Key Variable: The key variables include Current ratio (CR), Quick ratio (QR), cash to current ratio (CCA), Sales to cash ratio (SCR), Average collection period (ACP), Inventory turnover ratio (ITR), Inventory holding period (IHP), Working capital to sales ratio (WC/Sales), Working capital to net worth (WC/Net worth). The study also takes in consideration the incidence of Over/under Trading

Time Period: The period of study is from 2005-06 to 2013-14.

Source of Data: The data on key variables is compiled from the annual reports of the respective construction companies.

Hypothesis of the Study

Null Hypothesis

- Ho1: There is no significant difference CR of HCC and SIL.
 Ho2: There is no significant difference in QR of HCC and SIL.
 Ho3: There is no significant difference in CCA of HCC and SIL.
 Ho4: There is no significant difference in SCR of HCC and SIL.
 Ho5: There is no significant difference in ACP of HCC and SIL.
 Ho6: There is no significant difference in ITR of HCC and SIL.
 Ho7: There is no significant difference in IHP of HCC and SIL.
 Ho8: There is no significant difference in WC/sales of HCC and SIL.
 Ho9: There is no significant difference in WC/net worth of HCC and SIL.

Alternate Hypothesis

- H11: There is significant difference in CR of HCC and SIL.
 H12: There is significant difference in QR of HCC and SIL.
 H13: There is significant difference in CCA of HCC and SIL.
 H14: There is significant difference in SCR of HCC and SIL.
 H15: There is significant difference in ACP of HCC and SIL.
 H16: There is significant difference in ITR of HCC and SIL.

H17: There is significant difference in IHP of HCC and SIL.

H18: There is significant difference in WC/sales of HCC and SIL.

H19: There is significant difference in WC/net worth of HCC and SIL.

Statistical Tools: The statistical tools that have been used in this study include arithmetic mean, standard deviation, and students-t test.

Limitations of the Study

This study is limited to nine years.

This study is limited to two companies.

The data of this study has been taken from the published annual reports only.

Data Analysis and Discussion

Current Ratio: It is the ratio of current assets and current liabilities. It indicates the ability of a company to manage the current affairs of business. It is useful to study the trend of working capital over a period of time. It is not only the quantum of current ratio that is important but also its quality, i.e. extent to which assets and liabilities are really current. Higher the current ratio, higher is the dependence on long term sources, better the liquidity but lower the profitability.

Table No. 1

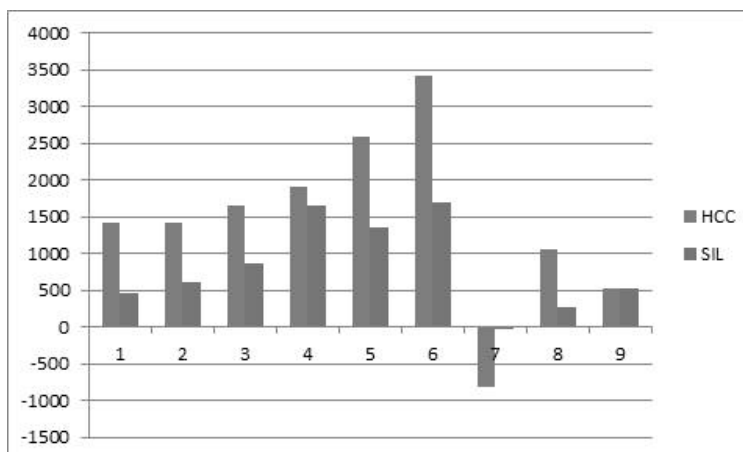
t-Test: Paired Two Test Sample for equality of Current Ratio		
	HCC	SIL
	2.76	2.06
Mean	1.89	1.57
Variance	0.48	0.22
Observations	8.00	8.00
Pearson Correlation	0.85	
Hypothesized Mean Difference	0.00	
df	7.00	
t Stat	2.38	
P(T<=t) one-tail	0.02	
t Critical one-tail	1.89	
P(T<=t) two-tail	0.05	
t Critical two-tail	2.36	

If we analyze the current ratio of HCC and SIL, we find that the average CR of HCC is higher than SIL and its variability is also higher compared to SIL. However, when we see the value of t-statistic we find that it does not lies between -2.14 and +2.14 and hence we reject the null hypothesis and conclude that there is significant difference between the two

companies on the basis of current ratio.

Net working capital:

From the following diagram, we can see that HCC employed higher amount of working capital from the beginning. However, both are having almost same amount of working capital as on 31st march, 2014.



Although the average working capital of HCC is much higher than SIL, the result of sample t-test show that there is no significant difference between the average working

capital of both the companies. It is evident from the fact that the value of t-stat lies between -2.36 and +2.36.

Table No. 2

t-Test: Paired Two Sample Test for equality of working capital		
	<i>HCC</i>	<i>SIL</i>
	1426.85	463.32
Mean	1465.12	866.61
Variance	1648409.11	410155.92
Observations	8.00	8.00
Pearson Correlation	0.89	
Hypothesized Mean Difference	0.00	
df	7.00	
t Stat	2.19	
P(T<=t) one-tail	0.03	
t Critical one-tail	1.89	
P(T<=t) two-tail	0.06	
t Critical two-tail	2.36	

Quick Ratio (QR): It is the ratio of Liquid Assets and Current Liabilities. Liquid assets mean current assets minus those, which are not quickly realizable. Inventory and

sticky debts are generally treated as non-quick assets.

Table No. 3

t-Test: Paired Two Sample for equality of quick ratio		
	<i>HCC</i>	<i>SIL</i>
	1.49	1.65
Mean	0.45	1.25
Variance	0.02	0.11
Observations	8.00	8.00
Pearson Correlation	0.74	
Hypothesized Mean Difference	0.00	
df	7.00	
t Stat	-9.04	
P(T<=t) one-tail	0.00	
t Critical one-tail	1.89	
P(T<=t) two-tail	0.00	
t Critical two-tail	2.36	

From the above table we can see that the average quick ratio of SIL is much higher than that of HCC. We can also see a higher variability in HCC's quick ratio. But when we see the value of t-Stat we see that it does not lie between +2.36 and -2.36. This indicates that the difference is significant. So, when we consider both CR and QR together, we find that insignificant difference in CR and significant difference in QR. So, we can conclude that HCC need to be more careful

as far as it QR is concerned. They need to focus more on inventory movements.

Cash to current Ratio: If cash alone is a major item of current assets then it may be a good indicator of the profitability of the organization, as cash by itself does not earn any profit, the proportion should usually be kept low

Table No. 4

t-Test: Paired Two Sample for equality of CCR		
	HCC	SIL
	0.45	0.05
Mean	0.05	0.03
Variance	0.00	0.00
Observations	8.00	8.00
Pearson Correlation	0.82	
Hypothesized Mean Difference	0.00	
df	7.00	
t Stat	3.41	
P(T<=t) one-tail	0.01	
t Critical one-tail	1.89	
P(T<=t) two-tail	0.01	
t Critical two-tail	2.36	

From the above table, we can see that average cash as a percentage of current assets is higher in case of HCC as compared to SIL. Variability is nearly zero in both the cases. If we see the t-Stat, it lies beyond plus minus 2.36. Hence, we reject null hypothesis and conclude that the difference is significant.

Sales to Cash Ratio

It is the ratio of Sales and Average cash balance during the period. Cash should be turned over as many times as possible, in order to achieve maximum sales with minimum cash on hand.

Table No. 5

t-Test: Paired Two Sample for equality of sales to cash ratio		
	HCC	SIL
	3.81	30.19
Mean	23.04	63.40
Variance	62.66	1217.99
Observations	8.00	8.00
Pearson Correlation	0.56	
Hypothesized Mean Difference	0.00	
df	7.00	
t Stat	-3.66	
P(T<=t) one-tail	0.00	
t Critical one-tail	1.89	
P(T<=t) two-tail	0.01	
t Critical two-tail	2.36	

From the above table, we can see that the SIL is generating more sales with lesser cash as compared to HCC. But the variability in SCR is very high in case of SIL. As the t Stat is -3.66, we have to reject null hypothesis and conclude that there is significant difference in SCR. This indicates greater efficiency of SIL in generating higher sales with lesser cash balance. This is a positive indicator for better working

capital management.

Average Collection Period (ACP)

ACP is equal to (Debtors/Credit Sales) x 365. This ratio explains how many days of credit a company is allowing to its customers to settle their bills.

Table No. 6

t-Test: Paired Two Sample for equality of Average Collection Period		
	HCC	SIL
	0.43	147.92
Mean	18.80	146.21
Variance	654.74	601.14
Observations	8.00	8.00
Pearson Correlation	-0.58	
Hypothesized Mean Difference	0.00	
df	7.00	
t Stat	-8.08	
P(T<=t) one-tail	0.00	
t Critical one-tail	1.89	
P(T<=t) two-tail	0.00	
t Critical two-tail	2.36	

ACP of SIL is much than HCC. It indicates that SIL is taking more time to collect receivables. The value of t-stat does not lie between plus-minus 2.36 which indicates that there is significant difference in the ACP of both the companies. It indicates better receivables management on part of HCC.

Inventory Turnover Ratio (ITR)

ITR is equal Sales/Average Inventory. It shows how many times inventory has turned over to achieve the sales. Inventory should be maintained at a level, which balances production facilities and sale's needs. Higher the ITR, lower would be inventory holding period and vice versa.

Table No. 7

t-Test: Paired Two Sample for equality of ITR		
	HCC	SIL
	3.72	7.46
Mean	1.27	6.51
Variance	0.20	0.29
Observations	8.00	8.00
Pearson Correlation	-0.46	
Hypothesized Mean Difference	0.00	
df	7.00	
t Stat	-17.62	
P(T<=t) one-tail	0.00	
t Critical one-tail	1.89	
P(T<=t) two-tail	0.00	
t Critical two-tail	2.36	

Inventory turnover ratio of SIL is much higher than that of HCC. It indicates the better inventory management practices of SIL. The value of t Stat does not fall between +2.36 and -2.36. This implies that there is a significant difference between the inventory management practices of both the companies. At HCC, there is a renewed importance on inventory management. They have strengthened the processes to monitor and effectively manage material storage and usage, with special emphasis on reducing wastage and minimizing non-moving inventories. These

have resulted in the inventory turnover reducing from 349 days in 2012-13 to 292 days in 2013-14.

Working Capital to Sales Ratio

Usually expressed in terms of percentage, it signifies that for any amount of sales a relative amount of working capital is needed. If any increase in sales is contemplated it has to be seen that working capital is adequate. Therefore, this ratio helps management in maintaining working capital, which is adequate for the planned growth in sales.

Table No. 8

t-Test: Paired Two Sample for equality of Working Capital to Sales Ratio		
	HCC	SIL
	0.37	0.35
Mean	0.40	0.23
Variance	0.11	0.02
Observations	8.00	8.00
Pearson Correlation	0.84	
Hypothesized Mean Difference	0.00	
df	7.00	
t Stat	2.20	
P(T<=t) one-tail	0.03	
t Critical one-tail	1.89	
P(T<=t) two-tail	0.06	
t Critical two-tail	2.36	

From the above table, we can see that the average working capital of HCC is much higher than that of SIL. There is greater variability also in case of HCC. But the value of t Stat suggests that there is no significant difference between the two companies as far as this ratio is concerned.

Working Capital to Net worth Ratio

This ratio shows the relationship between working capital and the funds belonging to the owners. When this ratio is not carefully watched, it may lead to:

- a) Overtrading when the conditions are in the upswing. Its symptoms being
 - i. High Inventory Turnover Ratio
 - ii. Low Current Ratio
- b) Under trading when the conditions of market are not good. Its major symptoms are:
 - i. Low Inventory Turnover Ratio
 - ii. High Current Ratio

Table No. 9

t-Test: Paired Two Sample for equality of Working Capital to Net worth Ratio		
	HCC	SIL
	1.60	1.99
Mean	1.20	0.93
Variance	0.85	0.76
Observations	8.00	8.00
Pearson Correlation	0.67	
Hypothesized Mean Difference	0.00	
df	7.00	
t Stat	1.03	
P(T<=t) one-tail	0.17	
t Critical one-tail	1.89	
P(T<=t) two-tail	0.34	
t Critical two-tail	2.36	

The above table shows that the proportion of working capital is higher in case of HCC as compared to SIL but the value of t Stat lie between +2.36 and -2.36, hence we accept the null hypothesis and conclude that the difference is not significant.

Conclusion: We can note the following major observation on the basis of above analysis:

- Current ratio of both the companies HCC and SIL differ significantly.
- There is a significant difference between the quick ratio of the both the companies. SIL is better than HCC in this regard. Inventory management of HCC needs more attention.
- As far as cash management is concerned, HCC is holding higher portion of cash in hand compared to SIL which may have an adverse effect on its profitability.
- HCC is better at managing receivables as compared to SIL.
- SIL is better at managing inventory.

- There is not much to differentiate between the companies as far as capital to sales and working capital to net worth ratio is concerned.
- The above analysis shows that HCC needs to focus more on inventory and cash management where as SIL should focus more on receivable management.

References

- Debasish Sur (1997), "Working Capital Management in Colgate Palmolive (India) Ltd.—A case Study", The Management Accountant, Vol. 32, No. 11, pp. 828-833.
- Indrasena Reddy P and Someswar Rao K (1996), "Working Capital Management in Public Sector Undertaking—A Case Study", The Management Accountant, Vol. 31, No. 9, pp. 643-645.
- Howorth, C. and Westhead, P. 2003. "The focus of working capital management in UK small firms", Management Accounting Research, Vol. 14 No. 2, pp. 94-111
- Narasimhan, M. S. and Murty, L. S. 2001. "Emerging Manufacturing Industry: A Financial Perspective", Management Review, June, pp. 105-112

Peel, M.J. Wilson, N. 1996. "Working capital and financial management practices in the small firm sector", *International Small Business Journal* 14(2), 52-68

Peel, M. J. Wilson, N. and Howorth, C. A. 2000. "Late payment and Credit management in the small firm sector: Some Empirical Evidence", *International Small Business Journal* 18(2), 52-68

Reddy Y V and Patkar S B (2004), "Working Capital and

Liquidity Management in Factoring: A Comparative Study on SBI and Canbank Factors", *The Management Accountant*, Vol. 39, No. 5, pp. 373-378.

Santanu Kr, Ghosh and Santi Gopal Maji (2004), "Working Capital Management Efficiency: A Study on the Indian Cement Industry", *The Management Accountant*, Vol. 39, No. 5, pp. 363-372.