# Cash Conversion Cycle: A Study of Selected Paint Manufacturing Companies in India

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## Abstract

The decision regarding liquidity management is very crucial for any business organisation. Liquidity management gives stable operation in the business organisation and create reputation in front of stakeholders. For the liquidity management cash conversion cycle plays vital role to manage things. In this study researcher try to analyse cash conversion cycle in paint manufacturing companies. for the study four companies have been selected based on net sales during the study period 2011-12 to 2021-22. Secondary source of data have been used for data analysis and interpretation. As accounting tool, ratio analysis and as statistical tool, anova test have been performed for testing the hypothesis. The major findings indicated that there is significant difference among inventory turnover ratios and payable turnover ratios whereas there is no significant difference in receivable turnover ratios and cash conversion cycle during the study period.

**Keywords:** *Paint Companies, Receivable Turnover Ratio in Days, Payable Turnover Ratios in Days, Cash Conversion Cycle (CCC)*

## Introduction

The "India Paint Market Outlook, 2023" provides a thorough study of the Indian paint market. India has seen a significant increase in paint sales over the past few years. The income, education, and urbanisation levels are rising, which has contributed to the paint market's rapid expansion. The paint business is also being driven by the use of enamel and emulsion paints rather than traditional white wash, growing penetration in the rural market, and digitization. The Indian paint market is anticipated to expand by more than 75000 Crore in terms of value from FY 2017–18 to FY 2022–23 due to urbanisation, a rise in education levels, and the high margin on paint. (Dublin, 2020)

## Literature Review

(Ali, 2021) has studied on firm size and supply chain finance in Indian pharmaceutical industry: relational firm analysis of size determinants and cash conversion cycle. The study's goal is to determine how size determinants are governed by the SCF and to what extent. The analysis is based on the relative ranks of inventory days, accounts receivables days, and accounts payable

days as well as the ranks of size determinants. The Spearman rank correlation is performed to get the qualitative link between the ranks of size determinants and ranks of components of CCC. The study shows that WC governs directly since it contains the elements of CCC whereas size determinants have a positive but moderate impact on the SCF. By concentrating on size factors of WC and particularly accounts payables in Indian pharmaceutical enterprises, the study recommends shortening the CCC.

(Mahdavikho, Imeni, & Ahmad, 2022) Have worked on cash conversion cycle and current and future performance: evidence from iran's capital market. The findings indicate that there is a negative and substantial link between the cash conversion cycle's duration and present profitability (t), but a positive association between this variable and future profitability (t+1). The findings also revealed that there is no connection between the study variables in the years (t+2) and (t+3). Moreover, the size of the business affects the negative link between the length of the cash conversion cycle and current (t) and future (t+1) profitability; no association, however, was discovered for future profitability (t+2) and (t+3).

(Garg & Meentu, 2023) have analyse impact of working capital management on firm's profitability of automobile sector firms in India. Based on financial information from companies in the automotive sector that are listed on the BSE Dollex 200 from 2011 to 2020, the article. The effects of WCM are determined for panel data analysis using a fixed effect model and a random effect model. The results of this study showed that the cash conversion cycle (CCC), inventory conversion period (ICP), and receivable collection period (RCP) have a negative and significant impact on a firm's profitability in the Indian automobile business. Therefore it is strongly advised that CCC, ICP, and RCP be minimised to maximise profitability in the Indian vehicle sector.

(Xiao & Chan, 2022) have worked on are corporate social responsibility (CSR) Disclosure high performance authentic? Perspective from supply chain cash conversion cycle (CCC). The study presents a novel way to analyse the association between CSR ratings and business features considering CSR authenticity and supplier chain network conditions. According to the early findings, companies in the first quadrant with dubious authenticity had statistically greater firm sizes than companies in the third and fourth quadrants with genuine CSR authenticity. A more thorough assessment and related research on the effectiveness and authenticity of the CSR process are required given the higher likelihood of CSR marketing for larger companies being potentially exploited.

(Chen & Choy, 2022) have worked on the cash conversion cycle spread: international evidence. The Fama-French five-factor alphas produced by the Low-minus-High equal-weighted hedge portfolios ordered by CCC components range from 0.277 to 0.730% per month. By examining earnings prediction, announcement returns around future earnings, and limits of arbitrage, our findings are consistent with a mispricing explanation, though there is also some evidence for a risk-based explanation. Additionally, the CCC effect is more pronounced in developing markets than in developed markets, as well as in markets with higher political risk and less worldwide market integration.

## Research Gap

Research gap is the difference between previous studies and current study. (Ali, 2021) has studied on firm size and supply chain finance in Indian pharmaceutical industry: relational firm analysis of size determinants and cash conversion cycle. (Mahdavikho, Imeni, & Ahmad, 2022) Have worked on cash conversion cycle and current and future performance: evidence from iran's capital market. (Garg & Meentu, 2023) have analyse impact of working capital management on firm's profitability of automobile sector firms in India. Based on above literature researcher has found that there are lots of work has been done on same research problem in different field but researcher found that there is no researcher has been done in the field of selected paint manufacturing companies.

## Methods

The following research methodology have been applied for the reaching to the conclusion. Objectives of the study; (1) To analyse inventory position of selected paint manufacturing companies; (2) To analyse receivable position of selected paint manufacturing companies; (3) To study payable position of selected paint manufacturing companies; (4) To identify cash conversion cycle of selected paint manufacturing companies.

Hypotheses of the study:

H0 = There is no significance difference among inventory turnover ratios in days among selected paint manufacturing companies.

H0 = There is no significance difference among account receivable ratios in days among selected paint manufacturing companies.

H0 = There is no significance difference among payable period ratios in days among selected paint manufacturing companies.

H0 = There is no significance difference among cash conversion cycle in days among selected paint manufacturing companies.

Period of the study:

The period of the study give time constraint for the doing research. For the study time period from 2011-12 to 2020-21 have been considered.

Scope of the study:

The present study have been considered with cash conversion cycle as functional scope whereas selected companies are providing their products and services to whole over India so that is considered as geographical scope for the study.

Selection of samples:

The following samples have been selected based on net sales for year of 2021-22. Non probability sampling method has been used to determining samples.

Table 1. Sample Selection

| Selected Companies | Net Sales |
|---|---|
| Asian Paints | 18,516.86 |
| Berger Paints | 6,021.41 |
| Kansai Nerolec | 4,690 |
| Akzi Nobel | 2,421 |

The data is most important aspect to reaching to the conclusion of the study. For this study secondary data have been used from annual financial reports and websites of respective selected companies. For other information different research papers, journal and magazine also used to collect respective information.

Data analysis and interpretation:

Table 2. Inventory Turnover Ratio in Days

| Years | Asian | Berger | Kansai | Akzo |
|---|---|---|---|---|
| 2011-12 | 57.94 | 70.46 | 63.70 | 61.24 |
| 2012-13 | 60.23 | 69.66 | 68.22 | 51.48 |
| 2013-14 | 58.31 | 66.73 | 74.64 | 48.93 |
| 2014-15 | 56.50 | 61.97 | 55.73 | 52.67 |
| 2015-16 | 46.50 | 60.83 | 54.48 | 47.84 |
| 2016-17 | 63.37 | 77.33 | 63.15 | 57.48 |
| 2017-18 | 56.15 | 72.56 | 53.76 | 47.10 |
| 2018-19 | 57.57 | 76.04 | 73.74 | 48.99 |
| 2019-20 | 60.03 | 74.80 | 68.74 | 58.12 |
| 2020-21 | 61.55 | 90.80 | 84.88 | 73.59 |
| Average | 57.81 | 72.12 | 66.10 | 54.74 |
| Minimum | 46.50 | 60.83 | 53.76 | 47.10 |
| Maximum | 63.37 | 90.80 | 84.88 | 73.59 |

*Source: calculated from annual financial reports of the selected companies*

Above table indicates inventory turnover ratios of selected paint companies. Inventory turnover ratio indicates the relationship between cost of goods sold and inventory. Higher ratio indicates good performance of company and lower ratio indicates insufficient management of inventory. During the study period Burger limited indicated good inventory management because the average ratio was 72.12 days. Kansai indicated average inventory ratio 66.10 days during the study period. Akzo and Asian company indicated average ratio as 54.74 days and 57.81 days respectively. During the study period Berger indicated increasing trend whereas Asian company, Berger company and Akzo indicated fluctuating trend during the study period.

Table 3. Account Receivable in Days:

| Years | Asian | Berger | Kansai | Akzo |
|---|---|---|---|---|
| 2011-12 | 22.93 | 41.84 | 50.36 | 41.50 |
| 2012-13 | 25.79 | 39.17 | 53.66 | 411.21 |
| 2013-14 | 24.96 | 41.22 | 52.63 | 46.43 |
| 2014-15 | 22.84 | 41.65 | 51.05 | 40.21 |
| 2015-16 | 21.91 | 40.76 | 49.99 | 42.35 |
| 2016-17 | 28.71 | 44.01 | 47.25 | 58.47 |
| 2017-18 | 29.32 | 46.21 | 53.77 | 53.06 |
| 2018-19 | 27.72 | 38.01 | 47.55 | 55.53 |
| 2019-20 | 23.55 | 35.82 | 49.80 | 54.32 |
| 2020-21 | 35.67 | 50.83 | 65.07 | 62.27 |
| Average | 26.34 | 41.95 | 52.12 | 86.54 |
| Minimum | 21.91 | 35.82 | 47.25 | 40.21 |
| Maximum | 35.67 | 50.83 | 65.07 | 411.21 |

*Source: calculated from annual financial reports of the selected companies*

Above table indicated account receivable ratios in days. Account receivable ratio in days ratio indicated number of days are required for collection of companies dues. The shorter ratio of account receivable indicated good performance of company and excessive days indicated liberal credit policy of the organisation. Asian company indicated shorter average ratios during the study period from 2011-12 to 2020-21. The average ratio Asian was 26 days, means within 26 days company collects its dues. Berger company indicated second lowest ratio during the study period. it was collected dues within 41 days. Kansai was in third position during the study period. it collects its due within 52 days and it consumer more time for collection out of other selected companies. Akzo indicted highest ratio from selected companies during the study period and it collect its due within 86 days which was more than 2 months.

Table 4. Account Payable period in days

| Years | Asian | Berger | Kansai | Akzo |
|---|---|---|---|---|
| 2011-12 | 82.62 | 74.20 | 76.20 | 149.99 |
| 2012-13 | 86.46 | 76.52 | 74.85 | 161.04 |
| 2013-14 | 95.00 | 100.56 | 77.15 | 153.33 |
| 2014-15 | 77.41 | 96.62 | 55.65 | 139.96 |
| 2015-16 | 83.29 | 120.23 | 66.75 | 181.03 |
| 2016-17 | 90.54 | 127.35 | 91.67 | 188.07 |
| 2017-18 | 95.18 | 137.78 | 93.28 | 182.50 |
| 2018-19 | 87.04 | 112.18 | 71.14 | 147.63 |
| 2019-20 | 76.18 | 127.38 | 69.66 | 205.64 |
| 2020-21 | 120.51 | 168.21 | 109.59 | 249.92 |
| Average | 89.42 | 114.10 | 78.59 | 175.91 |
| Minimum | 76.18 | 74.20 | 55.65 | 139.96 |

| | Maximum | 120.51 | 168.21 | 109.59 | 249.92 |
|---|---|---|---|---|---|

*Source: calculated from annual financial reports of the selected companies*

Above table indicated account payable ratio in days during the study period. account payable ratio in days indicated number of days were allowed by supplier to company for the payment of purchase. Higher ratio indicated that more time have been allowed by supplier to the company and it is also favourable to the company because it gives source of cost-free finance but at the same time late payment of dues leads to adverse effect of organisation image. During the study period Akzo indicated higher average ratio which have both meaning that company entertain cost free money and second one is that it also adverse effect on image of the company. Berger indicated second highest position with the average 114 days of account payable ratios. Asian and Kansai Indicated average 89 days and 78 days respectively for the payment of its dues.

Table 5. Cash conversion cycle:

| Years | Asian | Berger | Kansai | Akzo |
|---|---|---|---|---|
| 2011-12 | -1.76 | 38.11 | 37.87 | -47.25 |
| 2012-13 | -0.44 | 32.31 | 47.04 | 301.65 |
| 2013-14 | -11.74 | 7.38 | 50.12 | -57.97 |
| 2014-15 | 1.93 | 7.00 | 51.12 | -47.08 |
| 2015-16 | -14.89 | -18.64 | 37.72 | -90.85 |
| 2016-17 | 1.53 | -6.01 | 18.73 | -72.12 |
| 2017-18 | -9.70 | -19.01 | 14.25 | -82.34 |
| 2018-19 | -1.75 | 1.87 | 50.15 | -43.11 |
| 2019-20 | 7.39 | -16.76 | 48.88 | -93.21 |
| 2020-21 | -23.28 | -26.58 | 40.37 | -114.06 |
| Average | -5.27 | -0.03 | 39.62 | -34.63 |
| Minimum | -23.28 | -26.58 | 14.25 | -114.06 |
| Maximum | 7.39 | 38.11 | 51.12 | 301.65 |

*Source: calculated from annual financial reports of the selected companies*

Above table indicated cash conversion cycle ratio in days for the selected paint manufacturing companies. Cash conversion cycle indicated number of days are required for the conversion of raw material to cash. There are two types of cash conversion cycle named as positive cash conversion cycle and negative cash conversion cycle. Out of selected companies Just Kansai indicated positive cash conversion cycle with average 39 days during the study period. Asian, Berger and Akzo indicated negative cash conversion cycle with the ratios of -5.27, -0.03 and -.34.63 days respectively. positive cash conversion cycle indicated efficient management of payable and receivable of the organisation while negative indicated inefficient management of cash conversion cycle.

Hypotheses Testing:

For the testing of hypothesis one way anova test has been performed and the result are as follows:

Table 5. One Way Anova Test:

| Sr. No. | Name of Ratio | F value | P-Value | F Crit | H$_0$ Accepted/Rejected |
|---------|---------------|---------|---------|--------|--------------------------|
| 1. | Inventory Turnover Ratio in Days | 9.5112 | 9.18E-05 | 2.8662 | Rejected |
| 2. | Account Receivable Ratio in Days | 1.981592 | 0.134126 | 2.866 | Failed to Reject |
| 3. | Account Payable Ratio in Days | 32.406 | 2.49E-10 | 2.8662 | Rejected |
| 4. | Cash Conversion Cycle | 2.4448 | 0.079752 | 2.866 | Failed to Reject |

*Source: calculated from MS Excel*

Above table indicated hypothesis testing for the determined objectives of the study. One way Anova test indicated that inventory turnover ratios and account payable ratios have significant difference among selected companies during the study period. For account receivable and cash conversion cycle there is no significant difference among selected samples. That also means all the selected companies having same cash conversion cycle during the selected time span.

## Results and Discussion

The inventory turnover ratio, measured in days, showed how long it took for goods to convert into revenue. Lower percentage is preferred for this. As compared to other chosen businesses during the research time, Asian and Akzo showed a lesser ratio, while Berger and Kansai showed a greater ratio.

The business granted creditors the account receivable in the specified number of days so they could settle their debts. A higher ratio meant that the debtors had been allowed more time to pay, whereas a lower ratio meant that they had been provided less time. When compared to Kansai, Berger, and Asian, which saw lesser ratios in chronological order, Akzo's greater ratio indicates that they are giving their debtors more time. Asian Paint provided fewer days than other chosen businesses.

Account payable in days percentage showed the number of days that vendors gave the business to settle their debts. A higher percentage is advantageous to the business. Akzo showed a higher ratio compared to the other businesses during the research time, while Berger, Asian, and Kansai showed a lower chorological ratio.

Cash conversion cycle in days showed number of days were needed to turn raw material into cash. During the research time, the chosen firms Akzo, Asian, and Berger showed negative cycles, whereas Kansai showed positive cycles.

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