

EMPIRICAL STUDY OF CASH MANAGEMENT OF A PHARMACEUTICAL COMPANY: A CASE STUDY OF LUPIN LTD.



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Management of cash comprises of a series of activities aimed at efficient handling the inflow and outflow of cash. Proficient management of the inflow and outflow of cash plays a crucial role in the overall performance of a firm. Excess cash will remain idle without any contribution towards profit whereas shortage of cash will disrupt the firm's manufacturing process. Normally it is believed that profit is the sole criteria for judging business success. To some extent it is true but now cash is also considered as something more fundamental for the survival of any business. 'Cash is King' and therefore management of cash is indispensable. Adequate availability of cash is essential to meet the business needs. Since, it is necessary in daily business operations and is productive, the cash owned by an enterprise at any time should be carefully regulated¹. Cash is not an end in itself, but is a means to achieve the end. To quote Brigham, "Cash is a non-earning asset, so excessive cash balance simply lowers the total assets turnover, thereby reducing both the rate of return on net worth and the value of the stock"².

A company's competitive ability to some extent is dependent on the availability of cash balances

since it the means to invest in people, technology and other assets. The steady and healthy circulation of cash throughout the entire business operation is the business solvency³. Like any other asset of a company, cash is a tool for profit. Thereby, the emphasis is laid on the right amount of cash at the right time, at the right place and at the right cost⁴. Management of cash is mainly diverting the cash from where it is to where it is needed to be. A company needs to have adequate cash balance in order to manage its working capital requirements. Effective management of cash is the necessity of all business houses since improper management of cash causes their failure. Therefore, effective management of cash involves an attempt to minimize investment in cash without impairing to the liquidity of the firm which in turn means a prop-

¹Accountants Handbook (1970), New York: A Ronald Press Publications; John Wiley & Sons, Section10, p.9.

²Brigham, E.F. (1978), "Fundamentals of Financial Management", Illinois: The Dryden Press, p.168.

³Howard, B.B. Uptan, M. (1953) "Introduction to Business Finance", New York: McGraw Hill Book Co., Inc., p.188.

⁴Gitman, L.J., op. cit., p.170.

er balancing between the two conflicting objectives of the liquidity and profitability. The ultimate goal of cash management is to maintain the minimum cash balance, which provides the firm with sufficient liquidity needed to meet its financial obligations.

Review of literature

Hartely, W.C.F and Meltzer, Y.L., (1967) opined that 'Cash forecast is used as a method to predict future cash flow because it deals with the estimation of cash flow (i.e., cash inflows and cash out flows) at different stages and offers the management an advance notice to take appropriate and timely action'. Orgler, Y. E., (1970) stated that 'the various collection and disbursement methods can be employed to improve cash management efficiently since it constitutes two sides of the same coin'. Both collections and disbursements exercise a joint impact on the overall efficiency of cash management. To quote Rama Moorthy (1978), 'deposit float as the sum of cheques written by the customers that are not yet usable by the firm'. He further stated that in India deposit float can assume sizeable opportunities as cheques normally take a longer time to get realized than in most countries. In the words of Bottan S.E., (2000), 'Cash is an oil to lubricate the ever turning wheels of business: without it, the process grinds to a stop'. He further stated that 'Cash shortage is not cost free; it involves cost whether it is expected or unexpected shortage. The expenses incurred as a result of shortage are called short costs.

Justification of the study

For managing cash flows, short term borrowings and to meet cash payments, forecasting the cash needs of the business is essential. Since the prime objective of cash management is to accelerate cash receipts as much as possible and to decelerate or delay cash disbursement as much as possible. Therefore, there is a need to have proper cash planning in order to estimate the cash surplus or deficit for each planning period and if there is surplus cash it should be properly invested only in short term marketable securities, in order to earn profits. Hence, an attempt has been made in this paper to make a comprehensive study of the LUPIN Ltd in respect of its management of cash.

Objective of the study

This study has the following objectives:

- To analyze the concept of cash management.
- To examine the utilization of cash resources of the company.
- To examine whether the ability to generate daily cash has any effect on the ability to repay financial obligations.
- To study the cash to debt service ratio of the company.

Hypothesis of the study

In order to achieve these objectives, the following hypothesis has been framed for testing:

Ho: There is no significant difference in the cash management position of LUPIN Ltd during the study period.

Methodology

For the study, data has been collected from the annual reports published periodically by the company. The statistical techniques like percentage, averages, coefficient of correlation, coefficient of variation, T-test have also been applied. For proper analysis and evaluation, the individual items of profit and loss accounts and balance sheet have also been regrouped.

Limitations

Limitations are always a part of any kind of research work, as the report is mainly based on secondary data; proper care must be taken in knowing the limitations of the required study.

- i. The financial performance of the institution is shown just for the last six years, ending 2012. Hence, any uneven trend before or beyond the set period will be the limitations of the study.
- ii. This analysis is based on only monetary information, analysis of the non monetary factors are ignored.
- iii. As per the requirement of the study some data have been grouped and sub grouped.
- iv. There is non availability of sufficient literature & information from the corporation.

Analysis of cash management of lupin ltd

Cash position analysis of the LUPIN Ltd has been done with the help of ratio analysis technique. Various ratios such as Cash Turnover Ratio, Basic Defensive Ratio, Daily Cash Payment Ratio, Absolute Liquid Ratio, Cash to Debt Service Ratio and Cash Conversion Cycle has been applied for judging the Cash position of the company.

1. Cash Turnover Ratio

Cash Turnover Ratio measures how many times per year a company replenishes its cash balance with its sales revenue. Generally, a high cash turnover ratio is better than a low one. A high cash turnover ratio means that a company is going through its cash cycles quickly and is being efficient with its cash i.e., able to replenish it quickly and use cash toward better uses.

$$\text{Cash Turnover Ratio} = \frac{\text{Revenues}}{(\text{Cash and Cash Equivalent})}$$

Table: - 1 Statement Showing Cash Turnover Ratio (₹ in crores)

Year	Turnover (₹)	Cash and Cash Equivalent (₹)	Cash Turnover Ratio
2006-2007	21309.6	3844.5	5.54
2007-2008	28341	2741.8	10.34
2008-2009	37949.9	777.7	48.80
2009-2010	17736.6	2015.3	8.80
2010-2011	57068.2	4201.2	13.58
2011-2012	69597	4024.7	17.29
Mean	38667.05	2934.20	17.39
	18893.43	1235.25	14.52
C.V.	48.86	42.10	83.48
Growth	226.60	4.69	211.98
Average Annual Growth	37.77	0.78	35.33

Source: Compiled from the annual reports of LUPIN Ltd. (From 2007 - 2012)

Interpretation

Table no. 1 shows that the Cash Turnover ratio was lowest in the year 2006–2007 when it was 5.54 times which then increased to 10.34 times in the year 2007–2008. The Cash Turnover ratio was highest in the year 2008–2009 when it was 48.80 times, the ratio then decreased to 8.80 times in the year 2009–2010. The Cash Turnover Ratio then increased to 13.58 times in the year 2010–2011 and further increased to 17.29 times in the year 2011–2012. The overall average of Cash Turnover ratio for the whole period of study was 17.39 times. The standard deviation of the Cash Turnover ratio was 14.52 with coefficient of variation as

83.48%. The overall growth of Cash Turnover ratio during the period of the study was 211.98%, with average annual growth of 35.33%.

2. Basic Defense Interval Ratio

The Basic Defense Interval Ratio helps in determining the number of days the company can cover its cash expenses without the aid of additional financing.

$$\text{Basic Defense Interval Ratio} = \frac{(\text{Cash} + \text{Receivables} + \text{Marketable Securities})}{(\text{Operating Expenses} + \text{Interest} + \text{Income Taxes})/365}$$

Table: - 2 Statement Showing Basic Defense Interval Ratio (₹ in crores)

Year	Cash + Receivables + Marketable Securities (₹)	(Operating Expenses + Interest + Income Taxes)/365	Basic Defense Interval Ratio
2006-2007	6292.7	25.35	248.23
2007-2008	5108.8	34.96	146.13
2008-2009	3557.4	45.79	77.69
2009-2010	6773.9	57.31	118.20
2010-2011	10409.2	69.93	148.85
2011-2012	11729.3	92.56	126.72
Mean	7311.88	54.32	144.30
σ	2868.94	22.37	52.05
C.V.	39.24	41.18	36.07
Growth	86.40	265.13	-48.95
Average Annual Growth	14.40	44.19	-8.16

Source: Compiled from the annual reports of LUPIN Ltd. (From 2007 - 2012)

Interpretation

As per table no.2, the Basic Defense Interval Ratio was highest in the 2006–2007 when it was 248.23 and then it decreased to 146.13 in the year 2007–2008. The Basic Defense Interval Ratio then further decreased and was lowest in the year 2008–2009 when it was 77.69. The Basic Defense Interval Ratio then showed an increasing trend from the year 2009–2010 and increased to 118.20, which further increased to 148.85 in the year 2010–2011. In the year 2011–2012 the Basic Defense Interval Ratio decreased to 126.72. The overall average of Basic Defense Interval Ratio for the whole period of study was 144.30. The standard deviation of the Basic Defense Interval Ratio was 52.05 with coefficient of variation as 36.07%. The overall growth of Basic Defense

Interval Ratio during the period of the study was –48.95%, with average annual growth of –8.16%.

3. Daily Cash Payment Ratio (DCP)

This ratio is helpful in identifying the paying capacity per day of the company and also in ensuring whether the company is able to make daily payments or not. A company should compare its own past records of cash balances and its competitors in the industry to hold cash balances. A lower result is generally better than a higher ratio.

$$\text{Daily Cash Payment Ratio (DCP)} = \frac{\text{Days in a Year}}{\text{Cash Turnover Ratio}}$$

Table: - 3 Statement Showing Daily Cash Payment Ratio (₹ in crores)			
Year	Days in a Year	Cash Turnover	Daily Cash Payment Ratio
2006-2007	365	5.54	65.88
2007-2008	365	10.34	35.30
2008-2009	365	48.8	7.48
2009-2010	365	8.8	41.48
2010-2011	365	13.58	26.88
2011-2012	365	17.29	21.11
Mean	365.00	17.39	33.02
σ	0.00	14.52	18.21
C.V.	0.00	83.49	55.13
Growth	0.00	212.09	-67.96
Average Annual Growth	0.00	35.35	-11.33

Source: Compiled from the annual reports of LUPIN Ltd. (From 2007 - 2012)

Interpretation

As per table no.3, the Daily Cash Payment Ratio was highest in the year 2006–2007 when it was 65.88. The Daily Cash Payment Ratio then decreased in the year 2007–2008 when it reached 35.30, which further decreased to 7.48 in the year 2008–2009. The Daily Cash Payment Ratio then increased to 41.48 in the year 2009–2010 but then decreased to 26.88 in the year 2010–2011. The Daily Cash Payment Ratio further decreased to 21.11 in the year 2011–2012. The overall average of Daily Cash Payment Ratio for the whole period of study was 33.02. The standard deviation of the Daily Cash Payment Ratio was 18.21 with coefficient of variation as 55.13%. The overall growth of Daily Cash Payment Ratio during the period of the study was –67.96%, with average annual growth of –11.33%.

4. Absolute Liquid Ratio

Absolute Liquid Ratio measures a relationship between cash and marketable securities and current liabilities. The

objective of computing this ratio is to measure the ability of the enterprise to meet its short-term obligations as and when due, without relying upon the realization of stock and debtors. Although receivables, debtors and bills receivables are generally more liquid than inventories, yet there may be doubts regarding their realizations into cash immediately or in time. Therefore absolute liquid Ratio should also be calculated together with current ratio and acid test ratio so as to exclude even receivables from the current assets and find out the absolute liquid assets.

$$\text{Absolute Liquid Ratio} = \frac{\text{Cash and Cash Equivalent}}{\text{Current Liabilities}}$$

This ratio gains significance only when it is used in conjunction with the first two ratios. A standard of 0.5:1 is considered an acceptable norm for this ratio. In other words, this ratio indicates that 50 paise worth of absolute liquid assets is sufficient to meet 1 rupee worth of liquid liabilities.

Table: - 4 Statement Showing Absolute Liquid Ratio (₹ in crores)

Year	Absolute Liquid Assets (₹)	Current Liabilities (₹)	Absolute Liquid Ratio
2006-2007	3844.5	4222	0.91
2007-2008	2741.8	7469.9	0.37
2008-2009	777.7	12161.9	0.06
2009-2010	2015.3	11892.5	0.17
2010-2011	4201.2	14517.7	0.29
2011-2012	4024.7	20178.1	0.20
Mean	2934.20	11740.35	0.33
σ	1235.25	5064.13	0.27
C.V.	42.10	43.13	82.49
Growth	4.69	377.93	-78.10
Average Annual Growth	0.78	62.99	-13.02

Source: Compiled from the annual reports of LUPIN Ltd. (From 2007 - 2012)

Interpretation

Table 4 states that the Absolute Liquid Ratio was highest in the year 2006-2007 when it was 0.91:1, the ratio then decreased to 0.37:1 in the year 2007-2008. The Absolute Liquid Ratio further decreased to 0.06:1 in the year 2008-2009. The Absolute Liquid Ratio in the year 2009-2010 increased to 0.17:1 and then further increased to 0.29:1 in the year 2010-2011. The Absolute Liquid Ratio then decreased to 0.20:1 in the year 2011-2012. The overall average of Absolute Liquid Ratio for the whole period of study was 0.33:1. The standard deviation of the Absolute Liquid Ratio was 0.27 with coefficient of variation as 82.49%. The overall growth of Absolute Liquid Ratio during the period of the

study was -78.10%, with average annual growth of -13.02%.

5. Cash to Debt Service Ratio

Cash to Debt Service Ratio helps in judging long term solvency of the business concern. The ratio attempts to develop confidence among the lenders that the firm has the ability to make timely payments of its principal as well as its interest amount due. Normally a high ratio is considered as favorable since it acts as a cash cushion and the company will be least likely to default on its debts.

$$\text{Cash to Debt Service Ratio} = \frac{\text{Cash and Cash Equivalent}}{\text{Borrowings + Interest}}$$

Table: - 5 Statement Showing Cash to Debt Service Ratio (₹ in crores)

Year	Cash and Cash Equivalent (₹)	Borrowings + Interest (₹)	Cash to Debt Service Ratio
2006-2007	3844.5	9019.8	0.43
2007-2008	2741.8	12402.3	0.22
2008-2009	777.7	12731.3	0.06
2009-2010	2015.3	11783.4	0.17
2010-2011	4201.2	11948.7	0.35
2011-2012	4024.7	16754.7	0.24
Mean	2934.20	12440.03	0.25
σ	1235.25	2275.71	0.12
C.V.	42.10	18.29	48.28
Growth	4.69	85.75	-43.64
Average Annual Growth	0.78	14.29	-7.27

Source: Compiled from the annual reports of LUPIN Ltd. (From 2007 - 2012)

Interpretation

Table No. 5 states that the Cash to Debt Service Ratio was highest in the year 2006–2007 when it was 0.43 and the ratio then decreased to 0.22 in the year 2007–2008. The Cash to Debt Service Ratio then further decreased to 0.06 in the year 2008–2009. The Cash to Debt Service Ratio was 0.17 in the year 2009–2010, which then further increased in the year 2010–2011 to 0.35 and then decreased to 0.24 in the year 2011–2012. The overall average of Cash to Debt Service Ratio for the whole period of study was 0.25. The standard deviation of the Cash to Debt Service Ratio was 0.12 with coefficient of variation as 48.28%. The overall growth of Cash to Debt Service Ratio during the period of the study was -43.64%, with average annual growth of -7.27%.

6. Cash Conversion Cycle

Cash Conversion Cycle is one the efficiency ratio which not only tells the analyst about how much cash is tied up in inventory, but also its ability to collect money from the customers as well as payments needs to be made to its cred-

itors. A shorter Cash Conversion Cycle is favorable, and it is possible to have a negative Cash Conversion Cycle. This metric combines three sub-measures:

- Days Inventory Outstanding (DIO): which measures the efficiency of turning inventory into revenue.

$$\text{Days Inventory Outstanding (DIO)} = \frac{\text{Average Inventory}}{(\text{Cost of Goods Sold}/365)}$$

- Days Sales Outstanding (DSO): This measures how effectively a company collects money from its customers.

$$\text{Days Sales Outstanding (DSO)} = \frac{(\text{Average Accounts Receivables})}{(\text{Revenues}/365)}$$

- Days Payables Outstanding (DPO): This measures how quickly a company pays its suppliers.

$$\text{Days Payables Outstanding (DPO)} = \frac{\text{Average Accounts Payable}}{(\text{Cost of Goods Sold}/365)}$$

Therefore Cash Conversion Cycle is calculated as:

$$\text{Cash Conversion Cycle (CCC)} = \text{DIO} + \text{DSO} - \text{DPO}$$

Table: - 6 Statement Showing Cash Conversion Cycle

Year	Days Inventory Outstanding (DIO)	Days Sales Outstanding (DSO)	Days Payable Outstanding (DPO)	Cash Conversion Cycle = (DIO + DSO - DPO)
2007-2008	191.21	104.91	183.37	112.75
2008-2009	198.69	104.67	223.34	80.02
2009-2010	178.7	287.96	222.89	243.77
2010-2011	177.08	111.26	215.38	72.96
2011-2012	205.54	114.82	243.17	77.19
Mean	190.24	144.72	217.63	117.34
σ	11.07	71.72	19.45	64.78
C.V.	5.82	49.56	8.94	55.21
Growth	7.49	9.45	32.61	-31.54
Average Annual Growth	1.50	1.89	6.52	-6.31

Source: Compiled from the annual reports of LUPIN Ltd. (From 2007 - 2012)

Interpretation

Table no. 6 states cash conversion cycle. In the year 2007–2008 the Days Inventory Outstanding (DIO) was 191.21 which then increased in the year 2008–2009 to 198.69. The Days Inventory Outstanding in the year 2009–2010 then decreased to 178.7 and then further decreased to 177.08 in the year 2010–2011. The Days Inventory Outstanding in the year 2011–2012 was at its highest when it was 205.54. The overall average of Days Inventory Outstanding for the

whole period of study was 190.24. The standard deviation of the Days Inventory Outstanding was 11.07 with coefficient of variation as 5.82%. The overall growth of Days Inventory Outstanding during the period of the study was 7.49%, with average annual growth of 1.50%. On the other hand, the Days Sales Outstanding (DSO) in the year 2007–2008 was 104.91 days which was almost same for the year 2008–2009 when it was 104.67 days. The Days Sales Outstanding was highest in the year 2009–2010 when it was

287.96 days. In the year 2010-2011 it decreased to 111.26 days and then it showed a slight increase in the year 2011-2012 when it was 114.82 days. The overall average of Days Sales Outstanding for the whole period of study was 144.72 days. The standard deviation of the Days Sales Outstanding was 71.72 with coefficient of variation as 49.56%. The overall growth of Days Sales Outstanding during the period of the study was 9.45%, with average annual growth of 1.89%.

The Days Payable Outstanding was lowest in the year 2007-2008 when it was 183.37 days. The Days Payable Outstanding then increased to 223.34 in the year 2008-2009 and then showed a insignificant decrease in the year 2009-2010 when it was 222.89 days. In the year 2010-2011 the Days Payable Outstanding further decreased to 215.38 days and in the year 2011-2012 the Days Payable Outstanding was at its highest when it was 243.17. The overall average of Days Payable Outstanding for the whole period of study was 217.63 days. The standard deviation of the Days Payable Outstanding was 19.45 with coefficient of variation as 8.94%. The overall growth of Days Payable Outstanding

during the period of the study was 32.61%, with average annual growth of 6.52%.

The Cash Conversion Cycle was 112.75 days in the year 2007-2008 which then decreased to 80.02 days in the year 2008-2009. In the year 2009-2010 the Cash Conversion Cycle was highest when it was 243.77 days which then decreased to 72.96 days in the year 2010-2011 and the same then showed a insignificant increase in the year 2011-2012 when it was 77.19 days. The overall average of Cash Conversion Cycle for the whole period of study was 117.34 days. The standard deviation of the Cash Conversion Cycle was 64.78 with coefficient of variation as 55.21%. The overall growth of Cash Conversion Cycle during the period of the study was -31.54%, with average annual growth of -6.31%.

Testing of Hypothesis

Null Hypothesis (Ho)

Ho: There is no significant difference in the cash management position of LUPIN Ltd during the study period.

Table: - 7 One-Sample Statistics

Year	N	Mean	Std. Deviation	Std. Error Mean
Cash Conversion Cycle	5	117.34	72.42	32.39

Table: - 8 One-Sample Test

Year	Test Value = 0				95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Cash Conversion Cycle	3.623	4	.022	117.34	27.41	207.26

Interpretation of t-test

$$t=3.623 > t_{0.05}=2.776$$

$$t > t_{0.05}$$

When degree of freedom (df) is 4 and level of significance is 5%, the critical value is 2.776. Since the calculated value of t is 3.623 which more than the table value, we conclude that there is significant difference in the cash management position of LUPIN Ltd during the study period. Hence, null hypothesis is rejected.

Conclusions

In light of the present research work it can be concluded that the cash management position of LUPIN Ltd is somewhat satisfactory with highest Cash Turnover ratio in the year 2008-2009 when it was 48.8 times showing the efficiency with which the company is going through its cash cycles. As regards to the Daily Cash Payment ratio, the least ratio was in the year 2008-2009 followed by 2011-12 and

2010-2011. The absolute liquid ratio was satisfactory during the entire period of the study with an average of 0.33:1 except for the year 2009-2010 when it was least i.e., 0.17:1. The analysis of Cash to Debt Service ratio also showed satisfactory result with the average cash to debt service ratio as 0.25; it was highest in the year 2006-2007 when it was 0.43 followed by 2010-2011 when it was 0.35. On analyzing Cash Conversion Cycle, it was observed that the company has put in utmost effort to maintain and reduce its cash conversion cycle. The average Cash Conversion Cycle was 117.34 days, with the least in the year 2010-2011 when it reduced to 72.96 days.

Suggestions

The following suggestions could be laid down in the light of the findings:

1. The company needs to minimize its cash expenses in order to increase its cash in hand, cash at bank and other short

term securities.

2. There is a need to maintain balance between profitability and liquidity which is only possible if the company is having adequate cash balance.

3. The company should plan to maximize its net income after tax which in turn will help the company to have adequate cash balance.

4. The company should have a check on its cash conversion cycle so that it can have proper flow of cash throughout the year.

References

1. *Accountants Handbook (1970)*, New York: A Ronald Press Publications; John Wiley & Sons, Section 10, p. 9.
2. Bhat, S (2008), "Financial Management – Principles and Practice": New Delhi: Excel Books, pp 608-615.
3. Botta S.E., (2000), *op.cit.*, p.390.
4. Brigham, E.F. (1978), "Fundamentals of Financial Management", Illinois: The Dryden Press, p. 168.
5. Gitman, L.J., *op. cit.*, p.170.
6. Hartely, W.C.F and Meltzer, Y.L., (1967), "Cash Management, Planning, Forecasting and Control" New Jersey: Prentice-hall Inc., p. 58.
7. Howard, B.B. Upton, M., (1953) "Introduction to Business Finance", New York: McGraw Hill Book Co., Inc., p. 188.
8. Khan, M.Y and Jain, P.K. (1982), "Basic Financial Management", New Delhi: Tata McGraw Hill Publishing Co. Ltd., p. 139.
9. Orgler, Y. E., (1970), "Cash Management: Methods and Models", California: Wordsworth Publishing Company, p. 392.
10. Pandey, I.M. (2002): "Financial Management": New Delhi: Vikas Publishing House Pvt. Ltd., p. 912.
11. Ramamoorthy, V.E., (1978), "Working Capital Management", Madras: Institute of Financial Management and Research, p. 136. **MA**