

# Trends in Asset Management Efficiency in Selected Pharmaceutical Companies: A Cross-sectional Analysis

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## Abstract

The 17 billion dollar Indian Pharmaceutical Industry is one of the fastest growing sectors in the country, growing at a growth rate of 9.4 per cent year on year. It has become the 3<sup>rd</sup> largest market in the world by way of volume and 13<sup>th</sup> largest in value. It is expected to grow at a Compounded Annual Growth Rate (CAGR) of 15 per cent in near future. There are 20000 registered units comprising organised as well as unorganised players and MNCs. An efficient asset management is expected to contribute positively toward the creation of a firm's value s. In the present paper an attempt has been made to examine the trend in the efficiency of asset management in the selected Indian Pharmaceutical Companies, consistency in the efficiency of asset management and contribution of such efficiency of assets management in value generating capability of the selected Pharmaceutical firms. For this purpose a cross-sectional analysis has been conducted in respect of assets management efficiency of selected pharmaceutical companies during the period 2001-02 to 2015-16.

**Key words:** Asset Management Efficiency, Value Generating Capability, CAGR

## 1. Introduction:

The success of any organisation is largely dependent on the skilful utilisation of its assets. A company generally invests its total fund in two kinds of assets; Fixed Assets and Current Assets. Fixed assets helps a company in generating value for a long period of time while current assets act as the life blood and controlling nerve centre of a business firm. So, it can be said that value generating capability of any company purely depends on the efficiency with which the both the fixed assets and current assets are managed. In other words, efficient utilisation of the total fund is very important for the success of the company. As investment in total assets is an integral part of the net worth of a company so the efficiency with which long term as well as short term assets are managed in a firm is of great significance for its overall well being and also for maximisation of owners' wealth.

A general increase in health standards leads to the growth in national wealth, which means a healthy population contributes towards a healthy economy which is why investment in health is not only desirable but also a priority for the most countries worldwide. India has a key role to play in the global health sector. Indian Pharmaceutical Industry is one of the fastest growing sectors in the country, growing at a growth rate of 9.4 per cent year on year. It has become the 3<sup>rd</sup> largest market in the world by way of volume and 13<sup>th</sup> largest in value. It is expected to grow at a Compounded Annual Growth Rate (CAGR) of 15 per cent in near future. There are 20000 registered units comprising organised as well as unorganised players and MNCs of these 250 large units and 8000 small scale units control 70 per cent of the market share. India also has the distinction of being the hub for low cost drugs. India provides for the 50 per cent of the global demand for the vaccinations. Medicines made in India created to 40 per cent for the generic drug in the US and 25 per cent in the UK. Indian drugs are exported to more than 200 countries in the world, with the US as the key market. In the year 2017-18 India's Pharmaceutical export stood at 17.27 billion dollar and is expected to reach 20 billion dollar by the year 2020.

Several studies have been made for making the analysis of issues relating to the assets management efficiency of the corporate sector in India and abroad during the last few decades. Some of them have been made emphasizing the effect of post- liberalization and a study on the same issue has also been made in FMCG sector. However, the matter connected with the Assets management efficiency specifically of Indian Pharmaceutical Industry has not yet been addressed. In fact, no significant study has so far been made to make an in depth analysis of Pharmaceutical Companies in India in respect their assets management efficiency. Against this backdrop, the present study attempts to examine the trends in efficiency in assts management in selected Pharmaceutical Company in India during the period 2001-02 to 2015-2016.

The remainder of this paper is structured as follows: Section 2 deals with the objectives of the study. Section 3 narrates the methodology adopted in this study. In Section 4 is concerned with the empirical results and discussions and in Section 5 concluding remarks are given.

## 2. Objectives of the Study:

In the present study a cross- sectional analysis of some selected Indian pharmaceutical companies in respect of their assets management efficiency has been made. More specifically, the objectives are:

- i) To analyse the trend in the efficiency of assets management of the companies under study.
- ii) To ascertain the status of the company under study in respect of their efficiency in assets management.
- iii) To assess the relationship between efficiency of assets management and value generating capabilities of the companies.

## 3. Methodology of the study:

The study is based on top five (on the basis of market capitalisation) selected Indian pharmaceutical Companies. The data of these companies for the period 2001-02 to 2015-2016 used in the study were collected from secondary sources i.e. Capitaline Corporate Database of Capital Market Publishers (I) Ltd., Mumbai. The fixed assets turnover ratio (FATR), inventory turnover ratio (ITR), debtors' turnover ratio (DTR) and cash turnover ratio (CTR) are the most common measures of efficiency of fixed assets management, efficiency of inventory management, efficiency of debtors' management and efficiency of cash management respectively (Fairfield & Yohn). Thus at the time of measuring efficiency of assets management of the selected pharmaceutical companies in this study these ratios were used. In this study 'value added to capital employed ratio' (VACE) was used in analysing the value generating capability of the companies. While analyzing the data used in the study statistical tools like arithmetical mean (AM), standard deviation (SD), etc. , statistical techniques, such as Pearson's simple correlation, Spearman's rank correlation analysis, Kendall's correlation analysis and Ordinary Least Square (OLS) methodology and statistical test like t test were applied at appropriate places.

#### 4. Empirical Results and Discussion:

- A. In Table I and Table II, an attempt was made to analyse the efficiency of assets management of the selected Indian Pharmaceutical Companies using FATR, ITR, DTR and CTR. In these tables, for measuring the average value of FATR, ITR, DTR and CTR of the selected companies, arithmetical mean (AM) and for ascertaining the consistency coefficients (CC) of these ratios, the ratio of AM to SD were used. For identifying the nature of the trend in the selected ratios of each of the companies under study during the study period, linear trend equations were fitted and in order to test whether the slopes of the trend lines were statistically significant or not, t test was used.

Table I shows that the highest mean FATR (2.54) was maintained by Aurobindo Parma Ltd., while it was least (2.05) which was kept by Lupin Ltd. In respect of consistency coefficient of the FATR, Lupin Ltd. captured the top most position and Aurobindo Pharma Ltd. Was placed in the last position. The linear trend equations as fitted to the FATR series in table 2 disclose that only in Lupin Ltd., a declining trend in FATR which was not found to be statistically significant was noticed during the period under study while a downward trend in the same which was found to be statistically significant in the other four companies was observed during the same period.

The maximum mean ITR (6.46) was found in Dr. Reddy's Laboratories Ltd. And the minimum mean ITR (3.73) was achieved by Cipla Ltd. While taking consistency coefficient of ITR as the basis of evaluation, Cipla Ltd. Was considered as the most consistent whereas Sun Pharma Laboratories Ltd. was placed in the last berth. The trend lines fitted to the ITR series reveal that only in Cipla Ltd. an upward trend which was found to be statistically significant was observed during the study period while in rest of the four companies a declining trend was found to be statistically significant was noticed during the same period.

The highest average DTR (5.37) was achieved by Sun Pharma Laboratories Ltd., while it was the lowest (3.06) in Aurobindo Pharma Ltd. based on the consistency coefficient of DTR, Aurobindo Pharma Ltd. captured the topmost position whereas Sun Pharma Laboratories Ltd. found place in the last berth. The linear trend equations fitted to the DTR series indicate that in Sun Pharma Laboratories Ltd., Dr Reddy's Laboratories Ltd., and Aurobindo Pharma Ltd., a declining trend which was found to be statistically significant was observed during the study period while in Lupin Ltd., and in Cipla Ltd. an upward trend which were not found to be statistically significant were noticed during the same period.

The maximum mean CTR (187.78) was maintained by Aurobindo Pharma Ltd. and the minimum mean CTR (11.75) was found in Dr. Reddy's Laboratories Ltd. On the basis of consistency coefficient of the CTR, Cipla Ltd. proved itself as the most consistent performer whereas Dr. Reddy's Laboratories Ltd. occupied the last rank. The linear trend equations fitted to the CTR series depict that in all the selected Pharmaceutical companies an upward trend in CTR was observed, but the trend was found to be statistically significant only in Lupin Ltd. and in Aurobindo Pharma Ltd. during the period under study.

- B. In Table I, for the purpose of ascertaining the assets management efficiency status of the companies under study more precisely, a composite rank test, considering both the average of and consistency in the FATR, ITR, DTR and CTR for the study period was also carried out. In this test, a process of ranking was used for arriving at a more comprehensive measure of efficiency in which AM values and the value of AM to SD ratio of the FATR, ITR, DTR and CTR were combined in a composite score. The ultimate efficiency ranking, based on the sum of the scores

of each of the company's separate individual ranking under the AM and the ratio of AM to SD of the said efficiency ratios, was made on the principle that the lower the composite score, the higher the efficiency and vice versa (Sur, 2012). Table I discloses that based on the combined score, Lupin Ltd. captured the top most position in respect of assets management efficiency and were followed by Sun Pharma Laboratories Ltd. & Aurobindo Pharma Ltd., Cipla Ltd and Dr. Reddy's Laboratories Ltd. respectively in that order.

- C. In Table III for identifying the factors making significant contribution towards the value generating capability of the companies under study an attempt was made by ascertaining the closeness of association between the assets management efficiency and the value generating capabilities of the companies through correlation coefficients

Between the selected efficiency indicators (FATR, ITR, DTR and CTR) and value generating capability measure (VACE) taking into consideration their magnitudes (i.e. by Pearson's simple correlation coefficient), ranking of their magnitude (i.e. by Spearman's rank correlation coefficient) and the nature of their associated changes (i.e. by Kendall's correlation coefficient). These correlation coefficients were tested by t test.

Table III shows that out of the fifteen correlation coefficients between FATR and VACE, twelve coefficients were positive and of which four coefficients were found to be statistically significant but no significant negative correlation between them was found. It is theoretically argued that there is a positive relationship between efficiency of fixed assets management and value generating capability though it may not hold good in real world situation. The analysis of correlation between FATR and VACE reveals that in Sun Pharma Laboratories Ltd. and Aurobindo Pharma Ltd. the outcome corroborates the theoretical argument.

Out of fifteen correlation coefficients between ITR and VACE, eleven coefficients were positive and four coefficients were negative but none of them was found to be statistically significant. Generally speaking the higher the efficiency of inventory management, the higher is the value generating capability. The correlation analysis assessing the relationship between the ITR and VACE shows that none of the outcome conforms to the generally accepted argument.

Table III also discloses that eleven correlation coefficients between DTR and VACE out of fifteen coefficients were positive and of which three positive correlation coefficients were found to be statistically significant whereas no negative correlation coefficients between them was found to be statistically significant it is a theoretical argument that the higher the efficiency of debtors' management, the higher is the value generating capability. The result obtained from the analysis of correlation between DTR and VACE exhibit that only the outcome of the Cipla Ltd. corroborates the theoretical argument.

Out of fifteen correlation coefficients between CTR and VACE, fourteen coefficients were positive of which seven coefficients were found to be statistically significant whereas no negative coefficient between them was found to be statistically significant. The positive relationship between the efficiency of cash management and value generating capability is theoretically desirable. The analysis of correlation between CTR and VACE as made in Table III reflects that in Lupin Ltd., Dr. Reddy's Laboratories Ltd., Cipla Ltd., and Aurobindo Pharma Ltd the outcome reaches the desired result.

## 5. Concluding Remarks:

- (i) Aurobindo Pharma Ltd. which showed the least consistency in respect of fixed assets management efficiency occupied the highest rank based on average whereas Lupin Ltd., which was the most consistent performer in this field, maintained the lowest average efficiency of managing fixed assets during the study period. A noticeable declining trend in efficiency of fixed assets management was observed in 80 per cent cases during the period under study.
- (ii) Although based on average ITR, Cipla Ltd. was placed in the last position, it proved itself as the most consistent performer in respect of managing inventory during the study period. A considerable declining trend in the efficiency of inventory management was found in 80 per cent cases while a notable upward trend was observed in remaining 20 per cent cases during the study period.
- (iii) Sun Pharma Laboratories Ltd., which showed a least consistency in respect of debtors' management efficiency, occupied the highest rank based on average whereas Aurobindo Pharma Ltd., which was the most consistent performer in this field, maintained the lowest average efficiency of managing debtors during the period under study. A noticeable downward trend in efficiency of debtors' management was observed in 60 per cent cases while the remaining 40 per cent of the selected Pharma companies failed to establish any notable trend in it during the study period.
- (iv) A significant upward trend in efficiency of cash management was established in 40 per cent cases during the study period. The remaining 60 per cent companies under study did not show strong evidence of positive growth in the efficiency of cash management during the same period.
- (v) The analysis of composite scores based on the combination of average and consistency aspects of the selected parameters reveals that Lupin Ltd. bagged the best award in respect of assets management efficiency and it was followed jointly by sun Pharma Laboratories Ltd. & Aurobindo Pharma then by Cipla Ltd., Dr. Reddy's Laboratories Ltd. respectively in that order during the period under study.
- (vi) Only in Sun Pharma Laboratories Ltd. a strong evidence of positive association between the efficiency of fixed assets management and value generating capability, which corroborates the theoretical argument, was noticed during the study period. It signifies that in Sun Pharma Laboratories Ltd., the role played by fixed assets management in improving the value generating capability was noticeable during the period under study.
- (vii) There was no any significant positive or negative association was found between the efficiency of inventory management and value generating capability of the selected Pharmaceutical companies. It implies that the efficiency of inventory management failed to make any significant contribution in value generating capability of the selected companies during the study period.

- (viii) A notable positive relationship between efficiency of debtors' management and value generating capability was found in Cipla Ltd. but no significant negative relationship between them was observed in any cases. So a strong evidence of favourable impact of debtors' management on the value generating capability in the Cipla Ltd. was noticed during the study period.
- (ix) In Lupin Ltd., Dr. Reddy's Lab, Cipla and in Aurobindo Pharma strong evidence of positive association between CTR and VACE was established. It reflects that in 80 per cent of the Pharmaceutical Companies, cash management made significant contribution towards their value generating capability during the period under study.

**Table I**

Average and Consistency aspects of Efficiency of Managing Assets of Selected Pharmaceutical Companies in India																						
COMPANY NAME	FATR				ITR				DTR				CTR				SUM OF RANK BASED ON AVERAGE	SUM OF RANKS BASED ON CC	ULTIMATE RANK AVERAGE	ULTIMATE RANK ON CC	AGGREGATE OF ULTIMATE RANKS	FINAL RANK OF EFFICIENCY OF ASSETS MANAGEMENT
	VALUE	RANK	CC	RANK	VALUE	RANK	CC	RANK	VALUE	RANK	CC	RANK	VALUE	RANK	CC	RANK						
Sun Pharmalaboratories Ltd.	2.48	2	3.39	4	6.02	2	3.25	5	5.37	1	3.97	5	12.32	4	0.94	3	9	17	1	5	6	2.5
Lupin Ltd.	2.05	5	11.63	1	5.46	3	7.94	2	4.67	2	5.53	2	131.13	2	1.08	2	12	7	3	1	4	1
Dr. Reddy's Laboratories Ltd.	2.22	4	4.86	2	6.46	1	6.05	3	3.58	4	5.13	3	11.75	5	0.64	5	14	13	4.5	3	7.5	5
Cipla Ltd.	2.35	3	3.46	3	3.73	5	14.71	1	4.65	3	4.38	4	122.65	3	1.69	1	14	9	4.5	2	6.5	4
Aurobindo Pharma Ltd.	2.54	1	3.11	5	4.57	4	4.17	4	3.06	5	8.61	1	187.78	1	0.66	4	11	14	2	4	6	2.5

Table:2 Trend analysis of Assets Management Efficiency of the selected FMCG Industry in India

Assets Management Efficiency Measures	FATR	ITR	DTR	CTR
Company Name	Slope of trend line	Slope of trend line	Slope of trend line	Slope of trend line
Sun Pharma Laboratories Ltd.	-0.076 (1.892)*	-0.216 (2.209)**	-0.183 (2.745)**	0.924 (1.195)
Lupin Ltd.	-0.001 (0.126)	-0.091 (2.502)**	0.050 (0.955)	18.800 (3.223)***
Dr. Reddy's Laboratories Ltd.	-0.059 (2.407)**	-0.139 (2.446)**	-0.121 (4.091)***	1.230 (1.084)
Cipla Ltd.	-0.137 (6.347)***	0.022 (1.456)*	0.031 (0.455)	1.781 (0.385)
Aurobindo Pharma Ltd.	-0.085 (1.889)*	-0.155 (2.955)**	-0.031 (1.548)*	32.400 (2.129)*
Figures in the parentheses indicate t values *** Significant at 1% level. ** Significant at 5% level. * Significant at 10% level.				
SOURCE: COMPILED AND CALCULATED FROM 'CAPITALINE CORPORATE DATABASE' OF CAPITAL MARKET PUBLISHERS (I) LTD., MUMBAI.				

Table: 3 Analysis of relationship between the Efficiency of Assets Management and Value generating capability of selected Indian Pharmaceuticals companies.

Company Name	Correlation between FATR and VACE			Correlation between ITR and VACE			Correlation between DTR and VACE			Correlation between CTR and VACE		
	P	K	S	P	K	S	P	K	S	P	K	S
Sun Pharma Laboratories Ltd.	0.542*	0.356	0.537*	0.396	0.144	0.184	0.299	0.106	0.111	-0.167	0.010	0.013
Lupin Ltd.	0.052	0.202	0.288	0.367	-0.260	-0.390	0.128	0.135	0.183	0.537*	0.471*	0.597*

<b>Dr. Reddy's Laboratories Ltd.</b>	0.266	0.087	0.034	0.161	-0.067	-0.136	-0.101	-0.116	-0.158	0.357	0.394*	0.558*
<b>Cipla Ltd.</b>	-0.187	-0.199	-0.387	0.261	0.129	0.213	0.772**	0.664**	0.827**	0.426	0.367	0.531*
<b>Aurobindo Pharma Ltd.</b>	0.262	0.478*	0.602*	0.112	0.202	0.231	-0.114	0.058	0.007	0.563*	0.345	0.406

\*\* Significant at 1 percent level.

\* Significant at 5 percent level.

P' denotes Pearson's simple correlation coefficient.

K' denotes Kendall's correlation coefficient.

S' denotes Spearman's correlation coefficient.

SOURCE: COMPILED AND COMPUTED FROM 'CAPITALINE CORPORATE DATABASE' OF CAPITAL MARKET PUBLISHERS (I) LTD., MUMBAI.

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