INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE AND MANAGEMENT

CONTENTS

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE & MANAGEMENT   76
A Monthly Double-Blind Peer Reviewed Refereed Open Access International e-Journal - Included in the International Serial Directories
www.ijrcm.org.in

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE & MANAGEMENT   77

A Monthly Double-Blind Peer Reviewed Refereed Open Access International e-Journal - Included in the International Serial Directories

www.ijrcm.org.in

CALL FOR ARTICLES/RESEARCH PAPERS

We invite original research papers in the area of finance, marketing, HRM, Banking, Insurance, and other allied subjects. The above mentioned tracks are only indicative, and not exhaustive. The journal expects unpublished and original quality research articles/papers only.

You may submit your articles/papers at the email addresses, info@ijrcm.org.in or infoijrcm@gmail.com.

GUIDELINES FOR SUBMISSION OF ARTICLE/PAPER

1.   **COVERING LETTER FOR SUBMISSION:**

The Editor
IJRCM

Subject: **Submission of Manuscript**.

Dear Sir/Madam,

Find my submission of research paper/article for possible publications in your e-journal.

I hereby affirm that the content of this manuscript are original. Furthermore it has been neither published elsewhere fully or partially or any language nor submitted for publication (fully or partially) elsewhere simultaneously.

I affirm that the all author (s) have seen and agreed to the submitted version of the paper and their inclusion of name(s) as co-author(s).

Also, if our research paper/article accepted, I/We agree to comply with the formalities as given on the website of journal & you are free to publish our contribution to any of your two journals i.e. International Journal of Research in Commerce & Management or International Journal of Research in Computer Application & Management..

Name of Corresponding Author (s)

Affiliation:

Mailing address:

Mobile Number (s):

Landline Number (s):

E-mail Address (s):

2.   **INTRODUCTION:** Manuscript must be in English prepared on a standard A4 size paper setting. It must be prepared on a double space and single column with 1" margin set for top, bottom, left and right. It should be typed in 12 point-Times New Roman Font with page numbers at the bottom and centre of the every page.

3.   **MANUSCRIPT TITLE:** The title of the paper should be in a 14 point Times New Roman Font. It should be bold typed, centered and fully capitalised.

4.   **AUTHOR NAME(S) & AFFILIATIONS:** The author(s) full name, affiliation(s), mobile/landline numbers, and email/alternate email address should be in 10-point Times New Roman. It must be centered underneath the title.

5.   **ABSTRACT:** Abstract should be in fully italicized text, not exceeding 300 words. The abstract must be informative and explain background, aims, methods, results and conclusion.

6.   **KEYWORDS:** Abstract must be followed by list of keywords, subject to the maximum of five. These should be arranged in alphabetic order separated by commas and full stop at the end.

7.   **HEADINGS:** All the headings and sub-headings should be in a 12 point-Times New Roman Font. These must be bold-faced, aligned left and fully capitalised. Leave a blank line before each heading.

8.   **MAIN TEXT:** The main text should be in a 12 point-Times New Roman Font, single spaced, fully justified.

9.   **FIGURES &TABLES:** These must be simple, centered & numbered, and table titles must be above the tables. Sources of data should be mentioned below the table.

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE & MANAGEMENT 78
A Monthly Double-Blind Peer Reviewed Refereed Open Access International e-Journal - Included in the International Serial Directories
www.ijrcm.org.in

10.   **REFERENCES:** The list of all references should be alphabetically arranged. The author (s) should mention only the actually utilised references in the preparation of manuscript and they are supposed to Harvard Style of Referencing. The list of all references should be alphabetically arranged. The author (s) should mention only the actually utilised references in the preparation of manuscript and they are supposed to follow the references as per following:

- All works cited in the text (including sources for tables and figures) should be listed alphabetically.
- Use (**ed.**) for one editor, and (**ed.s**) for multiple editors.
- When listing two or more works by one author, use --- (20xx), such as after Kohl (1997), use --- (2001), etc, in chronologically ascending order…
- Indicate (opening and closing) page numbers for articles in journals and for chapters in books.
- Note that italics are used only for titles of books and names of journals. Double quotation marks are used for titles of journal articles, book chapters, dissertations, reports, working papers, unpublished material, etc.
- For titles in a language other than English, provide an English translation in parentheses.
- Use endnotes rather than footnotes.
- The location of endnotes within the text should be indicated by superscript numbers.
- For sources which have insufficient details to be included in the Reference, use endnotes (such as interviews, some media sources, some Internet sources).

<u>**See the following for style and punctuation in References:**</u>

Books

- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill
- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio," Ohio State University.

Contributions to books

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

Journal and other articles

- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.
- Kiran Ravi, Kaur Manpreet (2008), Global Competitiveness and Total Factor Productivity in Indian Manufacturing, International Journal of Indian Culture and Business Management, Vol. 1, No.4 pp. 434-449.

Conference papers

- Chandel K.S. (2009): "Ethics in Commerce Education." Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–22 June.

Unpublished dissertations and theses

- Kumar S. (2006): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University.

Online resources

- Always indicate the date that the source was accessed, as online resources are frequently updated or removed.

Website

- Kelkar V. (2009): Towards a New Natutal Gas Policy, Economic and Political Weekly, Viewed on 11 September 2009 http://epw.in/epw/user/viewabstract.jsp

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE & MANAGEMENT   79

A Monthly Double-Blind Peer Reviewed Refereed Open Access International e-Journal - Included in the International Serial Directories

www.ijrcm.org.in

POST - PRODUCTIVITY PERFORMANCE OF INDIAN ESOP PHARMACEUTICAL CORPORATE SECTOR

DR. RAMESH KUMAR DHIMAN
HEAD
DEPARTMENT OF COMMERCE
S.U.S GOVERNMENT COLLEGE
MATAK MAJRI – INDRI 132 041

DR. SURENDER KUMAR GUPTA
ASSOCIATE PROFESSOR
DEPARTMENT IN MANAGEMENT
MAHARAJA AGRASEN INSTITUTE OF MANAGEMENT & TECHNOLOGY
JAGADHRI – 135 003

DR. SURIENDER KUMAR NAGIA
ASST. PROFESSOR
DEPARTMENT IN COMMERCE
GOVERNMENT P. G. COLLEGE
KARNAL

ABSTRACT

Productivity is the key to Prosperity, to accelerate the process of economic growth and raise the standards of living of the people of a nation. Productivity improvement has become a challenging issue in fiercely competitive business world. The study has devoted efforts to measure the post-productivity performance of Indian ESOP Pharma units. The sample size for the research is to be taken ten (n = 10) ESOP Pharma companies for measuring productivity from 1st April, 2004 to 31st March, 2010 by using secondary data. The study found that the Productivity index for ten top ESOP Pharma units is not significantly changed from group average of Indian Pharma corporate sector. The post-productivity performance of 40 percent the sample size is associated with net sale whereas 30 percent the sample size is associated with total assets.

INTRODUCTION

Productivity is the key to Prosperity, which in turn is an indicator of a country's potential for economic growth in the short to medium term. Increasing productivity has to emerge as a new national priority, where the efforts of all converge to accelerate the process of economic growth and raise the standards of living of the people. The business organizations will have to improve their performance to ensure their survival and growth in a fiercely competitive world. This improvement will come about only if we focus on production of quality goods, in a cost effective manner and by generating enough surpluses to plough back into the business for further improvement in productivity. And this must occur continuously, to create an advantage in the market place, which is what productivity is all about. There were many studies conducted to measure the productivity performance of business organization world wide to impart the knowledge productivity improvement. The corporate sector world wide uses different tools/plans for raising the productivity performance through the employed talented work forces. The present paper is based on this challenge issue to provide empirical outputs for the persons/bodies those are devoted the efforts to find new ways in the business line for good productivity performance. The study would going to measure (trend) the productivity performance of ESOP (employee stock option plan) pharmaceuticals sector in India.

THE VISTA OF ESOP

Employee stock option scheme (ESOP) under which a company grants share to its employees to buy a specified number of shares at a specified prices. The rationale behind ESOP is that it will help companies to retain staff, attract talent, motivate employees and enable them to share the long-term growth of the company as well as good productivity performance. But in India, Employers used ESOPs as an effective tool to cut down attrition rates in share exchange. But after the stock market crash, most of these options have slipped under water. An ESOP invests primarily in employer stock and can own anywhere from a fraction of 1% to 100% of a company stock. An ESOP stock is held outside the company in a separate trust known as employee stock option trust. The trustee acts on behalf of, and in the best interest of, all the employee participants. It is the responsibility of the ESOP trustee to insure that the transactions are made according to the ESOP plans rules, as well as to represent the interest of ESOP participants at shareholders meetings. The next section of this paper would like to present a review of previous studies to make it more understandable and valuable for the concern units as well as the research scholars

REVIEW OF LITERATURE

In this study an attempt has been made to briefly review the work already undertaken on productivity performance of ESOP units. A brief review of selected studies has been presented in the following section.

Richard (1990) empirically revealed that share price variances increased after the approval of an executive stock option plan. An increase in stock return volatility also found with variances estimated from stock return data. The study suggested that stock option holding executives undertake more risky investment opportunities. They documented an increase in shareholder wealth surrounding the announcement of an executive stock option plan. The study found a significant negative reaction between the bond market reaction and changes in stock option plans. Derek and Takao (1993) have showed that Japanese ESOPs are pervasive and neglected institution A production function framework is used to examine the impact of various dimensions of ESOP on enterprise productivity. The study empirically estimated the effect of ESOP on corporate productivity. On average, the net effect of introducing an ESOP is to increase productivity by almost 7%. In 1988, more than 90% of all firms listed on Japanese stock workers had an ESOP and close to 50% of the labour force in firms with ESOP participated in the plan. James and Kata (1995) empirically estimated that firms enjoy a 4-5 percent increase in productivity by introducing an ESOP. The study has generated first rigorous econometric evidence for the positive role played by ESOP and the bonus system of the Japanese economy in the 1970's and 1980's. Moreover, the productivity pay off of ESOP's takes considerable time. This productivity payoff takes 3-4 years. Mehram (1999) in his longitudinal study based on a sample on 382 companies found that more than 60% of the companies recorded an increase in their stock prices in the two days following the announcement of the plan with positive abnormal returns of 1.6%. Blasi et al (2000) found that stock option companies have 17% greater productivity in a three year post plan period than would have been expected based on per plan performance relative to their industry. Their results have indicated that ESOP companies have sales growth 2.4% per year faster in the year following their ESOP adoption than would have been expected based on the match up against competitors in the pre-ESOP period. Joseph Blasi, Krure and Sesil (2002) compared the performance of corporations with and without employee's broad-based stock option plans. The study was based on 490 companies over 1992-97. The empirical study suggested that there is no systematic evidence publicity - traded corporations with broad-based stock option plus had worse performance than the larger group of publicly traded corporations that did not adopt the plans or industry group pairs regarding productivity total share holder return, return on assets. Rajesh Kumar B (2004) indicated that ESOP established in Indian firms has little effect on a firm's productivity and profitability based on accounting performance. The changes in productivity measure have shown deterioration following ESOP adoption. The study using a sample of 36 ESOP companies for two-time window. It concluded that the comparison group change in productivity is negative for the first time window of -1 to +1 year.

OBJECTIVES OF THE STUDY

The study is derived to achieve the below said objectives in order to provide empirical output in the field of productivity performance of ESOP Pharma industry in India.
To measure the post – productivity performance of ESOP Pharma industry in India.
To compare the productivity of individual ESOP Pharma unit with the Pharma industry.

HYPOTHESES OF THE STUDY

The following null hypotheses are designed to get the significant value after statistical testing of the data.

H_{01} :   The Post - Productivity performance does not significantly associate with core
          variables of ATO.

H_{02} :   ATO (Productivity measure) of individual Pharma unit does not significantly
          changed from the group average of Indian ESOP pharmaceutical sector.

RESEARCH DESIGN

The study is based to measure post – productivity performance of ESOP Pharma industry in India. The present research is opted ten (10) top pharma companies as sample size n = 10 those implemented ESOP for their employees to retain his/her talent and skills in the same company. The ten top pharma companies implemented ESOP on or after 1st April 2002 but before 31st March 2004 are included in small sample. The study took an assumption that ESOP improves the productivity performance in long period not in short period. Therefore the study is based on six (6) sessions secondary data published in annual report as well as displayed on individual website of each Pharma unit. The first session starts from 1st April, 2004 to 31st March, 2010. The list of ten top ESOP pharmaceuticals companies is given below.

Name of Company	Industry
Aurobindo Pharma Ltd	Pharma
Suven Life Sciences Ltd	Pharma
Unichem Laboratories Ltd	Pharma
Dabur India Ltd	Pharma
JB Chemicals & Pharmaceuticals Ltd	Pharma
Venus Remedies Ltd	Pharma
Cipla Ltd.	Pharma
RPG Life Sciences Ltd	Pharma
Ranbaxy Lab. Ltd.	Pharma
Dr.Reddy Lab. Ltd.	Pharma

RESEARCH VARIABLES AND TOOLS

The productivity performance can be measured through two ways in finance 1. Productivity based on strength of employee 2. Productivity based on sales volume. The easily availability of data of sale volume, the study would prefer to measure the productivity performance through sales performance under the period considered for the research i.e. six years. The study under consideration measures the productivity performance of each pharma unit with the financial tool known as Assets Turnover Ratio (ATO).

$$\text{Assets Turnover Ratio (ATO)} = \frac{\text{Net Sale}}{\text{------------------------}}$$

Total Assets

Where net sales is being calculated sales minus return inward for each sample unit and total assets is summation of fixed assets excluded investment only & current assets. The ATO is calculated for each pharma unit and same is tested with group average of industry to get empirical results by employed t – test and to know where or not the ATO of each unit is statistically significant from industry ATO. Moreover the study is also calculated Pearson coefficient of correlation between ATO and core variables (net sale & total assets). The t –test is also employed to find significant association between ATO and net sale as well as ATO and Total assets.

COMPARISON OF POST – PRODUCTIVITY PERFORMANCE OF ESOP PHAMA CORPORATE SECTOR

Table - 1
Post-Productivity (ATO) Comparison of ESOP Pharma Sector in India

Year	Productivity Index of ESOP Pharm Sector									
	Aurobindo	Suven	Uni. Chem.	Dabur	JB Pharma	Venus Ltd.	Cipla Ltd.	RPG Ltd.	Ranbaxy	Dr. Reddy
1 year	0.664	0.475	1.307	2.189	0.874	1.693	0.897	0.817	1.281	0.653
2 year	0.649	0.598	1.168	1.931	0.925	1.651	0.843	0.657	1.353	0.350
3 year	0.636	0.673	1.139	2.191	0.791	1.107	0.822	0.809	1.369	0.747
4 year	0.733	0.612	1.135	1.934	0.783	1.174	0.725	0.848	1.575	0.584
5 year	0.746	0.665	1.058	1.877	0.964	1.304	0.741	0.880	1.366	0.829
6 year	0.866	0.716	0.865	1.656	0.823	1.643	0.850	0.988	1.192	0.814
Avg.	0.716	0.62	1.112	1.963	0.860	1.429	0.813	0.833	1.356	0.663
t – test	-8.91	-11.81	1.37	11.24	-5.63	3.69	-7.95	-4.46	6.28	-5.00
μ (Industry Average) = 1.03										

NOT SIGNIFICANT AT ANY LEVEL OF RISK

Table – 1 shows the productivity index and their t-value of all pharma firms under consideration for the study. The industry average is 1.03 (overall average) which is test value being used for finding the significant value of ATO for all the ESOP pharma units. The t-value for Aurobindo, Suven, JB, Cipla, RPG and Dr. Reddy are – 8.91, -11.81, -5.63, -7.95, -4.46 and -5.00 respectively which lie on negative side (left) of the distribution. Thus Productivity index for Aurobindo, Suven, JB, Cipla, RPG and Dr. Reddy are not significantly changed from group average. On the other hand, t-value for Uni Chem, Dabur, Venus, Ranbaxy are 1.37, 11.24, 3.69 & 6.28 which are positive value and lie on positive side (right) of the distribution but not significant at any level of risk. Moreover the null hypothesis (H_{02}) is accepted as against alternate hypothesis that individual productivity index is changed from group average.

CORE VARIABLES AND POST-PRODUCTIVITY PERFORMANCE OF SAMPLE UNITS

The next section of the study would like to find either individual ATO of each sample unit is more associated with net sale or total assets of the firm.

Table – 2
Karl Pearson coefficient between core variables and ATO of Aurobindo Ltd.

(Rs. in millions)

Year	Net Sale (Rs.)	Total Assets (Rs.)	Productivity (ATO)
1 year	11591.7	17468.3	0.664
2 year	14722.0	22698.4	0.649
3 year	19797.2	31148.0	0.636
4 year	23511.2	32054.8	0.733
5 year	28064.4	37639.0	0.746
6 year	36513.3	42139.3	0.866
R	$R_{S \cdot P}$ = 0.915*	$R_{A \cdot P}$ = 0.796	-

* Correlation is significant at 5 percent level of significance

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE & MANAGEMENT   82

A Monthly Double-Blind Peer Reviewed Refereed Open Access International e-Journal - Included in the International Serial Directories

www.ijrcm.org.in

$R_{s.p}$ presents the coefficient of correlation between net sale and productivity whereas $R_{A.P}$ stands for association between total assets and productivity of Aurobindo Pharma Ltd. The negative correlation exists between net sale and productivity index of the firm. The coefficient of correlation between net sale and ATO is $R_{S.P} = 0.915^*$ which is significant value at 5 percentage level of risk whereas $R_{A.P} = 0.796$ is non-significant correlation exists between total assets and ATO of the firm. The alternate hypothesis is accepted as against the null hypothesis (H_{01}) for net sale in comparision of total assets of Aurobindo Pharma Ltd.

Table – 3
Pearson correlation index between core variables and ATO of Suv. Sci. Ltd.

(Rs. in millions)

Year	Net Sale (Rs.)	Total Assets (Rs.)	Productivity (ATO)
1 year	594.72	1251.89	0.475
2 year	821.92	1373.76	0.598
3 year	1130.63	1681.09	0.673
4 year	1199.81	1961.04	0.612
5 year	1408.32	2117.94	0.665
6 year	1623.45	2268.65	0.716
R	$R_{S.P} = 0.914^*$	$R_{A.P} = 0.824^*$	-

* Correlation is significant at 5 percent level of risk

High degree positive correlation $R_{S.P} = 0.914^*$ exists between net sale and ATO of the firm and is also significant at 5 percent level of risk. This means both net sale and ATO will increase simultaneously. The value of coefficient of correlation between total assets and ATO is high degree i.e. $R_{A.P} = 0.824^*$ and also significant at 5 percent level of risk. Thus net sale is more correlated with ATO in comparison of total assets of the Suven Life Science Ltd in post-adoption period. The H_{01} is rejected as against alternate hypothesis that the post-productivity performance of the firm is significantly correlated with core variables.

Table – 4
Pearson correlation index between core variables and ATO of Uni Pha. Ltd.

(Rs. in millions)

Year	Net Sale (Rs.)	Total Assets (Rs.)	Productivity (ATO)
1 year	4245.61	3247.18	1.307
2 year	4777.06	4090.56	1.168
3 year	5624.13	4935.71	1.139
4 year	6841.67	6028.66	1.135
5 year	7422.10	7018.20	1.058
6 year	6838.35	7908.43	0.865
R	$R_{S.P} = 0.914^*$	$R_{A.P} = 0.824^*$	-

* Correlation is significant at 5 percent level of risk

The coefficient of correlation between net sale and productivity is $R_{S.P} = 0.914^*$ which is high degree of positive correlation and also significant at 5 percent level of significance in post adoption period of ESOP. The coefficient of correlation between total assets and ATO is $R_{A.P} = 0.824^*$ which is also positively significant at 5 percent level of risk. The null hypothesis is rejected in favour of alternate hypothesis that post-productivity performance of Uni Chem Pharma ltd. significantly associated with core variables in post adoption period of ESOP.

Table – 5
Pearson correlation index between core variables and ATO of Dabur Ltd.

(Rs. in millions)

Year	Net Sale (Rs.)	Total Assets (Rs.)	Productivity (ATO)
1 year	4245.61	3247.18	1.307
2 year	4777.06	4090.56	1.168

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE & MANAGEMENT 83

A Monthly Double-Blind Peer Reviewed Refereed Open Access International e-Journal - Included in the International Serial Directories

www.ijrcm.org.in

3 year	5624.13	4935.71	1.139
4 year	6841.67	6028.66	1.135
5 year	7422.10	7018.20	1.058
6 year	6838.35	7908.43	0.865
R	$R_{S \cdot P}$ = - 0.737	$R_{A \cdot P}$ = -0.926**	-

** Correlation is significant at 0.01 levels of risk (two-tailed)

The coefficient of correlation between net sale and ATO of Dabur Ltd. is $R_{S \cdot P}$ = - 0.737 which is negative moderate degree correlation but not significant at any level of risk. The total assets of the firm is also negatively associated $R_{A \cdot P}$ = - .926** with ATO and highly significant in post-adoption period. The null hypothesis is rejected as against the alternate hypothesis that the productivity index significantly associated with total assets of the firm whereas the H_{01} is accepted for net sale.

Table - 6
Karl Pearson index between core variables and ATO of JB Pharma Ltd.

(Rs. in millions)

Year	Net Sale (Rs.)	Total Assets (Rs.)	Productivity (ATO)
1 year	3580.90	4094.92	0.874
2 year	4660.07	5039.34	0.925
3 year	5314.59	6722.13	0.791
4 year	5480.94	6998.32	0.783
5 year	7231.55	7500.79	0.964
6 year	7409.70	9002.45	0.823
R	$R_{S \cdot P}$ = 0.077	$R_{A \cdot P}$ = -0.263	-

Not significant at any level of risk

The coefficient of correlation between net sale and productivity is $R_{S \cdot P}$ = 0.077 which is positive low degree correlation and not significant at any level of risk. The total assets and ATO is negatively associated with each other $R_{A \cdot P}$ = -0.263   which is low degree negative correlation. The null hypothesis is accepted that ATO does not significantly associate with core variables of the firm.

Table – 7
Pearson coefficient between core variables and ATO of Venus Pharma Ltd.

(Rs. in millions)

Year	Net Sale (Rs.)	Total Assets (Rs.)	Productivity (ATO)
1 year	875.12	517.04	1.693
2 year	921.45	558.28	1.651
3 year	1447.53	1307.08	1.107
4 year	2154.35	1835.44	1.174
5 year	3145.02	2411.03	1.304
6 year	4236.12	2578.19	1.643
R	$R_{S \cdot P}$ = -0.035	$R_{A \cdot P}$ = -0.318	-

Not significant at any level of risk

The table – 7 shows the Pearson coefficient between net sale & ATO and total assets & ATO of Venus Pharma Ltd. The coefficient between net sale and ATO is $R_{S \cdot P}$ = -0.035 which is low degree negative correlation existed whereas low degree negative correlation $R_{A \cdot P}$ = -0.318 exists between total assets and productivity index. The null hypothesis is accepted as against alternate the productivity index is significantly associated with core variables of the pharma firm.

Table – 8
Pearson coefficient between core variables and ATO of Cipla Pharma Ltd.

(Rs. in millions)

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE & MANAGEMENT 84

A Monthly Double-Blind Peer Reviewed Refereed Open Access International e-Journal - Included in the International Serial Directories

www.ijrcm.org.in

Year	Net Sale (Rs.)	Total Assets (Rs.)	Productivity (ATO)
1 year	2327.63	2593.91	0.897
2 year	2897.41	3435.90	0.843
3 year	3533.17	4295.94	0.822
4 year	4088.56	5638.46	0.725
5 year	5021.64	6778.38	0.741
6 year	6548.45	7705.93	0.850
R	$R_{S \cdot P} = -0.322$	$R_{A.P} = -0.513$	-

Not Significant at any level of Risk

The moderate negative degree correlation $R_{S \cdot P}$ **= -0.322** existed between net sale and ATO of Cipla Pharma Ltd. The change in net sale and ATO was in opposite direction from 1 year to 6 year. On the other hand, the coefficient of correlation between total assets & ATO is $R_{A.P}$ **= -0.513** which is moderate negative degree. Thus null hypothesis is accepted that post-productivity performance does not associate with core variables of the Cilpa Pharma Ltd.

Table – 9
Karl correlation index between core variables and ATO of RPG Pharma Ltd.

(Rs. in millions)

Year	Net Sale (Rs.)	Total Assets (Rs.)	Productivity (ATO)
1 year	685.90	839.40	0.817
2 year	756.56	1150.83	0.657
3 year	985.20	1218.10	0.809
4 year	1236.20	1458.03	0.848
5 year	1469.00	1669.80	0.880
6 year	1639.90	1660.50	0.988
R	$R_{S \cdot P} = 0.830*$	$R_{A.P} = 0.635$	-

* Correlation is significant at 0.05 levels (two-tailed)
The correlation coefficient between net sale and ATO is $R_{S \cdot P}$ = 0.830* which is positive high degree correlation. The said coefficient is also significant at 5 percent level of risk. The moderate degree of correlation $R_{A.P}$ = 0.635 exists between total assets and productivity performance of RPG Life Science Ltd. The alternate hypothesis is accepted as against null hypothesis that ATO is significantly associated with net sale of the firm in comparison of total assets.

Table – 10
Pearson index between core variables and ATO of Ranbaxy Pharma Ltd.

(Rs. in millions)

Year	Net Sale (Rs.)	Total Assets (Rs.)	Productivity (ATO)
1 year	35366.50	27610.00	1.281
2 year	40587.10	29989.10	1.353
3 year	41844.90	30557.60	1.369
4 year	43083.50	27348.00	1.575
5 year	45211.80	33093.90	1.366
6 year	47258.56	39655.25	1.192
R	$R_{S \cdot P} = -0.036$	$R_{A.P} = -0.670$	-

Not significant at any level of risk

The correlation coefficient between net sale and ATO is $R_{S\cdot P}$ = -0.036 which is negative low degree correlation. On the other hand, the Pearson coefficient between total assets (A) and ATO (P) is $R_{A.P}$ = -0.670 which is negative moderate degree correlation but not significant t at any level of risk tested by t-test. The null hypothesis (H_{01}) is accepted in case Ranbaxy Pharma Ltd.

Table – 11

Pearson coefficient between core variables and ATO of Dr. Reddy Lab. Ltd.

(Rs. in millions)

Year	Net Sale (Rs.)	Total Assets (Rs.)	Productivity (ATO)
1 year	19126.18	29288.36	0.653
2 year	24077.20	68768.06	0.350
3 year	64185.37	85919.10	0.747
4 year	50006.00	85634.00	0.584
5 year	69441.00	83792.00	0.829
6 year	68832.50	84538.97	0.814
R	$R_{S\cdot P}$ = 0.771	$R_{A.P}$ = 0.267	-

The correlation coefficient between net sale and total assets is $R_{S\cdot P}$ = 0.771 which is positive moderate degree correlation but not significant at any level of risk. On the other hand, the correlation index between total assets and ATO is $R_{A.P}$ = 0.267 which is also positive moderate degree correlation. The null hypothesis (H_{01}) is also accepted in case Dr. Reddy Labs. Ltd.

CONCLUSION

Productivity index for ten top ESOP Pharma is not significantly changed from group average at any level of risk. Moreover the null hypothesis (H_{02}) is accepted as against alternate hypothesis that individual productivity index is changed from group average. High degree coefficient of correlation between net sale and ATO is $R_{S\cdot P}$ = 0.915* and $R_{A.P}$ = 0.824* which are also significant value at 5 percentage level of risk for Aurobindo Pharma Ltd and Suven Sci. Ltd. respectively. Thus the alternate hypothesis is accepted as against the null hypothesis (H_{01}) for net sale in comparison of total assets of Aurobindo Pharma Ltd. Ltd. and Suven Sci. Ltd. The coefficient of correlation between total assets and ATO is $R_{A.P}$ = 0.824* which is also positively significant at 5 percent level of risk for Uni Chem Pharma ltd. The null hypothesis is rejected in favour of alternate hypothesis that post-productivity performance of Uni Chem Pharma ltd. is significantly associated with core variables in post adoption period of ESOP. The null hypothesis is accepted for Dabur Pharma Ltd. as against the alternate hypothesis that the productivity index significantly associated with net sale of the firm whereas the alternate hypothesis is accepted for total assets. The null hypothesis is accepted that ATO does not significantly associate with core variables of the JB Pharma Ltd, Venus Pharma firm and Cilpa Pharma Ltd. High degree correlation coefficient between net sale and ATO is $R_{S\cdot P}$ = 0.830* for RPG Pharma Ltd. The alternate hypothesis is accepted as against null hypothesis that ATO is significantly associated with net sale of the firm in comparison of total assets. The null hypothesis (H_{01}) is accepted in case Ranbaxy Pharma Ltd. and Dr. Reddy Labs. Ltd those post-productivity performances of both the companies are not significantly associated with the core variables.

REFERENCES

Rajesh Kumar B, "*Effect of ESOP on Performance, Productivity and Risk*", IIMB Management Review, March 2004, PP 9-19.

Derek C. Jones and Takao Kato. "*Employee Stock Ownership Plans and Productivity in Japanese Manufacturing firms*", British Journal of Industrial Relations, vol. 31, 3 September 1993, PP 331-346.

Blasi, Joseph, Doughlas Kruse, James seril and Maya Kruonmova, "*Broad - based Stock Options and Company Performance: What the Research Tells us*". Journal of Employee Ownership Law and Finance, Vol 12 No 3.

PP.34-45.

Meharn, Cited in Rosen, "*A Guide to Doing Academic Research on Employee ownership*," 1999, PP, 1-54

Richard A. Defusco, Robert R. Johnson, Thomas S. Zorn, "*The Effect of Executive Stock Option Plans on Stock Holders and Bondholders*". The Journal of Finance, Vol XLV, No. 2, June 1990, PP 617-627.

Klein, "*Employee Stock Ownership and Employee Attitudes: A Test of Three Models*". Journal of Applied Psychology, 1987, Vol. 72 No. 2, pp. 319-332.

Lilli A. Gordon and John Pound. "*ESOPs and Corporate Control*". Journal of Financial Economics, Vol. 27, May 1990, PP. 525-555.

Matsunaga, Steven R., 1995, "*The Effects of Financial Reporting Costs on the Use of Employee Stock Options*". Accounting Review, 70, pp. 1-26.

Pamela Perum, "*Employee Stock Ownership Plans - A status report*" www.urbanorg.com, June 01, 2000.

Querrey and Rosen, "*How Well is Employee Ownership Working?*". The Wall Street Journal, March 30, 1988, pp. 28-35.

United States General Accounting Office, "*Employee Stock Ownership Plans: benefits and Costs of ESOP Tax Incentives for Broadening Stock Ownership*" .Washington, DC, December, 1986, pp.21-35.

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE & MANAGEMENT   86

A Monthly Double-Blind Peer Reviewed Refereed Open Access International e-Journal - Included in the International Serial Directories

www.ijrcm.org.in

REQUEST FOR FEEDBACK

Esteemed & Most Respected Reader,

At the very outset, International Journal of Research in Commerce and Management (IJRCM) appreciates your efforts in showing interest in our present issue under your kind perusal.

I would like to take this opportunity to request to your good self to supply your critical comments & suggestions about the material published in this issue as well as on the journal as a whole, on our E-mails i.e. **info@ijrcm.org.in** or **infoijrcm@gmail.com** for further improvements in the interest of research.

If your good-self have any queries please feel free to contact us on our E-mail **enquiryijrcm@gmail.com**.

Hoping an appropriate consideration.

With sincere regards

Thanking you profoundly

Academically yours

Sd/-

Co-ordinator

INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE & MANAGEMENT 87
A Monthly Double-Blind Peer Reviewed Refereed Open Access International e-Journal - Included in the International Serial Directories
www.ijrcm.org.in