Commerce

Research Paper



A Study Report On Productivity Trend Analysis Of Cadila Healthcare Ltd.

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ABSTRACT

Productivity is an important tool for the growth and development of any manufacturing unit. A pharmaceutical unit is a unique part of the healthcare industry. Gujarat is a strong pharmaceutical manufacturing hub having large number of small and medium manufacturing units. In Gujarat there are several established companies such as Torrent Pharma, Zydus Cadila, Alembic Pharma, and Sun Pharma etc... Healthcare sector is one of the largest sectors in terms of revenue and employment and the sector is expanding rapidly. Here the researcher has made an attempt to look in productivity trend of Cadila Healthcare Ltd. (Zydus Cadila) for the five year period from 2008-12.

Keywords: Productivity trend, Pharmaceuticals unit

Introduction

The word productivity means to compare what is out put from production and what is input for production. Productivity is a union of efficiency and effectiveness of a manufacturing unit. The productivity quotient can be obtained by dividing outputs, by one of the factor of production. This factor may be material, Labours and overheads while output can be the sales value. According to Peter Drucker productivity is the balance between all factors of production that will give the greatest output for the smallest effort. "Productivity is a measure of performance for the production activity and refers to the amount of output produced per unit of input."

Gujarat is a chemical port terminal of India having many established pharmaceutical manufacturing and with the capacity of three million metric tones .Ahmedabad, Baroda and Vapi are the favorite region for pharmaceuticals players. The growth of this industry is due to rise in pharmaceuticals outsourcing and consolidation of highly fragmented industry.

Objective of the study

The prime objective of the study is to understand the productivity trend of selected pharmaceutical unit. Moreover, Material Productivity, Labor Productivity, Overhead Productivity and Overall Productivity (Total Productivity) also studied.

Data collection

Here the sample of the study is Cadila Healthcare Ltd known as zydus Cadilla is an innovative global pharmaceutical units that discovers, develops manufactures and markets a broad range of healthcare products. This is located at Ahmedabad and founded in 1952.

The study is based on the secondary data taken from the published reports and financial statements of from 2008-12. moreover related journals and magazines and web sites are referred as and when required.

Hypothesis of the study

The null hypothesis for the study is "The Productivity Indices of the unit can be represented by the straight line trend based on the least square method"

Technique of analysis

The productivity Quotient (**P.Q**) of the selected unit will be calculated from the data taken from the various sources.

Productivity Quotient =

Outputs

Outputs include the financial value of all the kinds of productions of the units or say sales value. While Input considers as Material consumed, Labour (Employment cost), overheads (Other manufacturing exp, Admin and selling Exp) and total of all the resources are considered for calculating Material Productivity, Labour productivity, Overhead productivity and overall productivity.

According to the productivity Quotient the Productivity Index **(P.I)** can be calculated with the following formula.

P.I =<u>Current year's P.Q X</u> 100 Base year's P.Q

Here Base year is 2008 for the study period. Based on the P.I, Trend value of each year will be calculated by straight line method based on least square method.

Trend Value =a + bx

$\sum y = na + b \sum x and \sum xy = a \sum x + b \sum x^2$

Chi-square (λ^2) test is applied for testing the hypothesis. Productivity index is taken as Observed value (**O**) and Trend value as Expected value (**E**). The level of significant for study is 5% and degree of freedom is n-1.

The table value of $(\lambda^2 \text{ tab}) = 9.488$

Calculated value $(\lambda^2 \text{ cal}) = (O-E)^2$

If the calculated value is less then of table value the hypothesis of the study is accepted otherwise rejected

Interpretation and Analysis.

Material Productivity- from Table 1- the Material Productivity (M.P.Q) is the lowest 2.33 and the highest 2.72.Avrrage MPQ is 2.53 for the study period. The unit has maintained it in the year of 2008, 2009 and 2012.

The calculated value of chi-square test is 2.15 that is less than the table value. So it can be stated that Material Productivity index can be represented by the straight line trend based on the least square method.

Labor Productivity- from table-2-Labor Productivity (L.P.Q) is the Lowest 5.87 and the highest 9.26 in the base year while

averaging about 7.60 during the study period.

The calculated value of chi-square test is 3.13 that is less than the table value. So it can be stated that Labor Productivity index can be represented by the straight line trend based on the least square method.

Overhead Productivity- from table-3 Overhead Productivity (Oh.P.Q) is the lowest 2.32 and the highest 3.43 in the last year 2012 with the average of 2.82.

The calculated value of chi-square test is 7.51that is less than the table value. So it can be stated that Overhead Productivity index can be represented by the straight line trend based on the least square method.

Overall Productivity- from table-4- Total Productivity (T.P.Q) is the lowest 0.96 and the highest 1.24 in 2012 with the average 1.13.

The calculated value of chi-square test is 3.91 that is less than the table value. So it can be stated that Overhead Productivity index can be represented by the straight line trend based on the least square method.

Conclusion; from the entire table it can be concluded that the Output level is increasing with increased level of all the factors of production. But the productivity trend is fluctuating during the study period. The total productivity level is above the average level in first two year and in the last year during the study period.

Limitations

2012

Table-1-Material Productivity

- The study is based on secondary data; sometimes result based on it might not be reliable.
- The study is only for one unit so may not be applicable to the whole industry.
- Productivity might be calculated with other approaches also than here one.

M.P.Q (OP/IP) Output (Cr.Rs) Index Trend Input Year (Cr.Rs) (O) (E) 1681.80 650.60 2.58 100.00 98.52 2008 1743.40 649.10 2009 2.68 103.88 98.25 97.98 2010 1885.60 806.20 2.33 90.31 2011 2179.10 934.80 2.33 90.31 97.71 3152.20 1157.80 2.72 105.43

Table-2-Labor Productivity

Table-3-Overhead Productivity

Year	Output (Cr.Rs)	Input (Cr.Rs)	Oh.P.Q (OP/IP)	Index (O)	Trend (E)
2008	1681.80	573.30	2.93	100.00	92.48
2009	1743.40	628.30	2.77	94.53	94.36
2010	1885.60	708.90	2.65	90.44	96.24
2011	2179.10	941.10	2.32	79.18	98.12
2012	3152.20	918.00	3.43	117.06	100.00

Table-4-Total (Overall) Productivity

Year	Output (Cr.Rs)	Input (Cr.Rs)	T.P.Q (OP/IP)	Index (O)	Trend (E)
2008	1681.80	1405.40	1.20	100.00	97.34
2009	1743.40	1474.60	1.18	98.33	95.67
2010	1885.60	1782.00	1.06	88.33	94.00
2011	2179.10	2247.00	0.96	80.00	92.33
2012	3152.20	2530.80	1.24	103.33	90.60

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