

Analysis of Impact of Labour and Input Material on Productivity

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ABSTRACT

The ability of an industry to effectively manage input resources such as labour, capital, energy and raw materials is on itself an input to productivity growth. This is observed to vary from one industry to another. A productivity study was undertaken, using Neimeth International Pharmaceutical Plc as a case study. The impact of material and labour inputs on the productivity growth of the industry was examined, using the American Productivity Centre (APC) model which compares data of a period (called base period) with current data. The analysis gave birth to profitability, price recovery, and productivity indices. These indices were used to examine the productivity level of the industry within a given period; the profit level, and the level at which the industry recovers from production cost (price recovery). Productivity level increases as the profitability level of the industry increases. The price recovery rate was found to be stable within the study period, giving an indication that the industry's cost of production was not totally passed on to the consumers. The industry was thus, found to make profit due improvement in productivity level. It is also an indication that the industry can survive in a competitive environment.

Keywords: *Industry, Productivity, Analysis, Labour, Capital, Price Recovery.*

1. INTRODUCTION

Over the last three decades, industries in Nigeria have been reported to witness decrease in annual growth rate in production, capacity utilization and share of manufacturing in Gross Domestic Production (GDP), (Anyanwu, 1998).. The down-turn of the global oil market from early 1980's and the share decline in foreign exchange earnings had affected economic growth and development in the country. Other economic problems included excessive dependence on importation of consumer and capital goods, dysfunctional social and economic infrastructure, unprecedented fall in capacity utilization rate in the local industries and negligence on the agricultural sector. These affected the economy of the country and resulted in struggle over income and devalued standards of living of her citizens. To bring the country back on track would require rebuilding deteriorated infrastructure and effective increase in GDP of the local industries. The path to economic recovery would therefore require efficient utilization of input – labour, materials, capital and technology among other productivity enhancement schemes. Productivity level in most Nigerian industries is still low giving their share indexes, making it impossible for them to reap many gains in the large market. Their productivity levels fluctuate from one period to the other, thereby making stable growth difficult (Beyene, 2002). This makes it difficult for locally produced goods to compete favourably with imported ones. This problem led to the closure of over 50 manufacturing industries in Nigeria, especially the textile industries (National Productivity Centre, Abuja).

The least controversial definition of productivity is that it is a quantitative relationship between output and input. Output is what is produced-intangible if it is a service. In general, inputs can be classified into capital, labour and material. A composite measure of average productivity can be obtained simply by dividing output by the sum of all inputs. As an overall productivity index, composite measure of productivity can be used in assessing the performance of the national economy and profitability of all sectors in the economy (Johanna, 2005). Productivity is the ratio of some measure of output to some index of input use. Put differently, productivity is nothing more than the arithmetic ratio between the amount produced and the amount of any resources used in the course of production (JRank, 2007). This conception of productivity goes to imply that it can indeed be perceived as the output per unit input or the efficiency with which resources are utilized (Diewert et al, 2002).

2. METHODOLOGY

In order to analyse the productivity level in the selected industry, scientific process of data collection was adopted.. The tools used in the investigation were questionnaires, visiting websites and direct interviews with relevant staffs of the industry. Using American Productivity Centre (APC) model, productivity input and output, as well as their impacts on profit were examined. Results obtained were used to determine the level of productivity and its impact on profit.

The data was analysed with the following perspectives in mind;

- i. The production component, such as input cost of the industry was evaluated with a view to ascertaining productivity, given the input variables of material and labour.
- ii. Comparison on input and the output products with a view to ascertaining the level of productivity and its effects on profitability and price recovery.

The APC model is used to compare data from one period, called base period, with current data. The following parameters were used (Elizabeth, 1989).

- (a) Value = Quantity x Price
- (b) Profitability = Revenue/ Cost = (Output Quantities/Input Quantities) x Sales Prices / Unit Cost
Profitability = Productivity x Price recovery
- (c) Total Productivity = Output / Labour + Materials + Capital + Energy
i.e. the total output divided by the sum of all inputs.
- (d) The partial productivity measures are deduced by dividing total output by single input.
Partial Productivity = Output / Labour = Output / Capital = Output/ Materials; or = Output / Energy

Once the basic data are presented in tabular form, two sets of calculations are needed to derive the performance indexes. In the first calculation, each number is divided by its counterpart in period 1. The results, called change ratios, represent the relative change in value, quantity and price of each output and input from one period to the next. In the second calculation, the change ratio of each input is divided by the corresponding change ratio for total output. The resulting performance ratios provide indexes of profitability, productivity, and price recovery for the industry.

3. DATA ANALYSIS

The material and labour input data for the production of Felden capsules, Paracetamol syrup and Combantrin pharmaceutical drugs, its quantity output and selling price are listed in Table 3.1a (see Appendix) for the months of January and February. The material input value, labour input value and output value were tabulated using the formula; Value = Quantity x Price.

From Table 3.1a, two sets of calculations were carried out in order to derive the performance indexes. In the first calculation, each number in the month of February is divided by its counterpart in the month of January. The result, called change ratios (Table 3.1b), represents the relative change in value, quantity and price of each output

and input from the month of January to February. In the second calculation, the change ratio for the total output is divided by the corresponding change ratio of each input. The resulting performance ratios provide indexes of profitability, productivity and price recovery shown in Table 3.1c (Appendix) for the month of February. It shows that the productivity performance indexes relate the change in the quantity of total output to the change in quantity of each input. The performance indexes on the total material and labour input lines provide measures of total productivity, total price recovery and profitability. With this, Neimeth Pharmaceutical company can objectively determine if it is making profit by passing its cost of production to consumers or as a result of improvement in productivity.

Additional analytical data are derivable from Table 3.1c by calculating the monetary impact on profits of each of the changes indicated by the performance indexes. This is accomplished in the profitability and the productivity columns by subtracting each input change ratio from the total output change ratio and multiplying the resulting number by the corresponding input value in the month of January. For the price recovery column, the effect on profit is got by subtracting the productivity effect from the profitability effect. Price per quantity and the value associated with the input material, labour and its output for the months of March and April are shown in Table 3.1d. The input values of labour and material for the months of March and April are reported as subtotals in the table without reflecting the cost price which is same within the period. The change ratios between the months of January (base period) and March are shown in Table 3.1e (Appendix). In this second calculation, the change ratio for total output is divided by the corresponding change ratio of each input. The resulting performance ratios provide indexes of profitability, productivity and price recovery as shown in Table 3.1f for the month of March. It also shows that the productivity performance indexes relate the change in the quantity of total output to the change in quantity of each input. The performance indexes on the total material and labour input lines provide measures of total productivity, total price recovery and profitability. Thus, in this third month, NIP can objectively determine if it is making profit by passing its cost of production to the consumers or as a result of improvement on productivity. The change ratios between the months of January (base period) and April are tabulated in Table 3.1g. The resultant performance ratios provide indexes of profitability, productivity and price recovery shown in Table 3.1h for the month of April. Thus, the productivity performance indexes relate the change in the quantity of total output to the change in quantity of each input. The performance indexes on the total material and labour input lines provide measures of total productivity, total price recovery and profitability.

Additional analytical data are derived from Table 3.1h by calculating the monetary impact on profits of each of the

changes indicated by the performance indexes. This is accomplished in the profitability and the productivity columns by subtracting each input change ratio from the total output change ratio and multiplying the resulting number by the corresponding input value in the month of January. For the price recovery column, the effect on profit is got by subtracting the productivity effect from the profitability effect. Price per quantity and the value associated with the input material, labour and its output for the month of March and April are shown in Table 3.1i. Also the change ratios between the months of January (base period) and May are shown in Table 3.1j.

Another calculation is done on the change ratios by dividing the total output with the corresponding change ratio of each input. The resulting performance ratios provide indexes of profitability, productivity and price recovery shown in Table 3.1k for the month of May. It also shows that the productivity performance indexes relate the change in the quantity of total output to the change in quantity of each input. The performance indexes on the total material and labour input lines provide measures of total productivity, total price recovery and profitability. In this month, Neimeth pharmaceutical company can thus, objectively determine

if it is making profit by passing its cost of production on to consumers or as a result of improvement on productivity.

The change ratios between the months of January (base period) and June are shown in Table 3.1l. Another calculation is done on the change ratios by dividing the total output with the corresponding change ratio of each input. The resulting performance ratios again provide indexes of profitability, productivity and price recovery as shown in Table 3.1m for the month of June. It also shows that the productivity performance indexes relate the change in the quantity of total output to the change in quantity of each input. The performance indexes on the total material and labour input lines provide measures of total productivity, total price recovery and profitability.

4. RESULTS AND DISCUSSIONS

The data analysis of the industry as summarized in Tables 4.1, 4.2 and 4.3 show the performance indices of profitability, productivity and price recovery. In analyzing the data, a graph of performance indices of profitability,

Table 4.1 Performance Indices of Profitability

		PERFORMANCE INDICES OF PROFITABILITY					
		JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE
Neimeth Plc: M	L	1.00	1.0013	1.0073	1.005	1.0020	1.0025
	L	1.00	1.0013	1.0073	1.005	1.0020	1.0025

Table 4.2 Performance Indices of Productivity

		PERFORMANCE INDICES OF PRODUCTIVITY					
		JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE
Neimeth Plc: M	L	1.00	1.0015	1.0054	1.0041	1.0015	1.0018
	L	1.00	1.0015	1.0054	1.0041	1.0015	1.0018

Table 4.3 Performance Indices of Price Recovery

		PRICE RECOVERY					
		JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE
Neimeth Plc: M	L	1	1	1	1	1	1
L	L	1	1	1	1	1	1

productivity and price recovery are plotted against time. It should be noted that the change ratio of the first month, January to itself is 1.00 of performance ratio and indices of profitability, productivity and price recovery. Thus, if

the price recovery line is on or below 1.00 performance index, it is an indication that the cost of production is moderately or not passed to the consumers, but is cushioned by productivity.

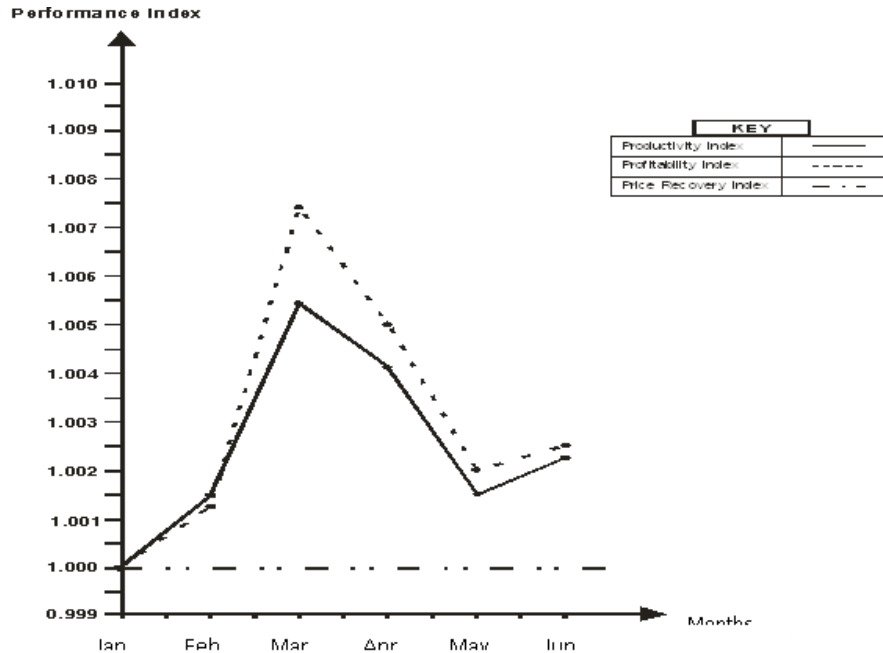


Fig. 4.1 Productivity, Profitability and Price Recovery Index of Neimeth (Material Input)

Neimeth material productivity and profitability growth (Fig.4.1) shows that decrease of productivity affects profitability growth. It could be observed that price recovery was constant throughout the period of the study.

This indicates that the company's profit was as a result of effective utilization of input materials (productivity) and not as a result of passing cost of production on to the consumers (price recovery).

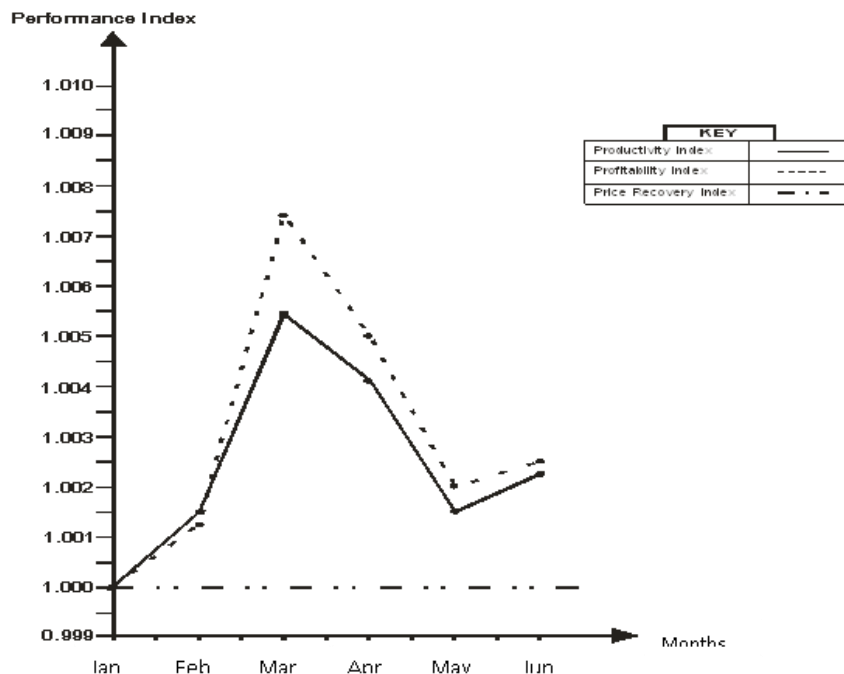


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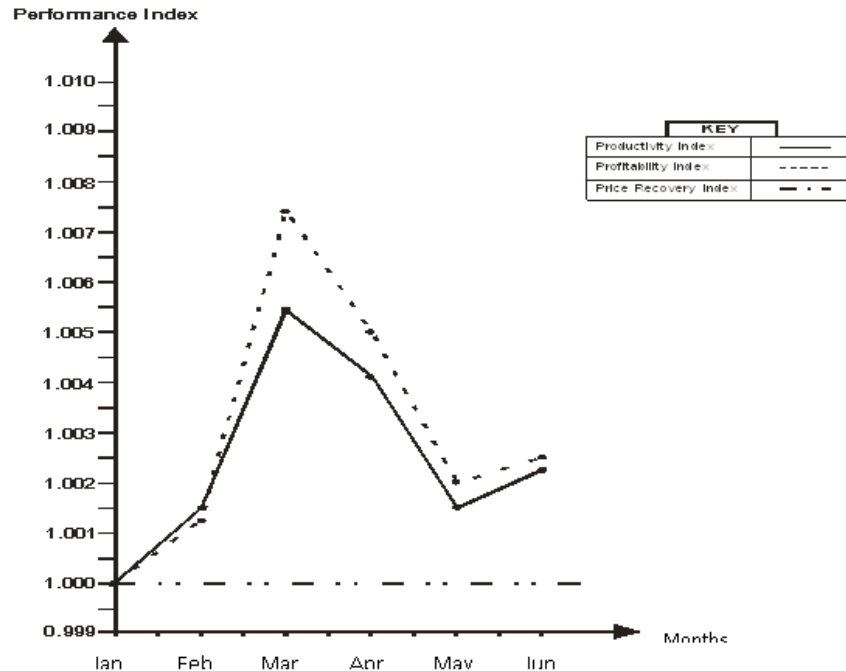


Fig. 4.2 Productivity, Profitability and Price Recovery Index of Neimeth plc (Labour Input).

Neimeth’s graph on labour productivity and profitability growth (Fig 4.2) shows that increase or decrease in productivity affects profitability growth. It could be observed that price recovery line was constant throughout the whole months. This indicates that the company’s profit was as a result of effective utilization of input labour (productivity) and not as a result of passing cost of production to the consumers (price recovery).

5. CONCLUSION

It can be observed from the performance index graph that high productivity increases gives rise to high profitability. Effective utilization of labour and input materials increases profitability growth. Passing cost of production (price recovery) to consumers more than necessary could increase profitability but however, in a competitive environment the industry will not survive in the long run. This is evidence that could not be overruled; that productivity has a great impact on the profitability of the industry.

6. RECOMMENDATION

It is recommended that the industry should boost its labour and materials productivity through effective utilization of materials and labour input, and not by raising the price recovery more than it ought to be, as well as monitor productivity growth in order to take proactive measures in time as to increase company’s profitability.

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APPENDIX

Table 3.1a Basic Data Performance Measurement System for NIP, Plc.

	JANUARY			FEBRUARY		
	VALUE	QUANTITY	PRICE	VALUE	QUANTITY	PRICE
OUTPUT						
Combantrin tablet	30000000	150000	200	30040000	150200	200
4x/month	120000000	600000	200	120160000	600800	200
Feldene capsules	3200000	4000	800	3200000	4000	800
Paracetamol syrup	2320000	40000	58	2325800	40100	58
2x/month	4640000	80000	58	4651600	80200	58
Total output	127840000	684000		128011600	685000	
INPUT						
Material						
For combatrin tablet						
Active bulk (p.embonate)	1647151			1647151.17		
Alginic acid	590851.80			590851.80		5004.00
Mag stearate	5920.88	329.167	5004.00	5920.88		9240.00
maize starch	2863.03	63.945	9240.00	2863.03		720.17
sodium lampl sulphate	7341.55	8.2215	720.17	7341.55	329.1669	145.00
maize starch (paste)	6895.25	19.745	145.00	6895.25	63.945	2678.91
colour	10.00	2.7401	2678.91	10.00	8.2215	276.64
foil (front)	301096.19	24.925	276.64	301096.19	19.745	5.20
foil (back)	319131.90	2.00	5.20	319131.90	2.7405	2504.96
outer cartons	21248.64	120.2	2504.96	21248.64	24.925	2504.96
folders	6695	127.4	2504.96	6695	2.00	3.472
sub total	2909205.40	6120	3.472	2909205.4	120.2	0.13
sub total 4x/month	11636821.6	51500	0.13	11636821.6	127.4	11636821.6
for feldene capsule		58318.34	11636821.6		6120	
piroxicam (active ingredient)	4500	233273.38		4500	515000	
algnic acid	9240			9240	58318.34	
corn starch	276.64			276.64	233273.38	1108.37
magnesium steariate	720.19	4.06	1108.37	720.19		4574.26
sodium laungl sulphate	2678.99	2.02	4574.26	2678.99	4.06	14.45
empty gelatin capsule	3500.00	19.15	14.45	3500.00	2.02	660.73
foil	750.00	1.09	660.73	750.00	19.15	5368.72
PVC	1600.00	0.499	5368.72	1600.00	1.09	0.02
Cartons	25.00	209009	0.02	25.00	0.499	108.70
Sub total	23290.82	6.9	108.70	23290.82	209009	12.03
For paracetamol syrup		133.05	12.03		6.9	6.07x10 ⁻³
Acetamophen powder	850.00	4120	6.07x10 ⁻³	850.00	133.05	
Sodium cmc	9000.00	213295.77		9000.00	4120	
Banana flavor	1200.00			1200.00	213295.77	14.63
Cherry flavour	750.00			750.00		1184.21
Sucrose	2300.00	58.09		2300.00	58.09	1142.85
60ml bottle	25.00	0.76	14.63	25.00	0.76	1500.00
Labels	5.00	1.05	1184.21	5.00	1.05	1.89
Cartons	10.00	0.5	1142.85	10.00	0.5	6.07x10 ⁻⁴
Leaflets	4.00	1215	1500.00	4.00	1215	1.21x10 ⁻⁴
Sub total	6044	41200	1.89	6044	41200	2.43x10 ⁻⁴
Sub total 2x/month	12088	41200	6.07x10 ⁻⁴	12088	41200	9.71x10 ⁻⁵
Labour		41200	1.21x10 ⁻⁴		41200	3843.58
Unskill	315000	41200	2.43x10 ⁻⁴	315000	41200	7687.162
Skill	4050000	66075.4	9.71x10 ⁻⁵	4050000	66 075.4	
Sub total	4365000	332150.8	3843.58	4365000	332150.8	
			7687.162			13125
					24	90000

		24 45 69	13125 90000 103125		45 69	103125
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NB: input is the same throughout the whole month.

Table 3.1b Change Ratios for the Month of February

	V ₂ /V ₁	Q ₂ /Q ₁	P ₂ /P ₁
OUTPUT			
Combantrin tablet	1.0013	1.0013	1
4x/month	1.0013	1.0013	1
Feldene caspsules	1	1	1
Paracetamol syrup	1.0025	1.0025	1
2x/month	1.0025	1.0025	1
Total output	1.0013	1.00146	1
INPUT			
Material			
For combatrin tablet			
Active bulk (p.embonate)	1	1	1
Alginic acid	1	1	1
Mag stearate	1	1	1
maize starch	1	1	1
sodium lampl sulphate	1	1	1
maize starch (paste)	1	1	1
colour	1	1	1
foil (front)	1	1	1
foil (back)	1	1	1
outer cartons	1	1	1
folders	1	1	1
sub total	1	1	1
sub total 4x/month	1	1	1
for feldene capsule			
piroxicam (active ingredient)	1	1	1
algnic acid	1	1	1
corn starch	1	1	1
magnesium steariate	1	1	1
sodium laungl sulphate	1	1	1
empty gelatin capsule	1	1	1
foil	1	1	1
PVC	1	1	1
Cartons	1	1	1
Sub total	1	1	1
For paracetamol syrup			
Acetamophen powder	1	1	1
Sodium cmc	1	1	1
Banana flavor	1	1	1
Cherry flavour	1	1	1
Sucrose	1	1	1
60ml bottle	1	1	1
Labels	1	1	1
Cartons	1	1	1
Leaflets	1	1	1

Sub total	1	1	1
Sub total 2x/month	1	1	1
Labour			
Unskill	1	1	1
Skill	1	1	1
Sub total	1	1	1

Table 3.1c Performance Index and Effect on Profits for Month of February

	PERFORMANCE INDEX			EFFECT ON PROFITS		
	PROFIT ABILITY	PRODUC TIVITY	PRICE RECOVERY	PROFIT ABILITY	PRODUC TIVITY	PRICE RECOVERY
OUTPUT						
Combantrin						
Felden						
paracetamol						
total output						
INPUT						
Material						
For combatrin tablet						
Active bulk (p.embonate)	1.0013			2141.30		
Alginic acid	1.0013			768.12		
Mag stearate	1.0013	1.00146	1	7.70	2470.73	(329.43)
maize starch	1.0013	1.00146	1	3.72	886.28	(118.16)
sodium lampl sulphate	1.0013	1.00146	1	9.54	8.88	(1.18)
maize starch (paste)	1.0013	1.00146	1	8.96	4.30	(0.58)
colour	1.0013	1.00146	1	0.013	11.01	(1.47)
foil (front)	1.0013	1.00146	1	391.43	10.34	(1.38)
foil (back)	1.0013	1.00146	1	414.87	0.015	(2x10 ⁻³)
outer cartons	1.0013	1.00146	1	27.62	451.64	(60.21)
folders	1.0013	1.00146	1	8.70	478.70	(63.83)
sub total	1.0013	1.00146	1	3781.97	31.87	(4.25)
sub total 4x/month	1.0013	1.00146	1	15127.87	10.04	(1.34)
for feldene capsule		1.00146	1		4363.81	(581.84)
piroxicam (active ingredient)	1.0013	1.00146	1	5.85	16990	(1862)
algnic acid	1.0013			12.012		
corn starch	1.0013	1.00146	1	0.36	6.75	(0.9)
magnesium steariate	1.0013	1.00146	1	0.94	13.86	(1.85)
sodium laungl sulphate	1.0013	1.00146	1	3.483	0.42	(0.06)
empty gelatin capsule	1.0013	1.00146	1	4.55	1.08	(0.14)
foil	1.0013	1.00146	1	0.975	4.02	(0.54)
PVC	1.0013	1.00146	1	2.08	5.25	(0.7)
Cartons	1.0013	1.00146	1	0.033	1.125	(0.15)
Sub total	1.0013	1.00146	1	30.278	2.4	(0.32)
For paracetamol syrup		1.00146	1		0.0375	(4.5x10 ⁻³)
Acetamophen powder	1.0013	1.00146	1	1.105	34.936	(4.658)
Sodium cmc	1.0013			1.17		
Banana flavor	1.0013	1.00146	1	1.56	1.275	(0.17)
Cherry flavour	1.0013	1.00146	1	0.975	1.35	(0.18)
Sucrose	1.0013	1.00146	1	2.99	1.8	(0.24)
60ml bottle	1.0013	1.00146	1	0.0325	1.125	(0.15)
Labels	1.0013	1.00146	1	6.5x10 ⁻³	3.45	(0.46)
Cartons	1.0013	1.00146	1	0.013	0.0375	(5x10 ⁻³)
Leaflets	1.0013	1.00146	1	5.2x10 ⁻³	7.5x10 ⁻³	(1x110 ⁻³)
Sub total	1.0013	1.00146	1	7.8572	0.015	(2x10 ⁻³)
Sub total 2x/month	1.0013	1.00146	1	15.7144	6x10 ⁻³	(8x10 ⁻⁴)

Labour		1.00146	1		9.066	(1.209)
Unskill	1.0013	1.00146	1	409.5	18.132	(2.418)
Skill	1.0013			526.5		
Sub total	1.0013	1.00146	1	5674.5	472.5	(63)
		1.00146	1		6075	(5548.5)
		1.00146	1		6373	(698.5)

Table 3.1d Basic Data Performance Measurement System

	MARCH			APRIL		
	VALUE	QUANTITY	PRICE	VALUE	QUANTITY	PRICE
OUTPUT						
Combantrin	30140000	150700	200 200	30090000	150450	200
4x/month	120560000	602800	800	120360000	600725	200
Felden	3548000	4435	58	3440000	4300	800
Paracetamol	2333050	40225	58	2340184	40348	58
2x/month	4666100	80450		4680368	80696	58
total output	128774100	687685		128480368	686796	
INPUT						
Material						
For combatrin tablet						
sub total 4x/month	11636821.6	233273.3756		11636821.6	233273.3756	
for feldene capsule						
Sub total	23290.82	213295.769		23290.82	213295.769	
For paracetamol syrup						
Sub total 2x/month	12088	332150.8		12088	332150.8	
Labour						
Sub total	4365000	69		4365000	69	
			103125			103125

Table 3.1e Change Ratios for the Month of March

	V ₃ /V ₁	Q ₃ /Q ₁	P ₃ /P ₁
OUTPUT			
Combantrin tablet			
4x/month	1.0047	1.0047	1
Feldene caspsules	1.10875	1.1088	1
Paracetamol syrup			
2x/month	1.0056	1.0056	1
Total output	1.0073	1.0054	1
INPUT			
Material			
For combatrin tablet			
sub total 4x/month	1	1	1
for feldene capsule			
Sub total	1	1	1
For paracetamol syrup			
Sub total 2x/month	1	1	1
Labour			
Unskill	1	1	1
Skill	1	1	1
Sub total	1	1	1

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Table 3.1f Performance Index and Effect on Profits for the Month of March

	PERFORMANCE INDEX			EFFECT ON PROFITS		
	PROFIT ABILITY	PRODUC TIVITY	PRICE RECOVERY	PROFIT ABILITY	PRODUC TIVITY	PRICE RECOVERY
OUTPUT						
Combantrin Felden paracetamol total output						
INPUT						
Material						
For combatrin tablet sub total 4x/month	1.0073		1	84949	62839	22110
for feldene capsule Sub total	1.0073	1.0054	1	170	126	44
For paracetamol syrup Sub total 2x/month	1.0073	1.0054	1	88	65	23
Labour Sub total	1.0073	1.0054	1	31865	23571	8294
		1.0054	1			

Table 3.1g Change Ratios for the Month of April

	V ₄ /V ₁	Q ₄ /Q ₁	P ₄ /P ₁
OUTPUT			
Combantrin tablet 4x/month	1.0017	0.9983	1
Feldene caspsules	1.075	0.9696	1
Paracetamol syrup 2x/month	1.0087	1.0087	1
Total output	1.0050	1.0041	1
INPUT			
Material			
For combatrin tablet sub total 4x/month	1	1	1
for feldene capsule Sub total	1	1	1
For paracetamol syrup Sub total 2x/month	1	1	1
Labour:			

Unskill	1	1	1
Skill	1	1	1
Sub total	1	1	1

Table 3.1h Performance Index and Effect on Profits for the month of April

	PERFORMANCE INDEX			EFFECT ON PROFITS		
	PROFIT ABILITY	PRODUC TIVITY	PRICE RECOVERY	PROFIT ABILITY	PRODUC TIVITY	PRICE RECOVERY
OUTPUT						
Combantrin						
Felden						
paracetamol						
total output						
INPUT						
Material						
For combatrin tablet						
sub total 4x/month	1.005			58184		
for feldene capsule			1		47711	10473
Sub total	1.005	1.0041		117		
For paracetamol syrup			1		96	21
Sub total 2x/month	1.005	1.0041		60		
Labour			1		50	10
Sub total	1.005	1.0041		21825	17897	3928
		1.0041	1			

Table 3.1i Basic Data Performance Measurement System

	MAY			JUNE		
	VALUE	QUANTITY	PRICE	VALUE	QUANTITY	PRICE
OUTPUT						
Combantrin	123428200	617141	200	120145000	600725	200
Felden	3336000	4170	800	3360000	4200	800
paracetamol	4663896	80412	58	4655950	80275	58
total output	128092096	685043		128160950	685200	
INPUT						
Material						
For combatrin tablet						
sub total 4x/month	11636821.6			11636821.6		
for feldene capsule						
Sub total	23290.82	233273.38		23290.82	233273.38	
For paracetamol syrup						
Sub total 2x/month	12088	213295.77		12088	213295.77	
Labour						
Sub total	4365000	332150.8		4365000	332150.8	
		69			69	

			103125			103125
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Table 3.1j Change Ratios for the Month of May

	V ₅ /V ₁	Q ₅ /Q ₁	P ₅ /P ₁
OUTPUT			
Total output	1.0020	1.0015	1
INPUT			
Material			
For combatrin tablet sub total 4x/month	1	1	1
for feldene capsule Sub total	1	1	1
For paracetamol syrup Sub total 2x/month	1	1	1
Labour			
Unskill	1	1	1
Skill	1	1	1
Sub total	1	1	1

Table 3.1k Performance Index and Effect on Profits for the Month of May

	PERFORMANCE INDEX			EFFECT ON PROFITS		
	PROFIT ABILITY	PRODUC TIVITY	PRICE RECOVERY	PROFIT ABILITY	PRODUC TIVITY	PRICE RECOVERY
OUTPUT						
Combantrin Felden paracetamol total output						
INPUT						
Material						
For combatrin tablet sub total 4x/month	1.0020			23274		
for feldene capsule Sub total	1.0020	1.0015	1	47	17455	5819
For paracetamol syrup Sub total 2x/month	1.0020	1.0015	1	24	35	12
Grand total	1.002			23344		
Labour						
Sub total	1.0020	1.0015	1	8730	1168	22176
		1.0015				
			1		0.1035	8729.9
		1.0015				

Table 3.11 Change Ratios for the Month of June

	V_6/V_1	Q_6/Q_1	P_6/P_1
OUTPUT			
Total output	1.0025	1.0018	1
INPUT			
Material			
For combatrin tablet sub total 4x/month	1	1	1
for feldene capsule Sub total	1	1	1
For paracetamol syrup Sub total 2x/month	1	1	1
Labour			
Unskill	1	1	1
Skill	1	1	1
Sub total	1	1	1

Table 3.1m Performance Index and Effect on Profits for the Month of June

	PERFORMANCE INDEX			EFFECT ON PROFITS		
	PROFIT ABILITY	PRODUC TIVITY	PRICE RECOVERY	PROFIT ABILITY	PRODUC TIVITY	PRICE RECOVERY
OUTPUT						
Combantrin Felden paracetamol total output						
INPUT						
Material						
For combatrin tablet sub total 4x/month	1.0025			29092		
for feldene capsule Sub total	1.0025	1.0018	1	58	420	28672
For paracetamol syrup Sub total 2x/month	1.0025	1.0018	1	30	384	(326)
total	1.0025			2918		
Labour		1.0018	1		598	(568)
Sub total	1.0025	1.0018	1	10913	1402	27779
		1.0018	1		0.1242	10912.9