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A STUDY ON ACTIVITY BASED COSTING IN ELGI ELECTRIC AND INDUSTRIES LTD

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Abstract

The title is "A Study on Activity Based Costing in ELGI Electric and Industries Ltd". This helped the researcher to learn about the Activity Based Costing and its benefits to the organization. The study aims to the benefits of ABC implementation in Motor division of the company. This studies the reduction in the cost because of implementing ABC and found out the area where deviations found.

Keywords: *Costing, ABC implementation*

I. Introduction

This deals with the study of Activity Based Costing in ELGI Electric and Industries Ltd. to know how Activity Based Costing helps in cost reduction and thereby increase the products' margin. The researcher has found out the cost deviation because of Activity Based Costing.The organization spends ample amount of time, money, and effort to transform from traditional costing to Activity Based Costing. The key concept underlying Activity Based Costing is that resources are consumed by activities and product/service causes activity.

ABC gives more information about the costs involved in manufacturing a product and thereby helps in pricing and other decisions. Hence this was undertaken to study the ABC and to find out the deviations which will help in pricing decision.

Objective

- The aims at studying the actual cost of the products and finding out the deviations from the budgeted.

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- To estimate the actual profitability of each product and suggesting new price.

II. Research Methodology

Statement of the problem

Cost reduction and profitability are the major objectives of organizations. In order to achieve these, ABC can be implemented in organizations. The actual product costs are differing from the budgeted costs. The study was done to identify the deviations. The primary need for the study is to find out the deviations and to determine the selling price of the products.

This study is mainly concerned with the analysis of the present product cost sheet and is aimed at finding out the deviations in the cost sheet.

III. Method of data collection

All data for this is collected from Company's Costing and Finance departments

The researcher collected secondary data from organization records, websites, and journals. The data used are secondary data only.

1. Cost Pool 1

Salesmen/ Agent Commission

2. Cost Driver 1

Number of unit sold

3. Cost Pool 2

Conveyance/ Traveling expenses

4. **Cost Driver 2**

Number of units sold

5. Overhead Allocation Rate calculation

$$\text{Commission per unit} = \frac{\text{Total Commission}}{\text{Number of unit sold}}$$

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$$\text{Traveling expenses per unit} = \frac{\text{Total expenses}}{\text{Number of unit sold}}$$

By using the above rate calculation method, the company has prepared cost sheets for eight products in their Motor division under ABC method. The researcher has taken the cost sheets and compared the actual costs with that of the budgeted costs, which is taken from budgeted Profit & Loss a/c. this is done to found out the cost deviations.

6. Calculation of Budgeted cost per unit

The main objective of this study is to find out the deviations in the costs and to find out the deviations, the budgeted cost per unit should be known. The researcher used the budgeted financial statements to know the budgeted cost per unit for each of these eight products.

The budgeted cost per unit can be calculated by using the following formula

$$\text{Budgeted cost per unit} = \frac{\text{Budgeted cost per annum}}{\text{Projected demand per annum}}$$

The budgeted cost than compared with the cost sheet figures and deviations is found. The company asked the researcher to consider only the major five cost pools

The calculation of budgeted cost per unit for the major five cost pools are as follows:

Material Purchasing and Handling cost						
Name of the products	**Projected Demand(annual)**	**Budgeted monthly (unit)**	**Actual production per month**	**Budgeted costper annum**	**Budgeted cost(per month)**	**Budgeted cost per unit**
150W JACOBI	2880	240	235	3018240	251520	1048
3KW JACOBI	504	42	40	1519560	126630	3015
EC100L3.7KW 2P	240	20	20	788880	65740	3287
40W JACOBI	1008	84	82	942480	78540	935

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1.8KW, LMW	48	4	4	208992	17416	4354
ITW I Phase	3960	330	331	10913760	909480	2756
FMD112-L-ELGI	12	1	1	69180	5765	5765
ES71L0.37KW	96	8	7	210624	17552	2194
Total	8748			17671716	1472643	

	Depreciation and Maintenance Cost						
	Name of the products	**Projected Demand(annual)**	**Budgeted monthly (unit)**	**Actual production per month**	**Budgeted costper annum**	**Budgeted cost(per month)**	**Budgeted cost per unit**
	150W JACOBI	2880	240	235	152620	12718.33	52.99306
	3KW JACOBI	504	42	40	34776	2898	69
	EC100L3.7KW 2P	240	20	20	19920	1660	83
	40W JACOBI	1008	84	82	64512	5376	64
	1.8KW, LMW	48	4	4	5952	496	124
	ITW I Phase	3960	330	331	138600	11550	35
	FMD112-L-ELGI	12	1	1	2220	185	185
	ES71L0.37KW	96	8	7	6432	536	67

Labor cost							
Name of the products		**Projected Demand(annual)**	**Budgeted monthly (unit)**	**Actual production per month**	**Budgeted costper annum**	**Budgeted cost(per month)**	**Budgeted cost per unit**
150W JACOBI		2880	240	235	17 2800	14 400	60

3KW JACOBI	504	42	40	37296	3108	74
EC100L3.7KW 2P	240	20	20	27360	2280	114
40W JACOBI	1008	84	82	78624	6552	78
1.8KW, LMW	48	4	4	4992	416	104
ITW I Phase	3960	330	331	491040	40920	124
FMD112-L-ELGI	12	1	1	13620	1135	1135
ES71L0.37KW	96	8	7	56064	4672	584
					73483	

Office maintenance							
Name of the products	**Projected Demand (annual)**	**Budgeted monthly (units)**	**Budgeted cost per annum**	**Budgeted cost(per month)**	**Budgeted cost for Administrative overhead**	**% given by company(office maintenance)**	**Budgeted Office maintenance**
150W JACOBI	2880	240	48960	4080	17	0.40	7
3KW JACOBI	504	42	13608	1134	27	0.35	9
EC100L3.7KW 2P	240	20	12240	1020	51	0.2	10
40W JACOBI	1008	84	17136	1428	17	0.40	7
1.8KW, LMW	48	4	3936	328	82	0.15	12
ITW I Phase	3960	330	162360	13530	41	0.2	8
FMD112-L-ELGI	12	1	2772	231	231	0.15	35

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ES71L0.37KW			96	8	10272	856	107	0.25	27
						22607			

With the available data in the budgeted final accounts, per unit cost for Administrative overhead is found out. Based on the past year data, the percentage of office maintenance has been given and per unit cost of office maintenance is calculated.

Selling and Distribution expense					
Actual production per month	**Budgeted cost per annum**	**Budgeted cost(per month)**	**Selling overhead for a month**	**% given by company (commission)**	**Sales Commission**
235	172800	14400	60	0.65	39
40	33768	2814	67	0.65	44
20	28320	2360	118	0.77	91
82	54432	4536	54	0.65	35
4	5952	496	124	0.75	93
331	403920	33660	102	0.76	78
1	8292	691	704	0.8	563
7	28704	2392	299	0.86	257
		61349			

Like Office maintenance, sales commission is also calculated on the basis of the percentage given by the company.

The cost sheet which has been prepared by the company for the eight products and compared that cost with the cost obtained from the budgeted final accounts. In this comparison, deviations are found in many cost pools. From this comparative cost sheet, it shows very clearly cost reduction can be achieved through implementation of ABC.

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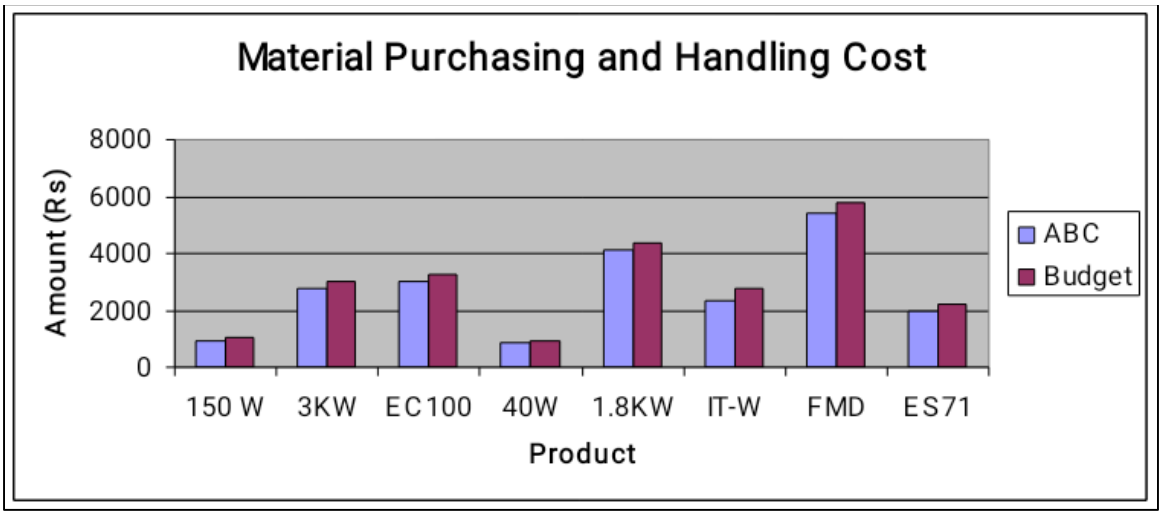
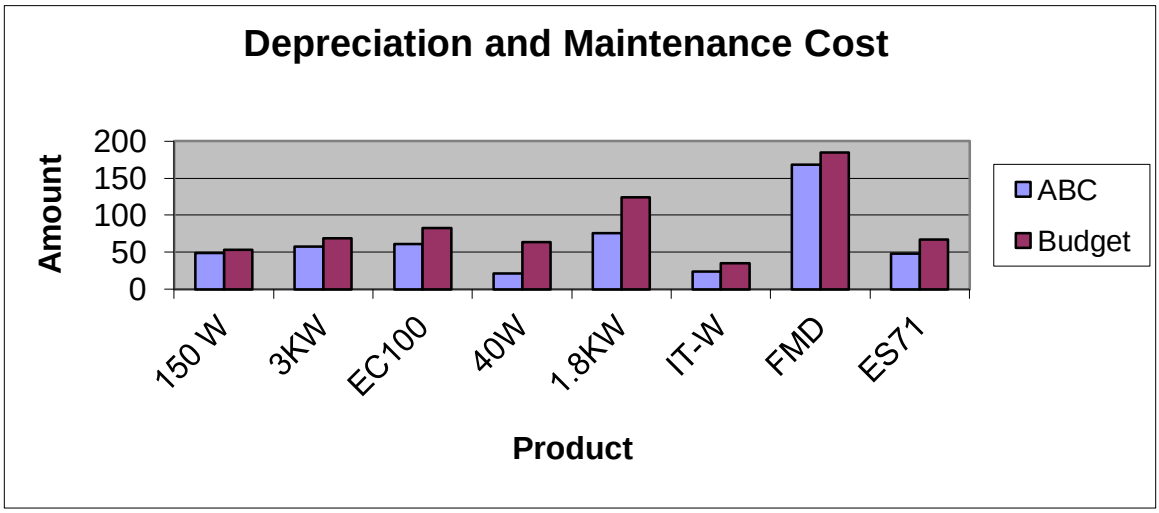
7. Analysis and Interpretation

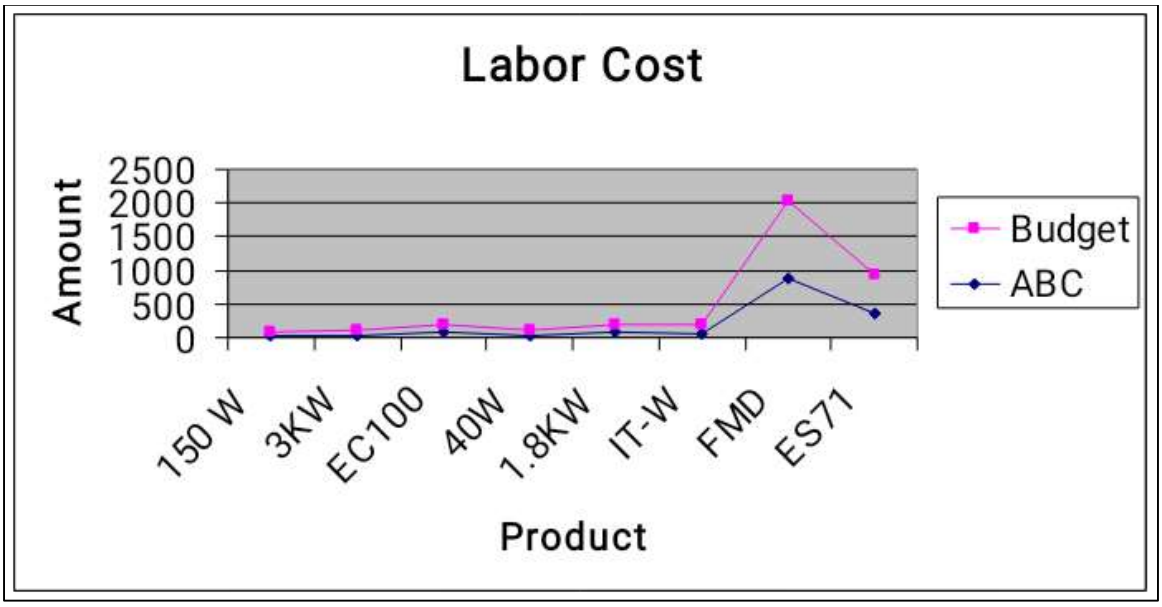
Deviations in different Cost Pools from budgeted costs



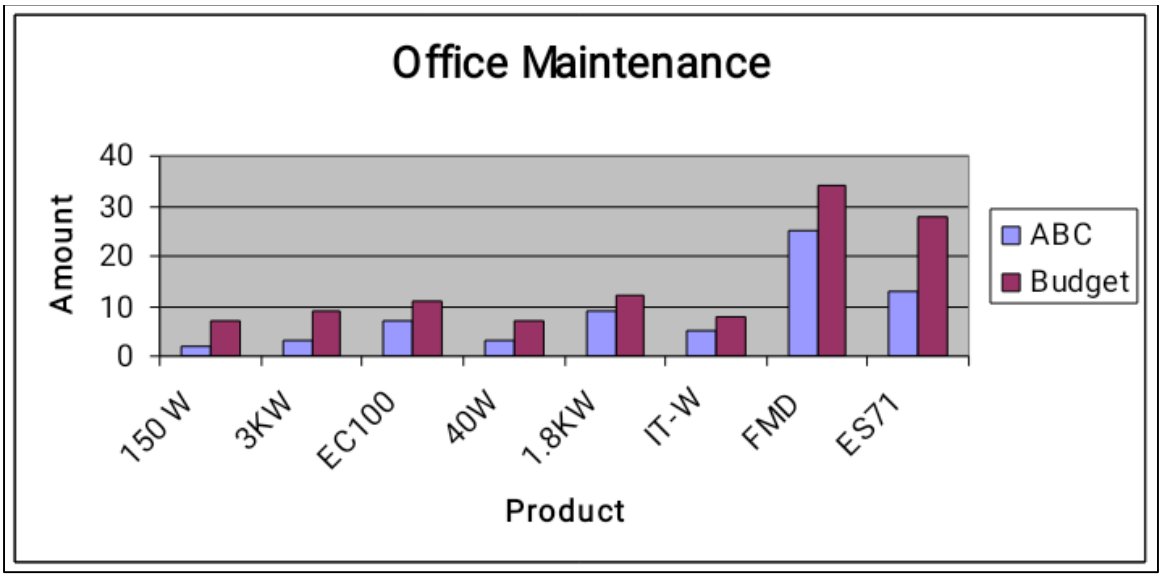
The above chart depicts that for every product the budgeted cost is always higher than cost incurred by adopting Activity Based Costing method. Overall, there is no much deviation from the actual cost.



The chart indicates that every time the actual depreciation and maintenance cost per unit is less than the budgeted cost for the same. Among the eight products taken for analysis, 40W JACOBI and 1.8KW, LMW shows higher amount of deviation from its actual costs.



This line chart shows the deviations in labor cost, after the implementation of ABC, from its budgeted cost. Most of the products' actual cost goes in line with the budgeted cost, except for FMD112-L-ELGI and ES71L0.37KW where the deviations are more.



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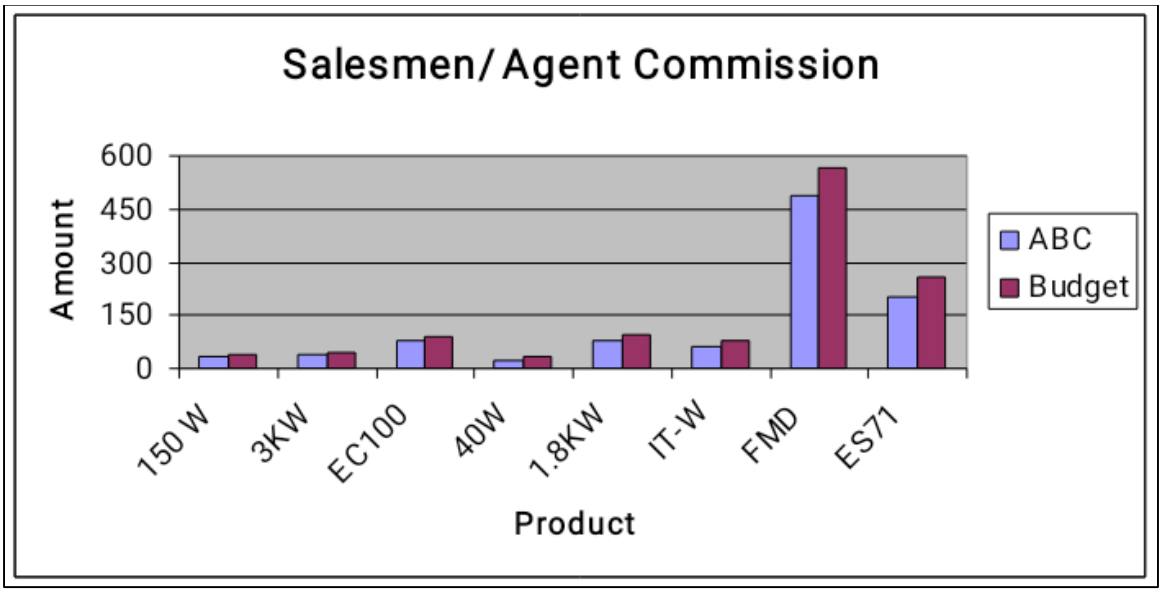
The two products, FMD112-L-ELGI and ES71L0.37KW, has budgeted cost much higher than the actual cost. ABC implemented by Elgi keeps the actual cost lesser than the budgeted cost.



The Salesmen/Agent commission for the eight products considered has actual cost lower than the budgeted cost. Like other Cost pools, the deviation is more in FMD112-L-ELGI and ES71L0.37KW.

IV. FINDINGS

Manufacturing Overheads

150W JACOBI

The actual cost for material handling incurred for one unit is Rs. 945. But the budgeted cost is Rs. 1048, which is 10% more than the actual cost. The actual labor cost is 46.67% less than the budgeted cost.

3KW JACOBI

The cost for this product as per the projected profit and loss account is Rs. 3015. But the actual cost incurred for one unit is Rs. 2776. This means, the budgeted cost is 8% more than the actual cost. The actual labor cost is 48.65% less than the budgeted cost.

EC100L3.7KW 2P

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Thelabor cost in the budgeted final account is Rs.114 and it is 33.33% less than the actual cost. The material handling cost of one unit of this product works out to Rs. 3040. But the budgeted cost is Rs. 3287, which is 7.5% more than the actual cost.

40W JACOBI

The actual cost for material handling incurred for one unit is Rs. 847. But the budgeted cost is Rs. 935, which is 9.41% more than the actual cost. The actual labor cost is 74.86% less than the budgeted cost.

1.8KW, LMW

The budgeted cost for one unit of this product is Rs. 4354 and the actual cost is only Rs. 4135. This shows a deviation of 5.03%. And the labor cost is 17.31% less than the budgeted cost.

Administrative Overhead

150W JACOBI

Actual office maintenance cost for one unit of this product is Rs.2, whereas the budgeted cost per unit is Rs.7.

3KW JACOBI

For this product, the actual cost is 66.67% less than the budgeted cost.

EC100L3.7KW 2P

The cost incurred for office maintenance for a unit is Rs.7 whereas the budgeted cost is Rs. 10 that is 30% more.

40W JACOBI

The company has predicted Rs 7 for office maintenance for one unit of this product but, the actual cost is only Rs.3 per unit.

1.8KW, LMW

The budgeted cost for one unit of this product is 25% more than the actual cost.

ITW I Phase

The budgeted cost for office maintenance for a unit is Rs.8 whereas the actual cost is

Rs. 5 that is 37.5% less.

FMD112-L-ELGI

The actual cost for office maintenance for a unit is 28.57% less than the budgeted cost.

ES71L0.37KW

The cost incurred for office maintenance for a unit is Rs.13 whereas the budgeted cost is Rs. 28 that is 53.57% more.

Selling and Distribution Overhead

The following are the deviations found in this overhead

Products	**Deviation (in %)**
150W JACOBI	12.82
3KW JACOBI	15.91
EC100L3.7KW 2P	13.1
40W JACOBI	34.29
1.8KW, LMW	12.9
ITW I Phase	21.8
FMD112-L-ELGI	13.32
ES71L0.37KW	20.62

V. SUGGESTIONS

- **On Conveyance and traveling expenses**

At present, the company is following Adhoc rating to deliver the goods to their customers' site. The conveyance expenses can be reduced to some extent by adopting contact rating based arrangement for conveyance.

- **On product pricing**

The company is having a policy of fixing 45% margin on cost price for each product. After the implementation of ABC, the cost price of the product is decreased and so the company can fix its selling price by implementing any one of the following two strategies.

Strategy 1

The company can make the budgeted cost price as the base for selling price fixation and they can enjoy more margin. The following are the selling prices for this strategy

Product	Cost Price/Unit	Selling Price/Unit
150W JACOBI	1396	2024.2
3KW JACOBI	3484	5051.8
EC100L3.7KW 2P	3900	5655
40W JACOBI	1212.17	1757.6465
1.8KW, LMW	5271.85	7644.1825
ITW I Phase	3050.28	4422.906
FMD112-L-ELGI	8250	11962.5
ES71L0.37KW	3028	4390.6

Strategy 2

The company can make the actual cost price (after the ABC implementation) as the base for selling price fixation and they can fix selling price lower than its competitors. The following are the selling prices for this strategy

Product	Cost Price/Unit	Selling Price/Unit
150W JACOBI	1541	2234.45
3KW JACOBI	3783	5485.35
EC100L3.7KW 2P	4222	6121.9
40W JACOBI	1417	2054.65
1.8KW, LMW	5571	8077.95
ITW I Phase	3548	5144.6
FMD112-L-ELGI	8976	13015.2

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ES71L0.37KW	3600	5220

- The company is the phase of implementing ABC. The results from Motors division, after implementation of ABC, show various benefits to the organization. Hence the company can implement ABC system to all the remaining divisions also.

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