

STRATEGIC COST MANAGEMENT AND PERFORMANCE EVALUATION

Preface to the Notes

This notes has been prepared for the benefit and use of CA Final students. Other Professional Course students can also use the material for respective topics of their syllabus. Being notes, the topics have been condensed and are presented in a synopsis manner. Yet, they cover the complete issues involved in respective topics and give the reader good understanding of the subject. This has been prepared for the ease of students preparing for Examinations. The issues have been explained in simple language supported by examples as well. If students desire to have more in-depth knowledge on any topic(s) then they need to refer relevant Text Books.

This paper of the CA Final course had substantial change in the contents and syllabus as compared to the erstwhile Advanced Management Accounting. There is a marked shift from more of the earlier Figure Work to Theory and Figure work in current syllabus. The syllabus has included more of the practical aspects of Management Accounting and Performance Evaluation with Case Studies. To answer practical cases, a student needs to have:

- Thorough understanding of the Theory;
- Application of theoretical knowledge to Practical business scenarios for solutions: and
- Figure work analysis.

In this part, only theory has been considered.

I hope this notes will be of good use to students.

Readers are requested to mail suggestions and feed back to ram_pv@rocketmail.com for improving the contents.

Good wishes and Happy Reading
P V Ram

CHAPTER 10: Strategic Analysis of Operating Income

Broad Contents of the Chapter are:

1. Profitability Analysis
2. Direct Product Profitability (DPP)
3. Customer Profitability Analysis (CPA)
4. Value Added (VA) and Non Value Added (NVA) Activities
5. Activity Based Costing (ABC) and Activity Based Cost Management (ABM)

Profitability Analysis

Organisations which operate in competitive environment need to be profitable for sustaining. A Firm will be profitable when it happens to be Cost Leader (i.e. it produces the product at a lesser cost than its competitors) and enjoys maximum market share or it produces its products that are different from others and difficult to imitate by others. To achieve its objectives, a Firm has to put some sort performance measurement systems in place so that corrective actions for deviations can be taken quickly.

Profitability Analysis helps Management to identify Critical Success Factors and make appropriate decisions. The Profit of a Firm is affected by several factors through which Cost and / or Revenues change. Analysis of Operating Income is done into 3 Main Components:

- A. Growth Component:
- B. Price Recovery Component and
- C. Productivity Component

Analysis will cover both Revenue and Cost factors. Cost Factors include both Variable and Fixed Costs.

A. **Growth Component:** This indicates the increase or decrease in revenues due to increase or decrease in the quantity sold in current year as compared to previous year.

a. **Revenue effect:** This indicates the change in revenue due to change in volume and is calculated by the following Formula

$$\begin{aligned} &\text{Rev. effect of Growth} \\ &= (\text{Actual units sold in C. Yr.} - \text{Actual units sold in L Yr.}) \times \text{L. Yr. Sale Price} \end{aligned}$$

b. **Variable Cost Effect:**

$$\begin{aligned} &\text{Variable Cost Effect} \\ &= (\text{Input units required to produce C. Yr. output in L. Yr.} - \text{Actual Inputs Used in L. Yr.}) \times \text{Input price in L. Yr.} \end{aligned}$$

c. **Fixed Cost Effect:**

Fixed Cost Effect

$$= (\text{Actual Units of Cap. in L. Yr. , if adequate to produce C. Yr. Prodn. in L. Yr.} - \text{Actual Units of Cap. in L. Yr.}) \times \text{Price per unit of Cap. in L. Yr.}$$

B. Price Recovery Component: This component measures the changes in the Revenue and Costs due to changes in Prices

a. **Revenue effect:** This indicates the change in revenue due to change in Sale Prices and is calculated by the following Formula

Rev. effect of Growth

$$= (\text{Sale Price in C. Yr.} - \text{Sale Price in L Yr.}) \times \text{Actual Units sold in C. Yr.}$$

b. **Variable Cost Effect:**

Variable Cost Effect

$$= (\text{Input Price in C. Yr.} - \text{Input Price in L. Yr.}) \times \text{Inputs reqd. in L. Yr. to Produce C. Yr. Output}$$

c. **Fixed Cost Effect:**

$$\text{Fixed Cost Effect} = \left(\frac{(\text{Price per Unit of Cap. in C. Yr.} - \text{Price per unit of Cap. in L. Yr.})}{\text{x Actual Units of Cap. in L. Yr. , if adequate to produce C. Yrs. Output in L. Yr.}} \right)$$

C. Productivity Component: This Component measures the changes in Operating Income due to Changes in Product Mix or Yield inputs as compared with Last Year. This component uses current year's prices of input to measure the changes in **COST ONLY**.

a. **Cost Effect of Productivity for Variable Cost:**

Cost Effect of Productivity for Variable Cost

$$= (\text{Actual Units of Input used in C. Yr.} - \text{Units of Input reqd. in L. Yr. to produce C. Yr.'s. Output}) \times \text{Input price in C. Yr.}$$

b. **Cost Effect of Productivity for Fixed Cost:**

Fixed Cost Effect

$$= (\text{Actual Cap. In C. Yr.} - \text{Actual Units of Cap. in L. Yr. , if adequate to produce C. Yr. Prodn. in L. Yr.}) \times \text{Price per unit of Cap. in C. Yr.}$$

Reconciliation of Operating Profit:

Particulars	Costs	Revenue
Operating Profit in Last Year	xxx	
Add/(Less): Revenue and Cost Effect of Growth Component	(+) F (-) A	(+) F (-) A
Add/(Less): Revenue and Cost Effect of Price Recovery Component	(+) F (-) A	(+) F (-) A
Add/ (Less): Cost Effect of Productivity Component	(+) F (-) A	-
Total	xxx	xxx
Operating Profit in Current Year (Revenue – Costs)	Xxx	

Direct Product Profitability (DPP)

In today's competitive environment most of the Firms are dealing with a range of products than depending on a single product for the purpose of sustainability. A Firm having more number of Profitable products in its

C A & C M A Coaching Centre, Nallakunta, Hyderabad.

P V Ram, B. Sc., ACA, ACMA – 98481 85073

Portfolio enjoys higher Profitability. In this scenario it is important to know how much profit is being made on each of the products to take appropriate Managerial Actions. Direct Product Profitability (DPP) is one such analytical method which helps in ascertaining the profit on each of the product or segment of products separately.

DPP uses variety of measures like space used for transportation and storing of goods, refrigeration time etc. to absorb the indirect cost to respective products. This is against the normal absorption of overheads on Machine hour rate or Labour hour rate etc. DPP is mostly used in the retail sector. Benefits of DPP are:

- a. Better Analysis of Costs;
- b. Better Pricing Decisions;
- c. Better Management Stores and Warehouse space;
- d. Rationalisation of Product ranges.

DPP Statement: Traditionally the cost of goods bought was deducted from sale price of respective products to arrive at Gross Profit. This method totally ignores apportionment of retail stores costs to respective products. DPP is a refined method of ascertaining the profits of individual products more accurately. Indirect Costs may be segregated into the following categories:

- a. Overhead Costs
- b. Volume related costs: This relates to the space occupied by the products at the time of transportation and also at the storing place.
- c. Product Batch Costs: Mostly this will be time based labour costs incurred at the time storage and transportation.
- d. Inventory Financing Costs etc.

The above indirect costs are charged to respective Products based on suitable basis to arrive at Net profit on respective products to help in Managerial Decision Making.

Warehouse and Store costs include Labour, Space and Insurance costs, while Transportation Costs include Labour, Fuel and vehicle Maintenance costs etc.

DPP per unit of time is another dimension to measure. Similarly, DPP per unit of time to per unit of space is one more dimension.

Customer Profitability Analysis

It is as important to Cost Customers as it is to Products. Identifying the Cost or Profit from a Customer helps in the manner we need to deal with them in the best interests of the Firm. ABC analysis can be followed here also. Service organisations like Banks, Hotels, Hospitals etc. find this very useful in their operations. A Bank's activities for a customer may include withdrawal of cash, issuing drafts, giving temporary OD, request for a statement, returning a cheque etc. Different customers use different amounts of these services. It will be fair to charge the customers on the quantum of respective services they use instead of charging them for all at a single rate irrespective of the fact whether they use the service or not.

Ascertaining Customer Profitability helps in developing strategies for different categories of customers. Which category of customers are contributing the profits more and which category of customers are not can also be identified. This helps in having a better discussion with the customer, if need be.

Value Added (VA) and Non Value Added Activities (NVA)

Value Added activities are those activities which are indispensable to complete the process or product. Customers will be usually willing to pay for these activities. For instance Polishing of furniture is a Value Added activity as it enhances the value of furniture. A polished furniture piece can be sold at a higher rate with more incremental revenue.

Non Value added activities are those activities which are not valued by the external or internal customers. Non Value added activities do not improve the quality or function of the product or service but can adversely affect the costs and prices. Non Value added activities create waste, result in delay etc. eg. Number of Security or Accounts personnel employed, internal movement of Raw Materials. (Movement of WIP is a Value Added activity.)

Identification and classification of activities into VA and NVA is very important. In Cost Reduction Exercise, first attack is made on NVAs' to eliminate them or to bring them to minimum levels. In most manufacturing operations, time is spent in the following ways:

Process Time: The time during which a product is undergoing conversion activity.	Inspection Time: The amount of time spent confirming that the product is of high quality.	Move Time: The time spent moving raw materials, WIP, or finished goods between operations.
Waiting Time: The amount of time that raw material or WIP spend waiting for the next operation.	Storage Time: the time during which materials, partially completed products, or finished goods are held in stock before further processing or shipment.	Delivery Cycle Time: It is the average time between the receipt of customer order and delivery of the goods.
Manufacturing Cycle Time: It is the total amount of production time required per unit.	Velocity is defined as the number of units produced in a given time.	Manufacturing Cycle Efficiency* = $\frac{\text{Processing Time}}{\text{Processing Time} + \text{Inspection Time} + \text{Waiting Time} + \text{Move Time}}$

Manufacturing Cycle Efficiency (MCE) measure lies in the comparison of VA and NVA times.

Activity Based Costing (ABC) Vs. Activity Based Cost Management (ABM)

ABC refers to the technique for determining the cost of activities and the output that those activities produce. It is the logical distribution of overhead i.e. overhead should be distributed on the consumption of resources by respective goods and services. The aim of ABC is to generate improved cost data for use in managing a company's activities.

For Firms, more relevant and timely information is required to build a sustainable and long term competitive advantage. Firms must improve the value received by their customers and at the same time improving their own profitability. ABC supports the continuous improvement process by better assessment of Cost Behaviour, increased accuracy in product costing, etc.

In modern manufacturing environment, overheads constitute significant component in total cost. Traditional distribution of overheads on the basis of Machine hour rate or labour rate do not give correct cost of products. ABC provides more accurate and realistic product costing.

The concept of relevant costing analysis continues to be completely valid in modern manufacturing environment.

The ABM is a much broader concept. It refers to the management philosophy that focuses on the planning, execution, and measurement of activities as the key to competitive advantage.

Studies in implementation of ABC have often shown that greater benefit received from implementation of ABC is in the form of Cost Management rather than just accurate Product Costs. ABM is the Cost Management Application of ABC. The use of ABC as a Cost Management Tool at Activity level is called ABM. ABM focuses on efficient and effective management of activities as the route to continuously improve the value of the customers. ABM determines what drives the activities of the Firm and how these activities can be improved to increase the profitability. Thus ABM adds a dynamic, continuous improvement dimension to the more static model ABC.

ABM is defined as, "A discipline that focuses on the management of activities as the route to improving the value received by the customer and the profit achieved by providing this value. This discipline includes cost driver analysis, activity analysis, and performance measurement. Activity-Based Management relies on Activity-Based Costing as its major source of information."

Cost Driver Analysis: The factors that cause activities to be performed need to be identified along with the causes of the activities. The cost per unit of cost driver is to be calculated and compared with Benchmarks and or industry standards. Reasons for anomalies are to be probed and corrective actions are to be taken. For instance if every 10th item of a batch is to be inspected, this may be changed to as every 90th item if the quality standards of material are improved and trained workers operate the process.

Activity Analysis: The activities of a Firm are analysed and activity cost pools are identified using ABC. Value added and Non Value Added activities are also identified. Non Value added activities are eliminated or brought down to minimum levels to reduce costs. The number of activity centers depends on the degree of accuracy desired. More activity centers give more accuracy. As experience is gained, the number of activity

centers may be increased or decreased as per necessity.

Performance Analysis: This involves identification of appropriate measures to report the performance of activity Centers or the organisational units. These measures are to be consistent with units goals and objectives. This identifies the best ways to measure performance that are important for organisations continuous improvement.

Business Applications of ABM: The aim of ABM is to satisfy the needs of customers with limited demand for Resources. As per research, customer needs are perceived in 4 areas:

- a. Lower Costs;
- b. Higher Quality;
- c. Faster Response; and
- d. Greater Innovation

To satisfy the above needs, ABM is being used in different areas like:

- a. **Cost Reduction:** ABM helps the organisation to identify the costs against activities and to find opportunities for Cost Reduction. Further, if no value is added by an activity it may be eliminated also. It also helps indentifying process waste and provides a means for process improvement through Continuous Cost Reduction.
- b. **Activity Based Budgeting (ABB):** ABB is a Planning and Controlling tool which supports the objective of Continuous Improvement. ABB analyses the Resource input or Cost for each activity. It estimates the resources required for the budgeted level of activity for all the activities. Actual results are compared with budgets and variances are analysed. The 3 key elements of ABB are:
Type of work / activity to be done;
Quantity of work / activity to be done;
Cost of work / activity to be done.
- c. **Business Process Reengineering (BPR):** BPR involves examining of Business Processes and making substantial changes to current processes. This is used to improve Process Efficiency and Effectiveness. A business process consists interlinked set of activities. For instance, purchase of materials involves the activities such as receipt of purchase request, sending enquiries, receiving quotations, comparing quotes and identifying supplier and placing order etc. Instead of following all these activities, production schedule itself may be directly sent to supplier with an arrangement with supplier to send materials as per production schedule. This will result in permanent elimination of some activities like purchase request, enquiries etc.
- d. **Benchmarking:** This is a process where the activity costs of one segment are compared with other segments to arrive at Benchmarks. This requires uniformity in the definition of activities and measurement of their costs.
- e. **Performance Measurement:** Activity performance measures

consist of measures relating to Costs, Quality, Time, and Innovation. In the current era of Globalisation, Quality is an important feature and this is not confined to production alone. To make a Quality product, the Design should be proper, inputs are to be of acceptable standard, etc.

ABM is applicable to all areas apart from Manufacturing. It is applicable to Service and No Profit Organisations also.

Benefits of ABM: Following are the Benefits of ABM:

- a. Provides an excellent basis for Cost Reduction and Continuous Process improvement.
- b. Provides a clear view to Operational Management to implement ABB.
- c. Provides clear understanding of the underlying causes of Business Processing Costs.
- d. Provides an excellent basis for Management Decision Making.
- e. Identifies Process Waste elements.

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- Type of work / activity to be done;
- Quantity of work / activity to be done;
- Cost of work / activity to be done.

ABB focuses on the activities of business processes. This is a technique which improves the accuracy of Financial forecasting and thereby helps Management to take better decisions. An ABB can emphasise on cost reduction through elimination of wasteful expenses.

ABB also starts with Sales and Production budgets as traditional budgeting. Direct Material and Direct Labour elements also will be same as in traditional budgets. When it comes to overheads (Production, Administration, Selling & Distribution), under ABB absorption is done on the basis of Cost Drivers of Activities whereas in traditional budgeting it is done on the basis of single rate like machine hour rate or labour hour rate etc. Similar to Flexible Budgets with regard to Volume in traditional budgeting, in ABB also there will be Flexible Budgets for activities with regard to Volume.

ABC – A Decision Making Tool: ABC is a very useful tool for many decisions to the Management.

- a. ABC complements TQM. ABC provides quantitative data that can track financial impact of improvements implemented by TQM.
- b. Wholesale distributors can gain significant advantage because of improved accuracy in costing of products under ABC.

- c. ABC can assist in Facility or Resource expansion by quantifying the benefits and costs of such Facility or Resource Center.
- d. Firms adopting Cost + Markup pricing find ABC more appropriate than traditional method.
- e. Product line profitability for each of the products can be more accurately determined under ABC.