Accounting for Financial and Managerial Decision and Control [AFMDC]

Unit 5
Performance Measurement: Value Added Statement, Return on Investment and Residual Income

Structure

- Value added analysis and performance measurement
- Measurement and interpretation of return on investment and residual income

After the completion of this unit, you should be able to:

- Explain the concept and meaning of value added statement
- Prepare value added statement
- Measure the performance of organization using value added statement
- Describe the meaning of return on investment and residual income
- Calculate and measure return on investment and residual income

5.1 Concept and Meaning of Value Added Statement

The value added concept has become increasingly important in recent years. Many firms have used it as a measure of performance. Value added is the difference between sales incomes and bought in goods and services. It measures the added value by the enterprise to its product or a service provided. A manufacturing firm begins with a certain quantum of raw materials and engages itself in a conversion process to yield a product with new utility and market value, which is different from the original cost of material. The excess of such market value over and above the cost of materials is defined as value added.

Value added statement could help us to access the relative efficiency of the firm. The value added performance of a company is a good measure of the overall productivity of the firm. The term "Value Added" is defined as "The increase in realizable value resulting from an alternation in form, location or availability of a product or service, excluding the cost of purchased material and service." [C.I.M.A. Official Terminology]

The terminology also defines it as "Sales Value less the cost of purchased materials and services. This represents the worth of an alteration in form, location or availability of a product or service." So, in short, an organization in the process of manufacturing adds utility or value to raw materials by converting them into finished product and therefore, the sale value is higher than cost of raw materials. The excess of the sales value over the cost of materials is known as value added.

Thus, value added by a firm during a specified period can be stated as:

Value Added = Sales (Net of Excise Duty) – Cost of Bought in Materials and Services

or,

Value Added = Profit + All Conversion and Other Costs

or,

Profit = Value Added – All Conversion and Other Costs

Conversion cost includes direct labour and manufacturing overhead, and other costs cover selling and distribution cost, interest, depreciation, etc. Thus, if conversion and other costs are considered as fixed cost, profit can be improved by managing the value added.

5.2 Preparation of Value Added Statement

The statement prepared for a specified period by showing the source of sales and value added is known as value added statement. On the basis of financial statement prepared by a firm, the value added statement has to be prepared. Actually speaking, it is largely a rearrangement of the information available in the firm's published accounts. So many people charge value added statement as a cosmetic device to place less emphasis on profit. But it is not true. A value added statement provides a better understanding of the operating results. In particular, the inclusion of relevant percentage of value added by the side of items in the second part of the statement would make people aware of the respective share of various team members.

A typical format of a value added statement is given below:

Value Added Statement
For the Year Ended…….

Particulars	**Rs.**	**Rs.**
Sales Revenue		× × ×
Less: Cost of Bought in Materials and Services		× × ×
Raw Material	× × ×	
Power/Fuel	× × ×	
Supplies	× × ×	
Auditor's Remuneration	× × ×	
Overhead Expenses	× × ×	
Add: Investment Income/Other Income		× × ×
Value Added		× × ×
Applied as Follows:		
1. To Pay Employees (Wages, Salaries, Pension, Provident Fund, Benefits and Allowances etc.)		× × ×
2. To Pay Government (Income Tax, Wealth Tax and Other Taxes)		× × ×
3. To Pay Providers of Capital (Interest on Loan, Dividends to Shareholders)		× × ×
4. To Provide for Maintenance and Expansion of Assets		

(Depreciation, Retained Profits)	× × ×
Value Added	× × ×

If adjustments are required for raw materials, WIP and finished goods stocks then revised value added statement is prepared as under:

Value Added Statement
For the Year Ended…….

Particulars	**Rs.**	**Rs.**
Sales Revenue		× × ×
Add: Closing Stock		× × ×
Finished Goods	× × ×	
WIP	× × ×	
Raw Materials	× × ×	
		× × ×
Less: Opening Stock		× × ×
Finished Goods	× × ×	
WIP	× × ×	
Raw Materials	× × ×	
		× × ×
Less: Cost of Bought in Materials and Services		× × ×
Raw Material	× × ×	
Power/Fuel	× × ×	
Supplies	× × ×	
Auditor's Remuneration	× × ×	
Overhead Expenses	× × ×	
Add: Investment Income/Other Income		× × ×
Value Added		× × ×
Applied as Follows:		
1. To Pay Employees (Wages, Salaries, Pension, Provident Fund, Benefits and Allowances etc.)		× × ×
2. To Pay Government (Income Tax, Wealth Tax and Other Taxes)		× × ×
3. To Pay Providers of Capital (Interest on Loan, Dividends to Shareholders)		× × ×
4. To Provide for Maintenance and Expansion of Assets (Depreciation, Retained Profits)		× × ×
Value Added		× × ×

5.3 Measuring Organizational Performance

The different ratios can be made for the evaluation from the value added statement and financial statement. For this purpose, ratios are created on the basis of labour productivity and capital productivity.

The labour productivity ratios are:

(a) Value added per employee $= \frac{\text{Total value added}}{\text{Number of employees}}$

(b) Labour equipment ratio $= \frac{\text{Net fixed assets}}{\text{Number of employees}}$

(c) Wages distribution ratio $= \frac{\text{Total wages}}{\text{Total value added}}$

(d) Value added to salary & wages $= \frac{\text{Value added}}{\text{Salary \& wages}}$

(e) Value added per period $= \frac{\text{Value added}}{\text{Period}}$

(f) Value added to factory overhead $= \frac{\text{Value added}}{\text{Factory overhead}}$

Most of the above ratios are used in ratio measures productivity. The ratios on the basis of capital productivity are:

(a) Value added to capital employed $= \frac{\text{Value added}}{\text{Capital employed or Net worth}}$

(b) Value added to total assets $= \frac{\text{Value added}}{\text{Total assets}}$

(c) Value added to fixed assets $= \frac{\text{Value added}}{\text{Fixed assets}}$

(d) Value added to equipment $= \frac{\text{Value added}}{\text{Plant and equipments}}$

(e) Value added to tangivle assets $= \frac{\text{Value added}}{\text{Tangible assets}}$

(f) Value added to material used $= \frac{\text{Value added}}{\text{Raw material consumed}}$

(g) Value added to cost of bought in material and services $= \frac{\text{Value added}}{\text{Cost of bought in material}}$

(h) Value added to sales revenue $= \frac{\text{Value added}}{\text{Sales revenue}}$

(i) Net income to value added $= \frac{\text{Net income}}{\text{value added}}$

5.4 Measuring Performance in Investment Centres

Investment centre comes under decentralized enterprises. Decentralization can be achieved by units called division or investment centre. The investment centre is responsible for an enterprise's invested capital and the related income earned. Investment centre performance evaluation is the major issue of managerial accountants. Managerial accountants, most commonly, use two different measures to evaluate the performance of investment centres: (i) Return on Investment (ROI) and (ii) Residual Income (RI).

Return on Investment (ROI)

Return on investment is a crucial analytical tool. It can be used by both businesses and investors. Ratio of earning expressed in terms of an investment is known as return on investment. ROI tries to measure directly the amount of return on a particular investment, relative to the investment's cost. Return on Investment (ROI) is most common performance measure that takes into accounts both operating income and invested capital to earn that income. ROI is calculated as below:

$$\text{ROI} = \frac{\text{Operating Income}}{\text{Invested Capital}}$$

Operating profit refers to net income before interest and taxes; and invested capital should use average, which is, beginning and ending capital investment (capital employed) for the period. Here, capital investment refers to operating assets, excluding assets that are not held for productive use. It includes cash, account receivable, inventory, plant and machinery, and other productive assets. Factor underlying ROI, it can be expressed as follows showing two important factors:

$$\text{ROI} = \text{Profit Margin Ratio} \times \text{Capital Turnover Ratio}$$

$$= \frac{\text{Operating Income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Invested Capital}}$$

Profit margin ratio measure of profitability or operating efficiency, whereas capital turnover ratio measures how well a division manages its invested capital. In another word, margin is portion of sales available for interest, taxes and profit. Turnover measures how productively operating assets are being used to generate sales.

Improvement of ROI

ROI can improve if we are able to do better in margin, turnover or both margin & turnover. Thus, there are three possible ways to improve ROI:

* Improve margin
* Improve turnover
* Improve both margin and turnover

In another approach, the improvement in ROI can be easily achieved if management is able to increase sales, reduce expenses and reduce operating assets. For example, if sales increase, profit

margin is also increased due to increase in contribution margin. If expenses are slow down by reducing in wastage, effective purchasing policies or lot size, introducing incentive wage payment system etc. in that can also ROI can be easily achieved. Similarly, by disposing of obsolete and redundant inventories, ROI improve due to increase in both margin and turnover.

Residual Income (RI)

Return on investment ignores cost of capital and considers a specific rate of return. But Residual income considers amount of income rather than a specific rate of return. It is another measure of performance. Residual income can be defined as the net income less the imputed capital charged on the assets used by the division. It is the operating income that an investment centre earns above a minimum desired return on invested capital. Residual income is not a ratio but it is an amount. The amount of profit left after subtracting a pre-determined desired income level is known as RI. It is calculated as under:

RI = Operating Income – (Desired ROI $\times$ Invested Capital)

References

Anthony, R.N., Hawkins, D.F. & Merchant, K.A. (2012). *Accounting: Text and cases*. The McGraw-Hill Companies

Atkinson, A. A., Kaplan, R. S., Matsumura, E. M., Young, S. M., & Kumar, G. A. (2014). *Management accounting: Information for decision-making and strategy execution*. Pearson Education

Bamber, L.S., Braun, K.W., & Harrison, Jr. W.T. (2008). *Managerial accounting*. Pearson Education

Dangol, R. M. & Dangol, J. (2019). *Accountancy for financial and managerial decision and control*. Taleju Prakashan

Hilton. R. W. & Platt, D. E. (2014). *Managerial accounting: Creating value in a global business environment*. McGraw-Hill Education