

STRATEGIC PERFORMANCE MEASURES IN PRIVATE SECTOR



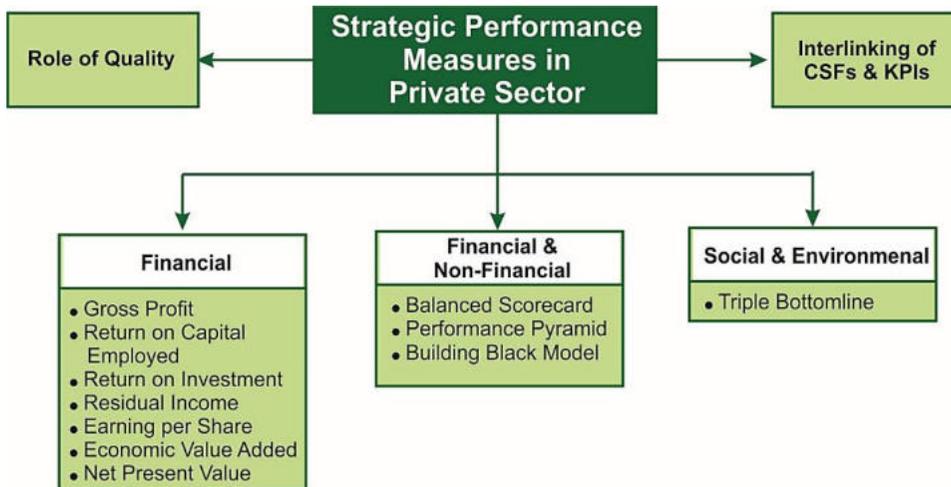
LEARNING OUTCOMES

After studying this chapter, you will be able to:

- EXPLAIN how critical success factors linked to performance measurement
- CALCULATE and INTERPRET non-financial performance indicators and SUGGEST methods to improve the performance indicated
- COMPUTE and EVALUATE performance measures relevant in a divisionalised organisation structure including return on investment, residual income and economic value added
- EXPLAIN the causes and problems created by short-termism and financial manipulation of results and SUGGEST methods to encourage a long-term view
- ANALYZE and evaluate performance and SUGGEST ways for improving financial and non-financial performance
- EXPLAIN the role of quality in management information and performance measurement systems



CHAPTER OVERVIEW



A. PERFORMANCE MANAGEMENT SYSTEM IN PRIVATE SECTOR

Performance management shall be considered as essential aspect of management accounting. Performance management system in the private sector may be seen as a four-stage solution for striving towards sustainability; the stages are described below –

Firstly, determine the organisational structure and also ensure that the structure must be appropriate and best fit.

Evaluate the degree of delegation of control and identify the responsibility centres.

Establish the performance measures (both financial and non-financial) and target for each measure.

Review the performance (with the help of the KPI Dashboard) and take corrective action (if required).

Figure A.1 – Four-stage solution for striving towards sustainability

Stage 1 – Organisational structure outlines the roles of individuals in the organisation and decides the way in which authority and responsibility is allocated among them and how they are coordinating with each other to attain organisational objectives.

The importance of organisation structure in the context of performance management shall be seen as –

In the absence of clear lines of responsibility, responsibility accounting (stage 2) can't be implemented effectively because performance measurement is directly linked with organisational structure.

 **Note** – Students are advised to take note that aspects related to organisational structure are already explained in detail in Chapter 8.

Stage 2 – Responsibility accounting helps in the collection, summarization, and reporting of information where individual managers are held accountable for certain costs, revenue, or assets of the firm. Responsibility centres are marked with the intent to appraise the performance of the manager against established KPIs (performance measures) for each of the CSFs identified.



Concept Insight

- ❑ The use of responsibility accounting to assist performance management is appropriate where top management entrusts the managers with decision making pertaining to the responsibility centre they manage. Hence one can say organisational structure has a strong bearing on the choice of installing responsibility accounting or not. **To illustrate**, *X and Y Limited are engaged in the manufacturing of bearing balls. The organisational structure of both firms is different from each other. In X, limited decision-making power is centralised with top management only, whereas in Y, limited power is decentralised.* The key to effective decision-making in a decentralised organisation is responsibility accounting, which means holding the manager responsible for only those things that are under their control. Y will benefit more from the implementation of responsibility accounting and segment reporting.
- ❑ According to **Deakin and Maher**, 'a responsibility centre is a specific unit of an organisation assigned to a manager who is held responsible for its operation and resources'. To enhance the application of responsibility accounting in decision-making, it is essential for an organisation to attach a level of responsibility (decentralised power) to different divisions/ departments and designate it as either a cost, profit, revenue, or investment centre.
- ❑ It is noteworthy that the formation of separate divisions shall lead to the delegation of authority, but the degrees of such delegation will not always be the same. It is further important to note that the classification of a responsibility centre into cost, revenue, profit, and investment will be based upon the delegated responsibility (authority). Certain function- based responsibility centres will never change their nature, but others can, which means **a responsibility centre may be capable of changing its nature** (due to changes in organisational structure and delegated responsibility and authority). For example, a faculty department in the university is a cost centre, but if it starts conducting MDP (management development programme) and undertakes research and consultancy projects, it may become a profit centre.

Stage 3 – Critical Success Factors (CSFs) pertaining to each of the organisational objectives in light of corporate strategy shall be identified, and corresponding Key Performance Indicators (KPIs) and targets shall be established to empower the performance management system to measure and evaluate the performance of managers (who are entrusted with the decision making of a particular responsibility centre) as required under stage 2.

Stage 4 – Established set of KPIs under stage 3 shall be used as parameters for the evaluation of the performance of managers of responsibility centres, and corrective action shall be taken if divergence exists; between the actual and expected (or benchmark) performance levels.

 **Note** – Students are advised to take note that concepts relevant to stages 3 and 4 will be discussed in detail in this chapter.



B. INTERLINKING OF CRITICAL SUCCESS FACTORS & KEY PERFORMANCE INDICATORS TO PERFORMANCE MEASUREMENT

For an efficient performance management system, the identification of the performance measures (both financial and non-financial) and the further establishment of indicator(s) and target(s) corresponding to each such measure are essential. Usually, a performance matrix is used wherein, against each strategic objective, a set of measures and targets are listed, and actual performance is also recorded to determine the divergence.

The performance measures shall encompass those aspects (such as profitability, market share, quality, etc.) or areas of action (i.e., activities, processes, and parts thereof) that are *vital for the attainment of strategic objectives*. These aspects or areas are known as **Critical Success Factors (CSFs)**. Mind it, CSFs are specific to the industry and segment in which a business firm is operating; organisation must identify them.

While establishing the performance measures matrix, it is advisable for business organisation to start with those areas and aspects that are identified and designated as CSFs. Thereafter, other aspects and areas can also be incorporated, but the central focus shall stick to CSFs.

To review the performance (with the help of the KPI Dashboard, a handy version of a detailed performance matrix) and take corrective actions (if required, in case of divergence), mere identification of CSFs and establishing the targets will not be enough. An effective review system must be in order, which comprises **Key Performance Indicators (KPIs)** on a single and handy dashboard to indicate performance on a real-time basis. Key performance indicators are performance management instruments used to measure and monitor the achievement of objectives so as to determine the level of success of your actions.

It is clear from the above discussion that CSFs and KPIs are not one and the same thing but related to each other. The CSFs are the areas that are critical for the attainment of corporate objectives, whereas KPIs are signals of performance in such areas.

To illustrate, for an IT Department, a Critical Success Factor could be restoring normal service, and in order to achieve that, a logical KPI would be the Average Turnaround Time, with a target of 4 hours. The Average Turnaround Time and its target of 4 hours are the KPIs that represent 'how' the IT department achieved its Critical Success Factor.

An effective performance management system warrants that KPIs must be established in such a manner that if meets the target, then deliver the CSFs **and** the CSFs, in turn, must be constructed in a way that ensures that the company's strategic vision is delivered if the CSFs are met.



Do You Know?

How to identify CSFs and KPIs

Rockart¹ highlighted the four prime sources of CSFs:

- Structure of a particular Industry
- Competitive strategy, industry position, and geographical location
- Environmental Factors
- Temporary Influences

Apart from the four aspects specified above, another important point is the functional area of the manager who is identifying the CSFs, because the priority of a purchase manager can't be the same as that of a personal manager. To overcome this, CSFs need to be identified organisation wide.

The KPI targets are more formally called thresholds, and the thresholds must be ascertained with a great deal of industry analysis as well as internal analysis. KPIs shall be SMART (**s**pecific, **m**easurable, **a**ttainable, **r**elevant, and **t**ime-bound).

Specific → *should be clearly defined*; **Measurable** → *have means to quantify*; **Achievable** → *can be achieved, i.e., should be realistic*; **Relevant** → *to the organization's strategic goals*; **Time Constrained** → *have a designated start and end dates*.

George T. Doran first used "SMART" in the November 1981 issue of Management Review, but the attribute of MBO (management by objective by Peter F. Drucker) inspired the origin of SMART.

Note - A single CSF can also have more than one KPI if required.

CSFs-based application of Core Competencies leads to Competitive Advantage

If any organisation is able to use its core competencies to exploit the CSFs, it will surely have an edge over rivals, which will position the organisation in a better strategic position and lead to competitive advantages.

*The terms– **goals or objectives** are often used interchangeably, although one key difference is that it should always be possible to quantify an objective. Goals, conversely, cannot be quantified and are therefore open ended.*

¹ John F. Rockart (March 1979), 'Chief executives define their own data needs', Harvard Business Review



C. PERFORMANCE MEASURES

Performance management system plays a key role in registering improvement to better-off the strategic position. But it has a prerequisite, and that is measuring and evaluating the existing performance using a set of performance measures. An ideal **performance measure (as part of a performance management framework)** should –

- Support corporate strategy, its communication, and its implementation.
- Measure performance from a financial, non-financial, quantitative, and qualitative perspective.
- Properly support decision-making.
- Recognise the long-term objectives as well as the short-term objectives of the organisation.
- Provide a reasonable incentive to the manager to keep them motivated so that they make decisions that are in the best interests of the overall company (goal congruence).
- Include only those factors for which the manager (of the responsibility centre) can be held accountable.

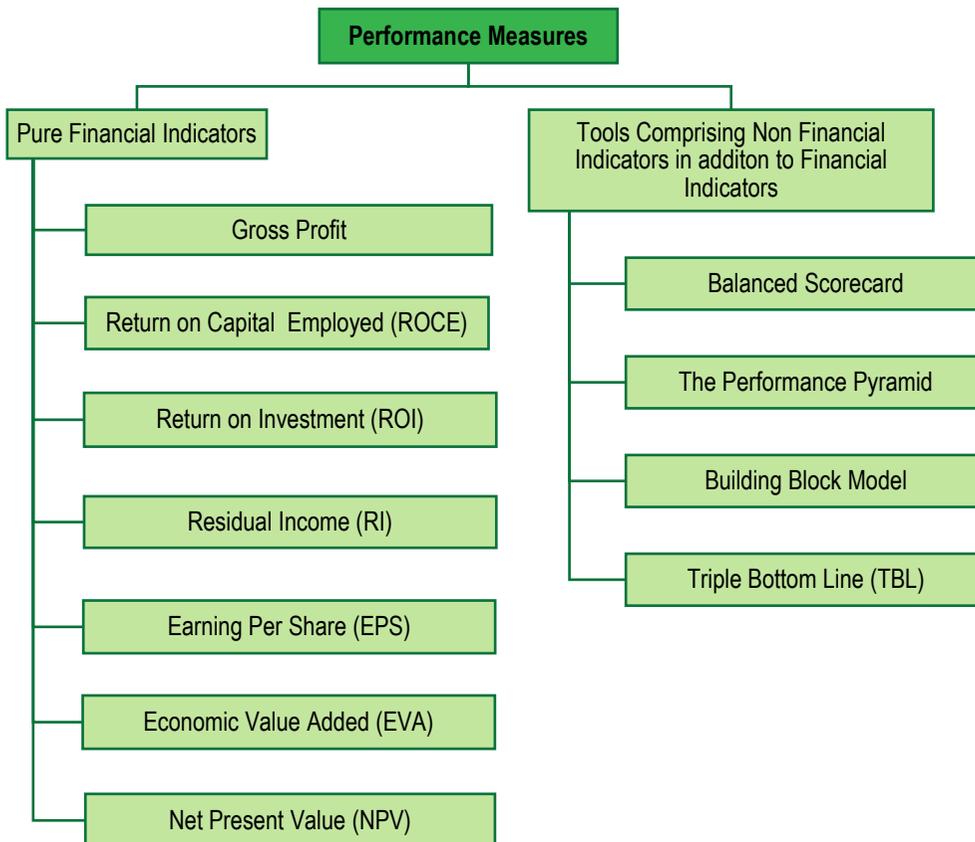


Figure C.1 – Performance Measures



Concept Insight

Measure vs. Indicator

Despite the fact that measure and indicator are used interchangeably, both are not the same, and it's important to consider the difference between indicator and measure before moving ahead.

The comparative conclusions need to be drawn from the indicator, as they only indicate (as a signal or pointer, or index) but don't actually measure. Whereas measure is meant to quantify.

To illustrate, the Stock Market Index (and absolute change therein) is an *indicator* of market sentiments, while change shown in term of the percentage rate of return (i.e., may be growth or decline) is the *measure*, which signifies the profitability or loss (i.e., capital appreciation or loss).



Test Your Understanding

Is considering pure financial performance measures/ indicators sufficient or not?

Hint

Since financial performance measures such as ROI or EVA are profit-oriented and can inspire managers to become short-term oriented, but the strategy needs to be sustainable apart from being just profitable; hence, in order to overcome the inadequacy and unjustifiable nature of financial performance indicators, non-financial performance indicators also need to be applied.

Non-Financial Performance Indicators are sustainable action-based indicators. For example, employee training will increase the profit and let them feel empowered; putting effort into research and development will result in a high brand image and high intellectual property rights.

1. Pros and Cons of the use of Performance Measures

David Otley, Jane Broadbent, and Anthony Berry suggest the pros and cons of the use of performance measures. The **benefits** include –

- Develops agreed measures of activity.
- Define and clarify the objectives of the organisation.
- Helps in setting targets for managers.
- Greater understanding of the process.
- Facilitate comparison between divisions.
- Promotes accountability for stakeholders.

A poorly designed performance management system (where performance measures and indicators thereto are not appropriately chosen and applied) may result in wrong signaling. *Wrong signals may lead to inappropriate action and decisions*; hence, it is important to identify and overcome the *problems associated with the use of performance measures*.

2. Financial Performance Measures

In order to be a sustainable business, the essentials are profitability, survival, and growth. Since financial performance measures/ indicators can be considered the best indicators of profitability and easy indicators of growth and survival (solvency and liquidity); hence must be part of performance measurement metrics.

These are–

2.1 Gross Profit

Despite concerns over the poor correlation between profit and shareholder value, many businesses use profit-based targets. This is primarily for the following reasons –

- The information is readily available internally, as it is needed for statutory/ financial reporting.
- Most managers or business leaders feel they understand it.
- It makes comparisons between companies easier as these numbers are easily available in the public domain as part of financial statements.

Gross Profit is excess revenue over the cost of goods sold. In equation form, it may be presented as –

$$\text{Gross Profit} = \text{Net Sale} - \text{Cost of Goods Sold}$$

Whereas Cost of Goods Sold = Opening Inventory + Purchases + Wages + Direct Expenses – Closing Inventory.

Absolute amount of Gross profit can be misleading due to the size problem (departments or organisation of different sizes shall not be compared using an absolute measure); hence, a relative measure (rate or ratio) is preferable; therefore, Gross Profit shall be seen in percentage reference to Net Sale.

The gross profit margin shall be calculated as –

$$\left(\frac{\text{Gross Profit}}{\text{Sales}} \right) \times 100$$

The Benefits and Drawbacks of Using Gross Profit as a Performance Measure –

- It is useful for highlighting product profitability issues; for example, if gross profit has fallen, is this due to cost increases, price pressure, or a combination of the two? The management response will be determined by the underlying causes.
- Contribution could be argued to be a more useful metric for short-term decision making.

2.2 Return on Capital Employed (ROCE)

Return on capital employed is a relative measure (ratio), which signifies the productivity of capital employed. It shall be calculated as:

$$\left[\frac{\text{Profit Before Interest and Tax (PBIT)}}{\text{Average Capital Employed}} \right] \times 100$$

Whereas capital employed is shareholders' capital plus long-term debt finance (this is the same as total assets less current liabilities). Capital employed is typically calculated as the average of capital employed at the start and end of the period under consideration. PBIT is Operating Profit. The underlying principle is that we must compare items of equal footing and horizon, and so if capital means share capital and reserves plus long-term debt capital, profit must mean the profit earned by all this capital together, which is measured as profits before interest (and tax).

If a company's (or a division's) performance is measured using ROCE, it may discourage capital investment because an increase in capital will result in a decrease in ROCE if PBIT remains constant or is not increased in proportion to the increase in employed capital.

However, such a failure to invest is likely to have a negative impact on a company's performance in the long run. One of the main criticisms levelled at ROCE as a performance metric is that it encourages quick decisions.

Illustration 1

Modern Furniture Limited's Statement of P & L for years just concluded shows the following figures –

Revenue – ₹300 lakhs

Cost of Goods Sold – ₹225 lakhs

Administration Cost – ₹48 lakhs

Relevant extracts from Balance Sheets at the end of the year just concluded and previous years are as follows–

Particulars	End of year just concluded	End of Previous Year
Total Assets	₹225 lakhs	₹209 lakhs
Current Liabilities	₹43 lakhs	₹31 lakhs

Calculate Gross Profit Ratio and ROCE for Modern Furniture Limited (MFL). Furniture industry earns GP at an average rate of 23%, while ROCE is 12%. COMMENT on the performance of MFL for the year just concluded.

Solution

Gross Profit Ratio (GP Ratio)

GP Ratio of MFL is 25%

GP Ratio = (Gross Profit / Sale) × 100

i.e., $(75 / 300) \times 100 = 25\%$

Working Notes

Gross Profit = Sale (Revenue) – Cost of Goods Sold, i.e., 300 – 225 i.e., ₹75 lakhs

Return of Capital Employed (ROCE)

ROCE of MFL is 15%

ROCE = (PBIT / Average Capital Employed) × 100

i.e., $(27 / 180) \times 100 = 15\%$

Working Notes –

PBIT = Gross Profit – Administration Cost, i.e., 75 – 48, i.e., ₹27 Lakhs

Average Capital Employed = $[(225-43) + (209-31)] / 2$ i.e., ₹180 Lakhs

Since MFL's GP ratio and ROCE are better than the industry average, performance is acceptable.

Illustration 2 – Extension to the above illustration, ADVISE after evaluating the performance of MFL if the furniture industry's ROCE is 16%.

Solution – In case, if industry average ROCE is 16%, which is more than that of MFL (15%), the MFL needs to investigate the reasons for poor ROCE. Is it low profitability (due to high cost or low revenue) or are there unused assets? Depending upon the findings, the efforts shall be made to either rationalise the cost, revenue streams, or asset base.

2.3 Return on Investment (ROI)

DuPont, an American company during the 1920s, became the first to recognise the need to consider the level of investment along with the income generated through such investment while appraising the performance of the investment centre. Since then, many organizations, instead of focusing purely on the absolute size of a division's profits, have started focusing on the ROI.

Note – ROI is calculated in the same way as ROCE and tends to be used when evaluating divisional performance (which is designated as SBU, i.e., Investment Centres).

“ROI expresses divisional profit as a percentage of the assets employed in the division. Assets employed can be defined as total divisional assets, assets controllable by the divisional manager, or net assets.”

ROI is a common measure and thus ideal for comparison across corporate divisions for companies of similar size and in similar sectors. But it has limitations too. It may be possible that divisional ROI can be increased by those actions that will reduce the overall ROI of the company, and conversely, the actions that decrease divisional ROI may make the company as a whole better off.

In other words, **evaluating divisional managers on the basis of ROI may not encourage goal congruence**. (it's already mentioned in the beginning of the topic 'Divisional Performance Measures' that certain issues will arise due to establishing measures at a divisional level that need to be addressed, and goal congruence is one among these)

Example

	Division α	Division β
Available Investment Project	₹20 lacs	₹20 lacs
Controllable Contribution	₹2.0 lacs	₹1.4 lacs
Return to the Proposed Project	10%	7%
Presently, the ROI of Divisions	13%	5%
Overall Cost of Capital is	8%	

The manager of division α would be unwilling to invest an additional ₹20 lacs because the return on the proposed project is 10%, which would decrease the present ROI of 13%.

On the other hand, the manager of division β would wish to invest the ₹20 lacs because the return on the proposed project of 7% is in excess of the present ROI of 5%, and it would increase the division's ROI.

The managers of both divisions would make decisions that would not be in the best interests of the company. The company should accept only those projects where the ROI > Cost of Capital (8%), but the manager of division α would *reject* a possible return of 10%, and the manager of division β would *accept* a possible return of 7%.

This is a situation of sub-optimisation. ROI can therefore lead to a lack of goal congruence.

Note- No doubt ROI is easy to calculate as all the requisite information is readily available (if accounts are prepared at the divisional level), but research shows a poor correlation between ROI and shareholders' wealth and can be distorted by accounting policies.

2.4 Residual Income (RI)

To overcome some of the dysfunctional consequences of ROI (lack of goal congruence), the residual income approach can be used for the purpose of evaluating the performance of divisional managers.

“Residual income is the excess of controllable profit over a predetermined organisation-wide minimum hurdle rate (cost of capital charge) on the investment controllable by the divisional manager. So higher the residual income means better performance.”

For evaluating the *economic performance* of the division, residual income can be defined as divisional profit contribution less a cost of capital charge on the total investment in assets employed by the division.

If residual income is used to measure the managerial performance of investment centres, there is a greater probability that managers will be encouraged, when acting in their own best interests, to also act in the best interests of the company.

Returning to our previous example with respect to the investment decision for divisions α and β , the residual income calculations are as shown further –

	Division α (in ₹ lacs)	Division β (in ₹ lacs)
Proposed Investment	₹20.00	₹20.00
Controllable Contribution	₹2.00	₹1.40
Cost of Capital (8%)	₹1.60	₹1.60
Residual Income	₹0.40	– ₹0.20

This calculation indicates that the residual income of division α will increase and that of division β will decrease if both managers accept the project. Therefore, the manager of division α would invest, whereas the manager of division β would not. These actions are in the best interests of the company as a whole.

Being an absolute measure, residual income is not capable of being used as a tool for making comparisons between the divisional performances of different sizes. It is obvious that a large division is more likely to earn a larger residual income than a small division. (See the next example)

To overcome this deficiency, targeted or budgeted levels of residual income should be set for each division that is consistent with asset size and the market conditions of the divisions.



Test Your Understanding

Differentiate ROI and RI?

Hint

- In the case of ROI, division managers are computing and comparing the return of the proposed investment with the *existing rate of return of the respective division*, whereas in the case of RI, the *minimum rate of return (cost of capital)* is used to compute residual income.
- ROI is a *relative measure*, whereas RI is an *absolute measure*.
- In the case of ROI, the decision was taken based upon a comparison between two (existing and proposed) earning rates, whereas in the case of RI, contribution (earning) is compared with cost. Hence, it may be possible that ROI and RI may give *contradictory results* (see the next example).

Example

The following data pertains to two divisions. W_1 and W_2 of a large shipping company.

	W_1 (₹)	W_2 (₹)
Profit	1,20,00,000	31,20,000
Investment	9,60,00,000	1,56,00,000

Cost of Capital at 10%

Note - This example shows that RI is subject to a **size effect**, but ROI is not. The larger size of the W_1 Division (which is more than 6 times that of the W_2 Division) overcomes its lower profitability, as measured by ROI. Thus, RI is not a good way to compare divisions that differ greatly in size.

Workings

	W_1	W_2	Remark
ROI	12.50% (₹1,20,00,000 / ₹9,60,00,000)	20.00% (₹31,20,000 / ₹1,56,00,000)	W_2 division has the higher ROI.
RI	₹24,00,000 (₹1,20,00,000 - 0.1 × ₹9,60,00,000)	₹15,60,000 (₹31,20,000 - 0.1 × ₹1,56,00,000)	W_1 division has the higher RI.

It can be clearly seen that W_2 , which outperforms W_1 in measure of ROI, has the disadvantage of a size effect, which is a shortcoming of RI.

Illustration 3

LNG Limited has three divisions. Its desired rate of return is 14%.

The operating assets and income for each division are as follows:

Divisions	Operating Assets (₹)	Operating Income (₹)
L	19,20,000	3,45,600
N	10,50,000	1,73,250
G	12,30,000	1,67,280
Total	42,00,000	6,86,130

LNG Limited has ₹ 8,00,000 of additional cash to invest in one of its divisions.

The divisional managers have identified investment opportunities that are expected to yield the following ROIs –

Divisions	Expected ROIs for additional investment
L	16%
N	12%
G	15%

Required

- CALCULATE the ROIs at present for each division and STATE which division manager is currently providing the highest ROI.
- Based on ROI, IDENTIFY the division manager who would be the most eager to accept the additional investment funds.
- Based on ROI, IDENTIFY the division manager who would be least eager to accept the additional investment funds.
- STATE the division that offers the best investment opportunity for LNG Limited.
- DISCUSS the conflict between requirements (ii) and (iv) above.
- ADVISE how the residual income performance measure could be used to motivate the managers to act in the best interest of the company.

Solution

- Present ROI of each division

Divisions	Operating Assets (₹)	Operating Income (₹)	ROI
L	19,20,000	3,45,600	18%
N	10,50,000	1,73,250	16.5%
G	12,30,000	1,67,280	13.6%

The division manager of the L division is currently providing the highest ROI of 18% among the three divisions.

- The manager of division G would be most eager to accept the additional fund of ₹ 8,00,000 because the ROI of the proposed investment is more than the present ROI of 13.6%, and the acceptance of the proposal would increase the division's ROI.

- (iii) The managers of divisions L and N, both would be reluctant to invest the additional fund of ₹ 8,00,000. Because the return on the proposed project is 16% for L and 12% for N against their existing ROI of 18% and 16.5%, respectively.

However, the manager of division N would be least likely to accept the additional investment because the proposed ROI of the project is 4.5% less than the present ROI.

- (iv) Division L offers the best investment opportunity at 16% for LNG Limited.
- (v) Lack of goal congruence between divisions and the organisation as a whole is the reason. The divisional managers are forced to choose between the best interests of their division (because their individual performance is linked to divisional performance) and the best interests of the company as a whole.

In requirement (ii), the decision of the managers of division G is in the best interest of the division but at the expense of their company, resulting sub optimisation; whereas in requirement (iv), decision is taken from the perspective of LNG Limited as a whole.

- (vi) To avoid sub optimisation, the divisional performance can be measured using Residual Income (RI). Since under RI, divisional managers don't reject the proposed projects with lower returns than the existing rate of return of the division, hence in the interest of the organisation as a whole, the division is ready to accept the investment projects with returns equal to or greater than the predetermined required rate of return (i.e., 14%). RI, being an absolute measure, has the shortcoming that the performance of divisions with different sizes can't be compared.

2.5 Earnings Per Share (EPS)

Earnings Per Share (EPS) is a measure of the profit attributable to each ordinary share. EPS can be calculated as –

Profit attributable to ordinary shareholders/

Weighted average number of ordinary shares outstanding during the period

Whereas Profit attributable to ordinary shareholders is profit after tax less any dividends payable to the holders of preference shares (preference dividends, if any). It is also known as earnings attributable to ordinary shareholders.

The weighted average number of ordinary shares outstanding during the period is the number of ordinary shares outstanding at the beginning of the period, adjusted by the number of ordinary shares bought back or issued during the period multiplied by a time-weighting factor. The time-weighting factor is the number of days that the shares are outstanding as a proportion of the total number of days in the period.



Concept Insight

- Simply using the number of shares outstanding at the end of the reporting period might give a distorted picture.
- EPS here dealt in context to performance evaluation and in reference to Basic EPS only.

Using EPS for performance evaluation as a measure has benefits such as –

- Calculation and disclosures are precisely defined by the financial reporting framework (AS 16 and IndAS 33, read with Schedule III of the Companies Act 2013, in the Indian context).
- Easily understood by shareholders.
- Figures are readily available.
- Often used as a performance measure between companies, sectors, periods within the same organisation.

But at the same point, it has certain limitations as well –

- A plethora of research literature highlights a weak correlation between EPS growth and shareholder value.
- Accounting treatment may cause ratios to be distorted.
- EPS is a ratio, but it is still an absolute number. A context needs to be established for evaluations.
- Capital structure (composition and face value of shares) also has a strong bearing on EPS.



Concept Insight

The last point (i.e., different capital structures) stated under limitations makes it difficult to compare different companies based upon their EPS, even if they are operating in the same Industry. Still, EPS may be used as a meaningful tool to measure and evaluate inter-temporal performance; therefore, evaluating EPS as a measure of performance makes sense.

But to overcome this limitation and the limitation due to the absolute measure (despite being a ratio in itself), P/E ratio can be used. The P/E ratio stands for Price (Current Market Price)/ Earning (Earning Per Share), which signifies the amount an investor or holder puts in or retains to earn one rupee. P/E can be compared within industry P/E or rivals.

2.6 Economic Value Added (EVA)

Joel Stern and Bennett Stewart, the founders of the New York based consulting firm 'Stern Stewart & Company' during the 1990s, promoted EVA. EVA is a performance measurement system that aims to overcome the limitations of other performance measures which are based on accounting profit. The major shortcomings of relying on accounting profit include–

- Profit ignores the cost of equity capital. Companies only generate wealth when they generate a return in excess of the return required by providers of capital – both equity and debt. In financial statements, the calculation of profit does take into account the cost of debt finance but ignores the cost of equity finance.
- Profits calculated in accordance with accounting standards do not truly reflect the wealth that has been created and are subject to manipulation by accountants.

An alternative to accounting profit is economic profit, and EVA is a measure of economic profit.

2.6.1 Calculation of EVA

Economic Value Added is a measure of economic profit. Economic Value Added is calculated as the difference between the Net Operating Profit After Tax (NOPAT) and the Opportunity Cost of Invested Capital. This opportunity cost is determined by multiplying the Weighted Average Cost of Debt and Equity Capital (WACC) and the amount of Capital Employed.

$$\text{EVA} = \text{NOPAT} - \text{WACC} \times \text{Capital}$$

Where- NOPAT means net operating profit after tax. This profit figure shows profits before *taking out the cost of interest*.

Two approaches to adjusting for interest are taken.

- *Start with operating profit*, then deduct the adjusted tax charge. The tax charge should be adjusted because it includes the tax benefit of interest. Since interest is a tax-deductible item, having interest in the income statement means that the tax charge is lower. Since we are taking the cost of interest out of the income statement, it is also necessary to remove the tax benefit of it from the tax charge. To do this, multiply the interest by the tax rate, and add this to the tax charge, *or*
- *Start with profit after tax and add back the net cost of interest*. This is the interest charge multiplied by $(1 - \text{rate of corporate tax})$.

Example

The following information is available for division X of Xu Ltd:

Net operating profit before interest and taxes	7,500
Depreciation expenses	2,500
Change in net working capital	1,250
Capital expenditure	1,000
Invested capital	12,500
WACC	8%
Tax Rate	30%

EVA can be calculated as NOPAT minus the capital charge on invested capital. In this case, NOPAT is equal to net operating profit before interest and taxes ₹7,500 minus taxes ₹2,250 ($₹7,500 \times 30\%$), which is equal to ₹5,250. EVA is then equal to ₹4,250 ($₹5,250 - ₹12,500 \times 8\%$).

2.6.2 Limitations of EVA

EVA too has certain limitations; important among them are—

- EVA is also, an *absolute measure*; hence, it is not free from shortcomings like comparison between the performances of enterprises of different size is not possible, and
- Largely based on *historical data*.



Test Your Understanding

May you enlist the instance when will EVA increase?

Hint

EVA will increase if any of the following initiatives, either individually or in any combination, are applied by the organisation –

- Operating profits can be made to grow without employing more capital, i.e., *greater efficiency*.
- Additional capital invested in projects that return more than the cost of obtaining new capital, i.e., *profitable growth*.
- Churn out capital from those investment/ projects which yield at a rate less than the cost of capital, i.e., *liquidate unproductive capital*.

Illustration 4

XYZ Ltd. provides you with the following financial information as at 31st March 2024.

(₹ in lakhs)

Share Capital	981.46
Reserves and Surplus	1,313.62
Long Term Debt	144.44
Trade Payables	20.38

Additional information provided is as follows:

- (i) Profit before interest and tax is ₹ 2,202.84 lakhs
- (ii) Interest paid is ₹ 13.48 lakhs.
- (iii) Tax rate is 30%
- (iv) Cost of equity = 12.42%, and cost of debt = 6.53%

Required

CALCULATE Economic Value Added of XYZ Ltd.

Solution

EVA = NOPAT – WACC × Capital Employed

Capital Employed

$$= ₹981.46 \text{ L} + ₹1313.62 \text{ L} + ₹144.44 \text{ L}$$

$$= ₹2,439.52 \text{ L}$$

$$\text{WACC} = \left(\frac{981.46 + 1,313.62}{2,439.52} \right) \times 12.42\% + \left(\frac{144.44}{2,439.52} \right) \times 6.53\%$$

$$= 12.07\%$$

$$\text{NOPAT} = [\text{PBIT} - \text{Interest} - \text{Tax}] + \text{Interest (net of tax)}$$

₹ in lakhs	
PBIT	2,202.84
Less: Interest	(13.48)
PBT	2,189.36
Less: Tax @ 30%	(656.81)
PAT	1,532.55
Add: Interest (net of tax) [13.48 × (1 - 0.30)]	9.44
NOPAT	1,541.99

$$\begin{aligned} \text{EVA} &= \text{NOPAT} - \text{WACC} \times \text{Capital Employed} \\ &= ₹1,541.99 \text{ L} - 12.07\% \times ₹2,439.52 \text{ L} = ₹1,247.54 \text{ L} \end{aligned}$$



Practical Insight

EVA Practices

HUL computes EVA² and reports the same in its annual report. For 2021-22, HUL considered a pre-tax rate of 6.43% as the cost of debt and 9.09% as the cost of equity to compute WACC. Cost of equity has been computed using the Capital Asset Pricing Model (SML) pronounced by William Sharpe in 1963, considering the risk-free return equivalent to the yield on long term Government Bonds taken at 6.84% for 2021-22, the market risk premium taken at 3.68%, and the beta variant for the company taken at 0.614.

2.7 Net Present Value (NPV)

Despite wide recognition of the fact that the needs of a diverse range of stakeholders are important for the success and sustainability of business, performance reports in profit-making organizations (operating in the private sector) frequently focus on financial performance in general, and on the interests of shareholders in particular.

The logic behind this is that shareholders are the legal owners of the company; their interests are paramount. As a result, the primary financial goal of commercial organizations should be to maximize shareholder wealth. The Net Present Value of any project or investment that a company undertook signifies the value creation to the wealth of shareholders, even after considering the **time value of money**, which any of the previously discussed measures failed to consider.

The NPV is the excess present value (PV) of all cash inflows over the PV of all cash outflows from an investment project.

$$\text{NPV} = \text{PV of Cash Inflow} - \text{PV of Cash Outflow}$$

Hence, if capital is available in abundance, every project with a positive NPV shall be accepted, whereas in case of capital constraints, projects with a higher Profitability Index (ratio of the PV of cash inflow to the PV of cash outflow) shall be preferred over others.

² HUL Annual Report 2021-22



Concept Insight

Sensitivity Analysis of NPV shall be performed additionally to identify the Key Factor (Critical Factor) for better control. Sensitivity analysis calculates the percentage change in a variable (such as revenue, cost of sale, discount rate, etc.) that would have to occur before the original investment decision is reversed, i.e., NPV changes to nil.

Pros of using NPV as a performance measure includes –

- Strong correlation with shareholder wealth.
- It is based on the present value i.e., the time value of money.
- Risk can be allowed for either by certainty equivalent cash flows or adjusting the cost of capital.
- Considers all cash flows of a project (even terminal cash flows as well).
- Superior measure to IRR in the case of mutually exclusive projects.
- Better than accounting profits because cash flows are less subject to manipulation and subjective decisions.

Cons of using NPV includes –

- Where two projects of very different scales are to be compared, complex calculations need to be made.
- It is based on assumptions about the cost of capital, cash flows, and the timing thereof.
- NPV is impacted by Cost of Capital rate, which depends upon the financial leverage of the company (APV, i.e., Adjusted Present Value is the solution to this limitation).

 **Note:** Students are advised to take note that the above-listed financial measures are illustrative only and not exhaustive; more measures can be included in the performance matrix, depending on the specific case. **To illustrate**, it is not uncommon for profitable companies to fail because of liquidity issues. It is therefore important to include an analysis of liquidity and gearing ratios in an assessment of company performance. Relevant aspects are also discussed under Chapter 8 in the context of corporate failure.

3. Non - Financial Performance Measures

As mentioned earlier in this chapter, financial measures possess a significant amount of shortcomings, such as short-term orientation, historical in nature, being internally focused only (not comprising the entire picture), and window dressing, which make them unfit for an effective performance management system, especially in isolation. Since profitability is important vis-à-vis stability, a balance needs to be maintained between both financial and non-financial measures (so that financial performance can be measured, but in the context of long-term viability).

Tools like the balanced scorecard, performance pyramid, building block model, and performance prism are capable of serving the purpose because these encompass non-financial performance measures apart from financial performance measures.



Test Your Understanding

What are the difficulties and shortcomings of using and interpreting qualitative information (non-financial performance measures/ indicators)?

Hints

- Quantitative information is capable of influencing the decision.
- Traditionally, information systems recognized quantitative data more quickly and easily.
- It is difficult to assign meaning and take interpretation out of qualitative data because subjectivity is involved.
- It is difficult to compare as measures are not readily available.
- Qualitative information may be incomplete, and the dynamic of qualitative information is high.
- The cost of collection and sorting may be very high.



Case Scenario

Lite Automobile Limited (LAL) is one of the leading automobile assembly part manufacturers in the country. In order to manage the performance of LAL, the CMD in the latest board meeting showed his willingness to apply non-financial performance indicators (NFPI) in addition to financial performance indicators.

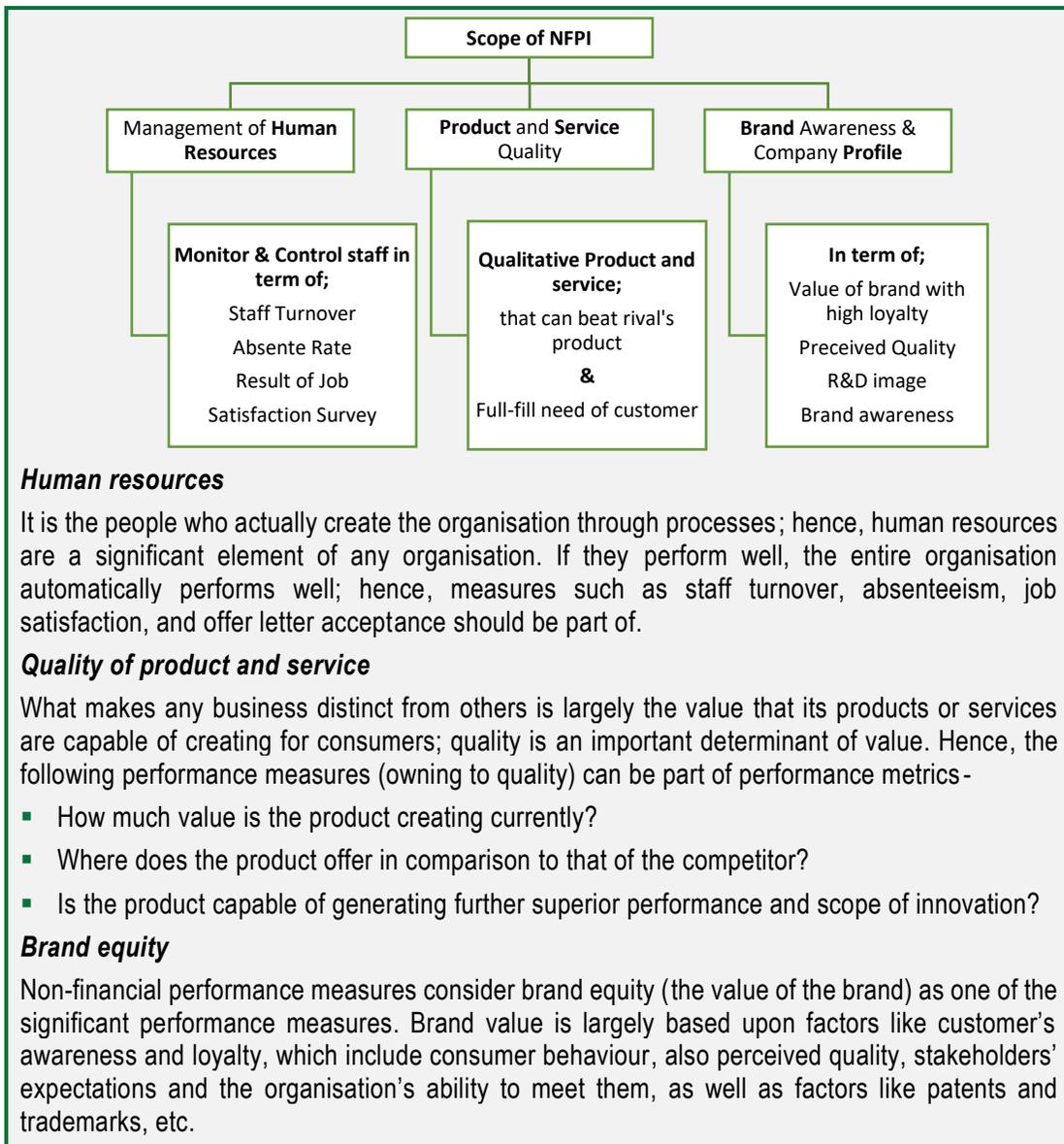
CEO conducts meeting thereafter with functional heads. Some of the functional heads are concerned with the scope of the NFPI as part of the performance management system. During the meeting, the Chief HR Lead of the company raised his concern over the utility of NFPI to monitor and control human resources. The Chief Operating Officer also raised his concern about the manner in which NFPI can ensure quality in its products and services. Chief Public Relation Officer is also concerned with how NFPI will improve brand equity.

Required

Office of the CEO hired you as a management consultant for the design and effective implementation of a performance management system that also considers NFPI. CEO asked you to briefly EXPLAIN the scope of non-financial performance indicators with regard to only three functions whose functional heads raised concern.

Solution

The performance management system, which also considers non-financial performance indicators in addition to financial performance indicators; is capable of ensuring *sustainable performance* in all functional areas; hence, its scope is organisation wide. In regard to the three functional areas specifically mentioned in the case scope, shall be–



3.1 Balanced Scorecard - linkage between performance measures

In today's business environment information becomes a vital element and to gain competitive advantage over peers, it cannot be denied. In this era of information age competition, a company cannot survive just by injecting huge capital investment in new technology for physical assets only or by excellent management of financial assets and liabilities. In this information age both manufacturing and service organisation need new capabilities for competitive success. Merely investing in and managing physical, tangible assets is not enough but an organisation must be able to mobilise and exploit its intangible or invisible assets, which in turn becomes a decisive factor.

Intangible assets enable an organisation to:

- Maintain and further develop customer relationships to retain the loyalty of existing customers and to serve new markets/ customer segments effectively and efficiently.
- Introduce products and services as per the desires of targeted customers and market segments.
- Produce customized, high-quality products and services economically with short gestation periods.
- Mobilise employee skills and motivation for better and consistent deliberation in process capabilities, quality, and response times.
- Deploy information technology, databases, and effective management information systems.

The balanced scorecard is a method that displays an organisation's performance in four dimensions namely financial, customer, internal and innovation. The four dimensions acknowledge the interest of shareholders, customers, and employees, taking into account of both long-term and short-term goals.

3.1.1 Kaplan and Norton classified performance measures into four business 'perspectives':

□ **Financial Perspective:** *"How Do We Look to Shareholders?"*

In this step, the manager of a division or unit links its business objectives to the corporate strategy of the company as a whole. Financial performance measures indicate whether the company's strategy implementation and execution are contributing to its revenue and earnings. To identify key performance measures from this perspective, managers, during strategic planning, ask, "How do we look to shareholders?"

Corporate strategy and strategic initiatives are examined from a financial perspective to determine the feasibility of these initiatives of met. The financial objectives chosen at the onset of the balanced scorecard implementation should serve two purposes:

- To provide the definite performance that was expected at the time of strategy selection.
- To provide a focus for objectives and appropriate measures in each of the other three perspectives.

□ **Customer Perspective:** *"How Do Customer View Us?"*

In this stage, companies identify customers and market segments in which they compete, as well as the means by which they provide value to these customers and markets. Managers identify the lead indicators which make a particular business unit or product different from others. Lead indicators may vary from customer to customer or market segment. If, for example, a customer values on-time delivery, then on-time delivery becomes a leading indicator. Examples of lead indicators may include any number of customer considerations, including:

- On-time delivery
- On-site service
- After sales support
- Defects per order
- Cost of the product
- Free shipments, etc.

By delivering quality as per the customer's demand and need, business units can improve outcome measures such as customer satisfaction, retention, acquisition, and loyalty.

□ Internal Business Perspective: *“At What Must We Excel?”*

In this stage, companies identify processes and activities which are necessary to achieve the objectives identified from financial and customer perspectives. These objectives may be achieved by reassessing the value chain and making the necessary changes to the existing operating activities. If maintaining net earnings is the financial objective of a company and after sales service can increase customer retention, then the internal business perspective needs to improve after sales services to satisfy customer requirements and maintain net earnings. This objective may be achieved by, for example, providing toll-free customer help lines and setting up service centres in all major cities.

□ Learning and Growth Perspective: *“How Do We Continue to Improve and Create Value?”*

In the learning and growth perspective, companies determine the activities and infrastructure that the company must build to create long term growth, which are necessary to achieve the objectives set in the previous three perspectives. Organisational learning and growth come from three principle sources:

- People, i.e., employee capabilities
- Systems, i.e., information system capabilities and
- Organisational procedures, i.e., motivation, empowerment, and alignment.

Since the balanced scorecard is intended to improve long-term performance, managers may invest in resources needed in the short run, but this should not affect the business unit's performance.

The ultimate result of using the Balanced Scorecard approach should be improved long-term financial performance. Since the scorecard gives equal importance to the relevant non –financial measures, it should discourage the short termism that leads to cuts in spending on new product development, human resource development, etc., which are ultimately detrimental for the future prospects of the company.



Concept Insight

Responsibility to devise and implement a Balanced Scorecard

The responsibility to devise and implement a Balanced Scorecard should be that of the managers working with the business. Since every company is different, it will need to work out for itself the various financial and non – financial measures, which need to be focused upon for its own development. Since the Balanced Scorecard is recommended as a management tool used both for internal and external reporting purposes, it is again the manager's responsibility to decide as to what information needs to be disclosed and how any problems of confidentiality can best be overcome.

3.1.2 Why does Balanced Scorecard fail to provide the desired results?

The following are some reasons why Balanced Scorecards sometimes fail to provide the desired results–

- Managers mistakenly think that since they already use non – financial measures, they already have a Balanced Scorecard.
- Senior executives misguidedly delegate the responsibility of the Scorecard implementation to middle level managers.
- Companies try to copy measures and strategies used by the best companies rather than develop their own measures suited for the environment in which they function.
- There are times when Balanced Scorecards are thought to be meant for reporting purposes only. This notion does not allow a Business to use the Scorecard to manage Business in a new and more effective way.

Note- *It may be noted that the above-mentioned difficulties refer to the internal use of the Scorecard; unless it is used internally successfully, it should not be used as a basis for external reporting.*



Concept Insight

Implementing a Balanced Scorecard

Balanced scorecard deals with prospects like internal process, learning and innovations, which are highly people-oriented; hence, change in human behaviour may be sought, so *managing the human behaviour* to launch the change is important (Key → link the rewards to scorecard measures).

3.1.3 The following figure summarizes the ideas of a Balanced Scorecard –

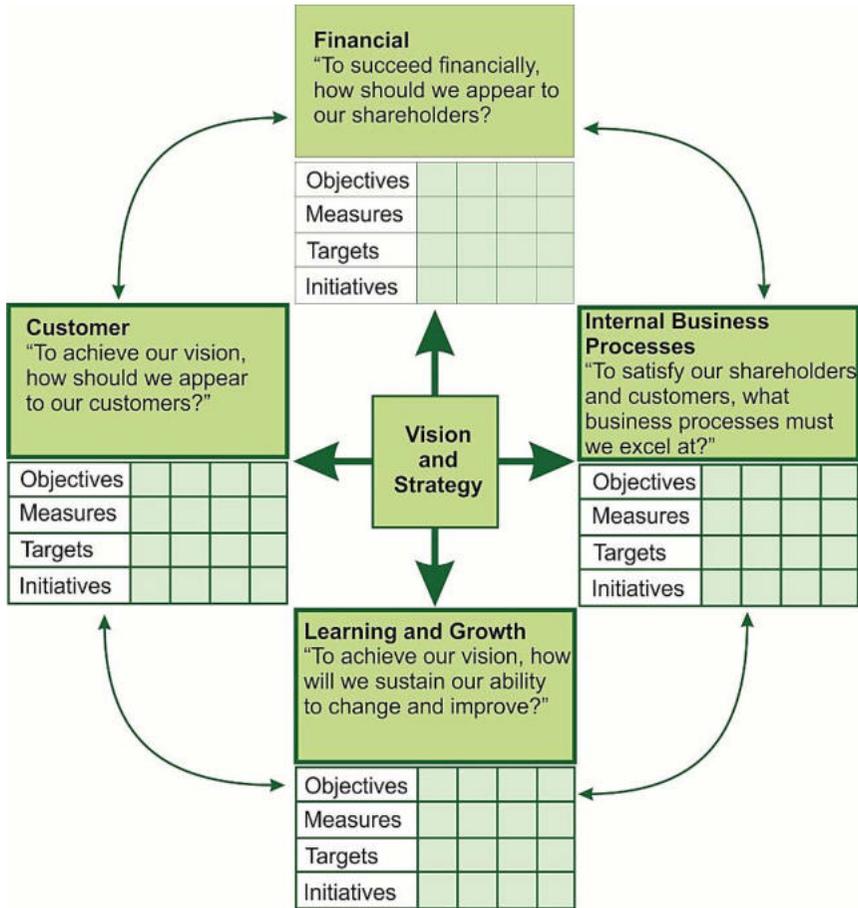


Figure C.2 – The Balanced Scorecard: Translating Strategy into Action³

3.1.3 Linkage between performance measures

A hostile business environment forces organisations to ensure sustainability with the help of a wide range of performance measures. Links need to be established between such performance measures because of relations among themselves.

If you evaluate the Balanced Scorecard diagram shown above, you will find that the performance measures that are considered as part of the performance matrix are linked to each other through a common core, i.e., Strategy and due to their bearing on inter-se.

Note- Improved customer perspective will improve financial perspective, while internal perspective has a bearing on customer perspective as well as financials, and learning & Innovation.

³ Robert S Kaplan and David P Norton

The balanced scorecard provides a balanced view of organisational performance in three ways –

- It is a blend of financial and non-financial measures.
- It integrates internal and external aspects.
- It links the fulfilment of long-term and short-term objectives to the achievement of overall strategy and vision. Success in the four key areas should lead to the long-term success of the organisation.

Moreover, 'What gets measured gets done'. If managers know they are being appraised for various aspects of performance, they will pay attention to these areas. It is flexible, as what is measured can be changed over time to reflect changing priorities.

Example – A Generic Balanced Scorecard

Perspective	Strategic Objective	Measure
Financial	<ul style="list-style-type: none"> ▪ Improve ROI ▪ Increase Sales 	<ul style="list-style-type: none"> ▪ % increase in ROI ▪ % increase in sales
Customer Perspective	<ul style="list-style-type: none"> ▪ Improve brand recognition ▪ Customer retention 	<ul style="list-style-type: none"> ▪ % of the target audience who recognizes the brand ▪ % of suggestions/ complaints responded ▪ % increase in repeat customers/ Number of repeat customers
Internal Perspective	<ul style="list-style-type: none"> ▪ Improve in product quality ▪ Improve on time delivery to customers ▪ Reduction in time spent on non-value-added activities 	<ul style="list-style-type: none"> ▪ % reduction in defect rate ▪ % of orders on time ▪ % increase in MCE
Learning & Innovation	<ul style="list-style-type: none"> ▪ Expansion of eco-friendly product line ▪ Introduction of limited edition items 	<ul style="list-style-type: none"> ▪ No. of eco-friendly products developed ▪ No. of limited editions introduced

Illustration 5

Standard Telecom Ltd. is a leading cellular service provider with a global presence. It aims to be the most innovative and trusted telecom company in the world. To achieve this aim, it is constantly working on its overall functioning. It is trying to adopt the best management practices in the world. Following is some information related to the company's performance for a particular period:

Particulars	Current Year	Base Year	Target
Operating Ratio	60%	54%	Reduce it to 50%
Average Revenue per user	₹ 225	₹ 210	Increase it to ₹ 250
Unresolved Consumer Complaints	27,500	25,000	Reduce it by 20%
Customer Relationship Centres	280	200	Take the total to 250
Employee Coverage under Training Programme	10%	8%	At least 15%

Required

ANALYSE the performance of the company using the Balanced Scorecard approach.

Solution

The balanced scorecard is a method which displays an organisation's performance in four dimensions namely: financial, customer, internal, and innovation. The four dimensions acknowledge the interest of shareholders, customers, and employees; taking into account both long-term and short-term goals. The detailed analysis of the performance of the company using Balanced Scorecard approach is as follows:

- (i) **Financial Perspective:** Operating ratio and average revenue will be covered in this prospective.

The company is unable to achieve its target of reducing the operating ratio to 50%; instead, it has increased to 60%. The company is required to take appropriate steps to control and manage its operating expenses.

The average revenue per user has increased from ₹210 to ₹225 but remains short of the targeted ₹250. This is also one of the reasons for the swelled operating ratio. The company can boost its average revenue per user by providing more paid value-added services because the increasing price is not a fine choice considering the cutthroat competition in the telecom sector.

- (ii) **Customer Perspective:** Service complaints will be covered under this perspective.

The company had set a target of reducing unresolved complaints by 20%, but unresolved complaints have risen by 10% $[(27,500-25,000)/(25,000) \times 100]$. It shows dissatisfaction is increasing among consumers, which would adversely impact the consumer's general perception of the company, and the company may lose its consumers in the long run.

- (iii) **Internal Business Perspective:** Establishing customer relationship centres will be covered under this perspective.

The company has established 80 relationship centres in the current period, exceeding its target of 50 (250-200) to cater to the needs of existing consumers as well as solicit new ones. This shows the seriousness of the company towards consumer satisfaction and would help them in the long run.

- (iv) **Learning and Growth Perspective:** Employee training program is covered under this perspective.

The company had set a target to cover at least 15% of its employee under its training program, but it covered only 10%. This could hurt the capabilities of the employees, which are needed for the long-term growth of the organisation necessary to achieve the objectives set in the previous three perspectives. People or the human resources of the company, is one of the three principal sources from which organisational learning and growth come.



Practical Insight

Qantas Airways Limited: Annual Incentive Scorecard Outcome 2021/22⁴

Notwithstanding the Board determined that the STIP would not operate in 2021/22, in line with our performance culture a Group STIP Scorecard of performance measures was still set, with the Board assessing performance against each measure to determine an overall STIP Scorecard outcome. In the interest of transparency, the table below summarises performance versus target against each scorecard category under the 2021/22 STIP.

Scorecard Category/ Strategic Objective	Measures	Scorecard Weighting 'Target' (Range of Outcomes)	Actual Outcome	Component Outcome #	Comment
Group Financial Measures	Earnings generation: Underlying EBITDA	30% (0–45%)			The Underlying Earnings Before Interest, Tax, Depreciation, Amortisation and Impairments (EBITDA) was below the threshold as set by the Board due to the impact of widespread domestic lockdowns, primarily in the first half of 2021/22.
	Cash generation: Free Cash Flow				The Free Cash Flow of \$2,430 million for 2021/22 was ahead of the target set by the Board. Overall, there was a partial contribution under this measure to the STIP Scorecard.
Recovery Plan and Growth	Restructuring benefits Qantas Loyalty Underlying EBIT	20% (0-30%)			Recovery Plan initiatives have delivered \$923 million in structural cost benefits. Qantas Loyalty exceeded its Earnings Before Interest and Tax (EBIT) target for 2021/22. This scorecard category achieved an above target outcome and therefore a full contribution to the STIP Scorecard.
Customer	Net Promoter Score (NPS) for domestic airlines and Qantas Frequent Flyer	15% (0-22.5%)			Customer satisfaction for all key domestic airlines and Qantas Frequent Flyer was below the threshold as a result of the recent operational challenges.
	Punctuality				The Qantas Domestic and Qantas Link combined on-time performance result was also below the threshold.
	External Reputation/Trust				While our Reputation/Trust target was exceeded – which would have resulted in a partial contribution to the STIP Scorecard under this measure - in acknowledgement that our broader customer performance did not meet expectations in 2021/22, the Board exercised discretion to record no achievement against the customer and hence no contribution to the STIP Scorecard.
Leading Domestic Market Position	Corporate share — Qantas Group Small and Medium-sized Enterprise (SME) share — Qantas Airlines Jetstar capacity share	20% (0-30%)			Qantas Group's revenue share of the domestic corporate travel market and Qantas Airlines' revenue share of the SME domestic travel market targets were exceeded. Jetstar achieved its Australian domestic market capacity share target. Overall, there was an above target contribution to the STIP Scorecard under the Leading Domestic Market Position.

⁴ Qantas Airways 'Annual Report' 2022

Workplace and Operational Safety	Workplace Safety measures Board's assessment of Operational Safety and 'Work Well'/'Fly Well' Programs	15% (0-22.5%)	●	Workplace safety targets overall were achieved. Operational safety performance continued to remain strong. 'Work Well'/'Fly Well' program performance for the year was good. Overall, there was an above target contribution to the STIP Scorecard under the Workplace and Operational Safety measure.
2021/22 STIP Scorecard Outcome 100% (0-150%)		90% (out of a maximum of 150%)		
Key:				
●	Achievement or Exceeded against targets	○	Partial achievement against targets	○
No achievements against targets				
#Component outcome shown where the overall target is partially achieved.				
Note- Short- Term Incentive Plan (or STIP). The STIP is an annual incentive opportunity where an executive may receive an award that is a combination of a cash bonus and an award of restricted shares if the plan's performance conditions are achieved. (Source: Qantas Airways 'Annual Report' 2022)				

3.2 Performance Pyramid - Link Strategy, Operations, and Performance

In 1989, F. Cross and R. L. Lynch published an article titled “The SMART way to define and sustain success”. In this article, they suggest the Strategic Measurement Analysis and Reporting Technique (SMART), which is popularly known as performance pyramids due to 4 level hierarchy applied in the framework.

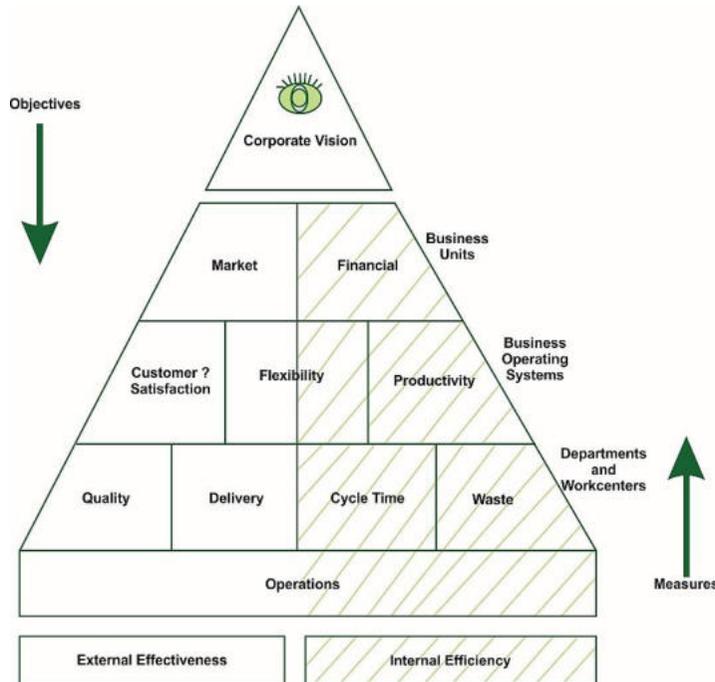


Figure C.3 – Performance Pyramid

The attractiveness of this framework is that it integrates the business' strategic objectives with operational performance dimensions, considering internal efficiency vis-à-vis external effectiveness. Performance Pyramid contains the hierarchy of financial and non-financial performance measures, divided into the following four levels–

L-1	Through corporate vision, organisation defines how long-term success and competitive advantage will be attained.
L-2	In order to achieve corporate vision, the initial focus is on the attainment of CSFs related to market and finance at the SBU or division level.
L-3	Market and financial strategies become a guiding force to achieve a strategic objective, which includes Customer Satisfaction, Increased Flexibility and High Productivity.
L-4	Operational performance dimensions such as Quality, Delivery, Cycle Time, and Waste etc. will be used as a status check for the strategic objective designated at level 3.

Caution – Performance Pyramid concentrates only two categories of stakeholders, i.e., shareholder and customer. This limitation was well addressed by the Performance Prism Model. Performance Prism Model considers the expectations and contributions of all the stakeholders as core.

3.2.1 Link Strategy, Operations, and Performance

Linking operation aspects with strategy at the SBU level using operational performance measures really pushes the worker/ manager to strive for operational efficiency because he/ she can see how his/ her efforts are helping the organisation to achieve its strategy in the march towards realizing the organisational vision.

Performance Pyramid is better than any other performance measure tool in this regard because it establishes a link between operation aspects and corporate vision to demonstrate how processes or operational efficiency can aid in the achievement of the organization's goals and strategy. Measures interact both horizontally and vertically.



Concept Insight

Performance Pyramid vs. Balanced Scorecard

The performance pyramid, like the balanced scorecard, can combine financial and non-financial measures, as well as internal and external issues. Managers will pay attention to certain aspects of performance if they know they are being evaluated. Furthermore, it is adaptable, and measures can shift over time as the strategy shifts.

It is superior to the balance scorecard in terms of –

- Hierarchy, requiring senior managers to set objectives for each level of the organization. The performance indicators will then be tailored to each level.
- It is the first model that acknowledges that financial and non-financial measures can complement one another. To illustrate, improved flexibility will surely improve market position, which in turn will also improve financial performance.

But a major limitation is also there, due to conflicting measures.



Test Your Understanding

Identify the flows defined in the pyramid and quote the nature of external and internal forces.

Hint

- The flow of 'Objectives' is from top to bottom, whereas the flow of 'Measures' is from bottom to top.
- The left-hand side of the pyramid contains *external forces* which are 'non-financial'. Whereas the right-hand side of the pyramid contains internal efficiency, which is predominantly 'financial' in nature.

Illustration 6

You are a paid assistant working at SBC LLP, an accounting consulting firm. You have received the following email from one of SBC's senior partners:

To: DG

From: SB

Date: 26/04/20XX

Subject: PEL meeting this afternoon

As you are probably aware, we are meeting with the managers of PEL later this afternoon to discuss several key issues, and I need you to do some research for me. I need a report that covers the following:

Analysis of the new proposal for the period 2022 to 2024 based on –

- external effectiveness and
- internal efficiency

To help you with this, I've attached a copy of our forecast of PEL's financial and non-financial data for the period 2022 to 2024. Please read it carefully and email me back as soon as possible so I have time to prepare before the meeting.

Thanks

SB

-----Attachment-----

Background to PEL

Precision Engineering Ltd. (PEL) specialises in engineering design and manufacture in the automotive and motorsport industry. PEL's design team has many years' experience in the design and development of engine components for the market and high-performance engines. PEL has identified a number of key competitors and intends to place emphasis on close cooperation with its customers in providing products to meet their specific engineering design and quality requirements. Efforts will be made to improve the effectiveness of all aspects of the cycle, from product design to after-sales service to customers. This will require data from a number of departments to achieve the specific goals of the new proposal. Efforts will be made to improve productivity in conjunction with increased flexibility in methods.

Forecast of PEL's Financial and Non-Financial Data

Particulars	2022	2023	2024
Total Market Size (₹ lacs)	110	115	120
PEL Sales (₹ lacs)	18	21	23
PEL Total Costs (₹ lacs)	14.10	12.72	12.55
Production Achieving Design Quality Standards	95.5%	98.0%	98.5%
Returns from Customers (% of Deliveries)	2.0%	1.0%	0.5%
Cost of After-Sales Service (₹ lacs)	1.3	1.1	1.0
Sales Meeting Planned Delivery Dates	85%	90%	95%
Average Cycle Time (Customer Enquiry to Delivery) (weeks)	5.0	4.5	4.0
Components Scrapped in Production (%)	6.5%	4.0%	1.5%
Idle Machine Capacity (%)	9%	5%	1%

Required

Draft the email as requested by the partner.

Solution

To: SB

From: DG

Date: 26/04/20XX

Subject: Re: PEL Meeting this afternoon

Please find below my analysis of the points you wished me to examine for PEL. Please let me know if you wish to discuss any of these points in more detail.

Kind regards

DG

-----Analysis-----

External Effectiveness- The *marketing success* of the proposal is associated with the achievement of *customer satisfaction*. Success will require an *efficient business operating system* for all aspects of the cycle, from product design to after-sales service to customers. Customer satisfaction is linked with *improved quality and delivery*.

Quantitative measures of these factors are as follows:

- *Quality* is expected to improve. The percentage of production achieving design quality standards is expected to increase from 95.5% to 98.5% between 2022 and 2024. In the same period, returns from customers for replacement or rectification should drop from 2% to 0.5%, and the cost of after-sales service should drop from ₹1.3 lacs to ₹1.0 lacs.
- *Delivery efficiency* improvement that is expected may be measured in terms of the rise in the percentage of goods achieving the planned delivery date. This percentage rises from 85% in 2022 to 95% in 2024.

Internal Efficiency- The financial success of the proposal is linked to the achievement of high *productivity*. This should be helped through reduced *cycle time* and decreased levels of *waste*.

Quantitative measures of these factors are as follows:

- The average total *cycle time* from customer inquiry to delivery should drop from 5 weeks in 2022 to 4 weeks in 2024.
- *Waste* in the form of idle machine capacity is expected to drop from 9% to 1% between 2022 and 2024. Also, component production scrap is expected to drop from 6.5% in 2022 to 1.5% in 2024.

3.3 The Building Block Model - link between achievement of the corporate strategy and the management of human resources

Fitzgerald and Moon proposed a Building Block Model which suggests a solution to performance measurement problems in *service industries*. But it can be applied to other manufacturing and retail businesses to evaluate business performance. It is based on the three building blocks of dimensions, standards, and rewards.

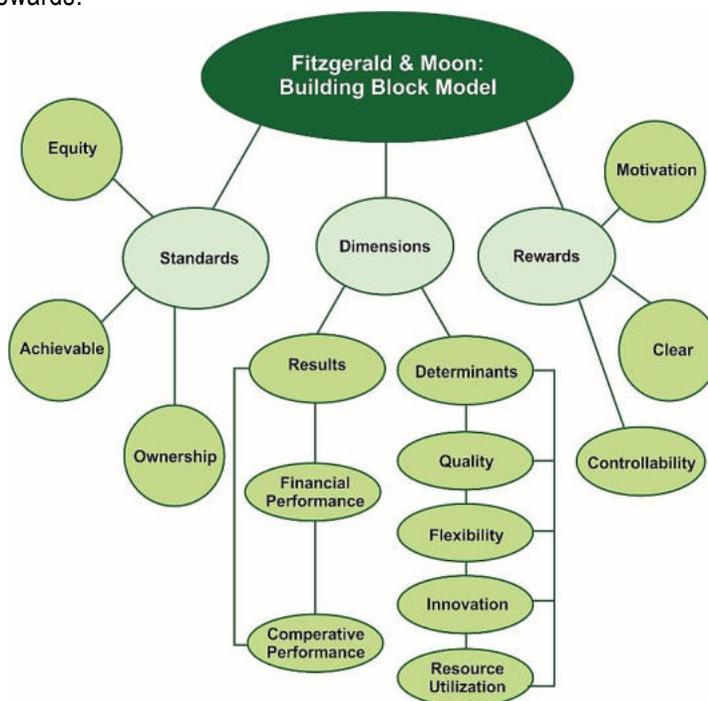


Figure C.4 – The Building Block Model

Dimensions- Dimensions are the *goals* for the business, i.e., the CSFs, and suitable measures must be developed to measure each performance dimension. They are further divided into two sub-categories.

Determinants-These are performance areas which influence the results. These are –

- ❑ **Quality-** It is the ability to deliver goods and services with consistency. Quality should be judged from the eyes of the customers. Quality is the level of benefits customers expect from the product. Quality should be enough for the product price paid.
- ❑ **Flexibility-** It is the responsiveness to change in the factor influencing business performance. For example, ability to cope with a sudden increase in sales demand.

- ❑ Innovation- the ability of the business to devise new products and new ways of doing things. Like packaging products with environmentally friendly (recyclable) material.
- ❑ Resource Utilization- It is the ability to use resources to achieve business objectives. Business assets should be used for the proper purpose and in the most efficient way possible. For example, delivery vans should be used to maximum capacity only by carrying authorized goods.

Results- It reflects the success or failure of the determinants identified above.

- ❑ Financial Performance- Financial performance gives an indication of overall business at a glance in monetary terms. These can be used to identify areas of strength and weakness. It may also highlight other areas previously identified which may be critical to business success.
- ❑ Competitive Performance- How do they stand in comparison to their competitors? How are they different from their competitors? For example, offering products of higher quality than competitors and products having distinct features than rival products.

Standards- These are the *measures used*, i.e., the KPIs, and should have the following characteristics:

- ❑ *Equity-* Performance measures should be *equally challenging* for all parts of the business. Relaxation given to one part of the business leads to the perception of unfair treatment, which hinders productivity.
- ❑ *Ownership-* Performance measures should be *acceptable to everyone*. Employees should be involved in the identification of measures rather than being imposed on them. Ownership means here is responsibility for the results.
- ❑ *Achievable-* Performance measures should be *realistic*. For example, using actual results for the competitors to set as targets. Employees will not be motivated to achieve targets if they consider them impossible.

Rewards- To ensure that employees are *motivated* to meet standards, the standards need to be *clear* and linked to *controllable* factors. Reward schemes should possess the following characteristics:

- ❑ *Motivation-* Rewards schemes should be set up in a manner which *motivates employees to achieve their business goals*. If sales growth is desired, then the bonus can be linked to performance measures, like an increase in the number of units sold in the previous year.
- ❑ *Clear-* Rewards scheme should be *clearly communicated* to employees in advance. What kind of performance will be rewarded, and how will their performance be measured?
- ❑ *Controllability-* Employees should only be *rewarded or penalized for the results* over which they have some control or influence.



Practical Insight

Building Block Model Practices

Variants of the building block model are currently used in Australia in the regulation of electricity transmission and distribution, gas transmission and distribution, railways, postal services, urban water and sewerage services, irrigation infrastructure, and port access.

3.3.1 Link between the achievement of the corporate strategy and the management of human resources

In the service industry, where human resources play a significant role, it is necessary to keep employees motivated. Management must ensure that the reward system operates in such a way that individual staff members are optimally motivated. Further goals are established in order to engage employees, such as through ownership, achievability, and fairness.

Because the building block model is specifically designed to operate in the service industry, it addresses this issue (to keep the workforce motivated). To keep employees motivated to meet standards, the model suggests that the standards be clear (e.g., the target is to 'achieve four product innovations per year' rather than simply 'innovate') and linked to controllable factors.

As a result, the building block model established an explicit link between corporate strategy achievement and human resource management.

3.4 Triple Bottom Line (TBL)

British business author John Brett Elkington coined the term TBL in 1994. But the origin of the concept actually lies in the Brundtland report by the World Commission on Environment and Development (now known as the Brundtland Commission), published in 1987, in which **Sustainable Development** is explained as development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

It is also important here to note that the 1992 United Nations Conference on Environment and Development put stress on sustainable development.

As mentioned earlier in this chapter, **every business needs to be sustainable rather than only profitable**. But the question that comes to mind is → when a business said to be sustainable? → Obviously, answer is when management makes sustainable business decisions. Hence, the real question is → *When is a business decision said to be sustainable? How to measure the performance of business decision in terms of sustainability?*

Answer lies in TBL, i.e., **Triple Bottom Line**.

To measure the performance of business decision in economic terms, we consider only one bottom line, i.e., profit, but to consider the sustainability of business decision there are three bottom lines, i.e., **People, Planet and Profit** (also known as dimensions of TBL).

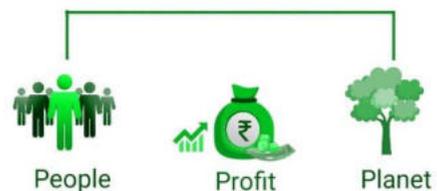


Figure C.5 – Triple Bottom Line

Line

TBL truly extends the scope of traditional accountancy, to transform it into modern day **sustainability reporting**, which goes beyond financial reporting because it considers *social and environmental performance* too. Some organisations even have separate business sustainability reporting system, and they apply the standard of sustainability reporting pronounced by the **Global Reporting Initiative**, which is an independent, international organization that helps businesses and other organizations take responsibility for their impacts by providing them with the global common framework (standards) to report those impacts.

3.4.1 Dimension (sets) of TBL

- ❑ **Planet**, the *environmental bottom line* measures the impact on resources, such as air, water, ground, and emissions to determine the *environmental impact and ecological footprints*.
- ❑ **People**, the *social equity bottom line* relates to corporate governance, motivation, incentives, health and safety, human capital development, human rights, and ethical behaviour.
- ❑ **Profit**, the *economic bottom line*, refers to measures that maintain or improve the company's success in terms of adding value to shareholders.

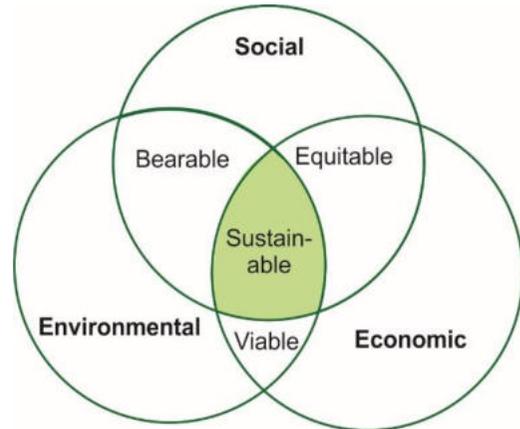


Figure C.6 – Dimensions of the Triple Bottom Line

A sustainable decision is one that is acceptable from the perspective of each bottom line, as shown in the table below-

Planet	People	Profit	Performance of Sub-set
Acceptable	Acceptable	Not acceptable	Bearable
Not acceptable	Acceptable	Acceptable	Equitable
Acceptable	Not acceptable	Acceptable	Viable
Acceptable	Acceptable	Acceptable	Sustainable

TBL believes in a *stakeholder approach* rather than a shareholder approach. TBL implies that businesses must consider the full cost; hence, it has become a substitute for **full cost accounting** with an even wider perspective.

TBL can be used to encourage each division and manager within the organisation to act in a responsible manner from a holistic perspective.



Test Your Understanding

Can you identify the businesses falling into each sub-set – Bearable, Equitable and Viable?

Hint

A business dealing in plastic bags (mind it, use of less than 35-micron plastic bags are prohibited now) may be an equitable business but not sustainable because of the harm it causes to the environment. One can take the example of the cracker manufacturing business as well.

Similarly, the Tabaco business is viable but not sustainable.

Example

S Ltd. has recently undertaken the following initiatives towards sustainability, which can be reported under the relevant dimension–

Activity	Bottom Line
Reduced the amount of plastic usage in peanut butter jars.	Planet
Constructed a solar powered warehouse.	Planet
Provided financial support to the hospital run by the local authority in the vicinity of the factory.	People
Started a childcare unit for the benefit of women employees as well as for the neighboring community.	People
Generated profit for the company's shareholders.	Profit

The triple bottom line recognizes that a company's performance should not only be viewed in terms of its ability to generate economic profits for its owners but also by its impact on people and the planet for its long term economic and social viability.

**Test Your Understanding**

Can you tell the Pros of the tools detailed above, starting from the balanced scorecard to TBL?

Hint

The tools explained above can overcome the shortcomings of financial performance measures, but don't ignore the financial aspect of the business. Indeed, they maintain a balance between financial and non-financial aspects to ensure the success of the corporate strategy. The benefits include–

- Balance between financial and non-financial performance measures.
- Regardless of ease or difficulty in measuring, include all significant factors.
- Capable of coordinating external as well as internal measures.
- Linked the measures with corporate strategy.
- Linked motivation with performance.

The above hint is based upon research from David Otley (2005) who observed a common thread between *results and determinants framework* by Fitzgerald (1991), the *balanced scorecard* by Kaplan and Norton (1992), and Neely's *performance prism*.



D. THE ROLE OF QUALITY IN PERFORMANCE MEASUREMENT SYSTEMS, ESPECIALLY IN CONTEXT OF MANAGEMENT INFORMATION

In today's competitive global business environment, quality is one of the keyways in which a business can differentiate its product or service, improve performance, and gain a competitive advantage. Quality can form a key part of a strategy.

Quality can be defined in several ways: product and service free from errors, adherence to design specifications, fitness for use, meeting the customers' needs, etc.

The role of quality in performance management system (PMS) can be seen in the following contexts –

1. Effect of quality practices on PMS and Quality-related costs

Performance can be enhanced or improved with the adoption and application of quality practices such as creating awareness among workers regarding quality standards after establishing them, forming and operating quality circles, inspections, quality checks etc.

Every quality practice result into cost; such cost is called cost of quality and can be divided into two categories and four sub-categories, such as –

- Cost of Conformance (to meet quality standards, hence emotively termed as good cost), further classified into Prevention Cost and Appraisal Cost.
- Cost of Non-Conformance (if failed to meet quality standards, hence labelled as a bad cost), further classified into Internal Failure Cost and External Failure Cost.

Monitoring the cost of quality is a core function of any quality improvement programme. But more essential is to develop the KPIs based on the costs of quality, and these can be used as a basis for staff rewards. For this, the prerequisite is a strong costing system that shall be capable of identifying and collecting these costs.

In Chapter 8, we studied that what gets measured gets done; hence, measuring quality costs results in modified behaviour of workers and managers towards quality practices, resulting in enhanced performance at the lowest possible cost.

2. Role of quality management system as sub-set or support system to PMS

A quality management system (QMS) is a set of coordinated activities used to direct and control an organization's performance in order to continuously improve it.

The total cost of conformance is the expense of maintaining a quality management system.

There is an inverse relation between the rigor of QMS and the costs of non-conformance, meaning that the higher the rigor, the lower the cost, and vice-versa.

Therefore, an effective quality management system has the following positive bearings on performance to support organisational strategy –

- Reduce the overall cost of quality to an optimal level.
- Leads to a higher level of quality, which in turn improves customer satisfaction (higher perceived value).
- Due to their involvement in improvement drives, staff and managers feel empowered with high morale and productivity.

3. Role of lean production system as sub-set or support system to PMS

Lean is the management philosophy of cutting out waste and unnecessary activities. Lean production is closely related to quality practices. A lean system aims to get the right thing to the right place at the right time. Hence, lean production results in improvements in performance.

4. Quality in Management Information Systems (MIS)

Good quality information will help management to make better and informed decisions, as well as effectively control their business and performance thereof.

Good quality information possesses the characteristics of reliability, accuracy, timeliness, objectivity, completeness in material substance, etc., which can only be assured by a functional, reliable, interactive, and user-friendly MIS.

Summary

- ❑ An organisation structure outlines the roles of individuals in the organisation and decides the way in which authority and responsibility is allocated among them and how they coordinate with each other to attain organisational objectives. It has significant bearing on determining the need of responsibility accounting and design of performance management system.
- ❑ Performance Management System is four stage framework that is used for measuring and evaluating performance and also for taking necessary corrective actions if required.
- ❑ Each critical success factor should have a KPI associated with it. A single Critical Factor can also have more than one KPI, if need be. The objectives, CSFs, and KPIs together represent a chain of links that together deliver a company's strategic goal, by breaking down that strategic vision into a set of quantifiable targets.
- ❑ Pure financial performance measures are Return on Investment, Residual Income, Residual Income and Economic Value Added.
- ❑ Integration of Financial and Non- Financial Measures
 - Balanced Scorecard – Balanced Score Card is a set of financial and non-financial measures relating to a company's critical success factors. It is an approach which provides information to management to assist in strategic policy formulation and achievement.

Major Components of Balanced scorecard – Customer Perspective i.e. how do customers see us, Internal Perspective i.e. what must we excel at, Innovation and Learning Perspective i.e. can we continue to improve and create value, Financial Perspective i.e. how do we look to our shareholders.

Process of Creating a Balanced Scorecard – Identify Vision i.e. where an organisation is going, Identify Strategies i.e. how an organisation is planning to go there, Identify CSFs and Perspectives i.e. what we have to do well in each perspective, Identify Measures which will ensure that everything is going in the expected way, Evaluate i.e. ensuring what we are measuring is right, Create Action Plan, Follow up and Manage i.e. what should be the structure of the reports and who should have the authority to look at it.

- Performance Pyramid – The Performance Pyramid is also known as Strategic Measurement and Reporting Technique. They view businesses as performance pyramids. The attractiveness of this framework is that it links the business strategy with day-to-day operations.
- Building Block Model – Fitzgerald and Moon have developed an approach to performance measurement in business services that is based on the three building blocks of dimensions, standards and rewards.
- Triple Bottom Line (TBL) – TBL expands traditional accountancy reporting systems, looking at social and environmental performance, rather than simply financial performance.
- ❑ Disadvantages to Non-financial Performance Measures – Multiple measures create conflict in the short term can also be time consuming, unlike accounting measures, non-financial data are measured in many ways, there is no common denominator.
- ❑ In today's competitive global business environment, quality is one of the keyways in which a business can differentiate its product or service, improve performance and gain competitive advantage. Quality can form a key part of a strategy.

TEST YOUR KNOWLEDGE- MCQS

MCQ 1

ROI is _____ measures and leads to _____

Options

- a. Relative, optimisation
- b. Relative, sub-optimisation
- c. Absolute, optimisation
- d. Absolute, sub-optimisation

Key - b

Reason – ROI is a relative measure; it discourages investment because this can decrease ROI in the short term, hence leads to sub-optimisation.

MCQ 2

RI is _____ measures, hence best applicable to compare performance of division of _____ size.

Options

- a. Relative, Same
- b. Relative, Different
- c. Absolute, Same
- d. Absolute, Different

Key - c

Reason – RI is excess of operating income over the required income to meet cost of capital hence absolute measure, therefore comparison can be made between divisions of same size only.

MCQ 3

The number of inpatient hospital deaths decreased 8%, from 776 in 2021 to 715 in 2022.

Options

- a. Economic (Profit)
- b. Social (People)
- c. Environmental (Planet)
- d. Need not to be reported

Key – b

Reason – Social bottom line, since hospital mortality rate measures the clinical quality.

MCQ 4

Key Performance Indicator is the _____ of Critical Success Factor

- a. Target Measure
- b. Source
- c. Extension
- d. Substitute

Key - a

Reason - Key performance indicators (KPIs) are the way to measure whether the CSFs are working. Using CSFs and KPIs helps a business stay focused on the key actions that will keep it on track to achieving its goals.

MCQ 5

Critical Success Factors are true _____ of Competitive Advantage

- a. Target Measure
- b. Source
- c. Extension
- d. Substitute

Key - b

Reason - If any organisation is able to use its core competencies to exploit the CSFs, it will surely have an edge over rivals, which will position the organisation in a better strategic position; leads to competitive advantages. Hence Critical Success Factors are a true source of Competitive Advantage.

TEST YOUR KNOWLEDGE

Return on Investment (ROI)

1. “Y” Limited has three autonomous divisions. The divisions are evaluated on the basis of ROI, with yearend bonuses given to divisional managers who have the highest ROI. Operating results of Division II for the last year are given below:

	₹
Sales	2,10,00,000
Less: Variable Expenses	1,26,00,000
Contribution margin	84,00,000
Less: Fixed Expenses	67,20,000
Net Operating Income	16,80,000
Divisional Operating Assets	52,50,000

The company's overall ROI for the last year was 18% (considering all divisions). Division II has an opportunity to add a new product line that would require an investment of ₹30,00,000. Other details of the new product line are as follows:

	₹
Sales	₹ 90,00,000 per annum
Variable Expenses	65% of sales
Fixed Expenses	₹ 25,20,000 per annum
Life cycle of the product line	5 years

Required

- (i) CALCULATE last year's ROI of Division II.
 - (ii) DISCUSS whether the manager of Division II would accept or reject the new product line, if he takes his decision based solely on divisional ROI.
 - (iii) ADVISE how residual income approach can be used as an alternative financial measure for evaluation of managerial performance in the best interest of the company.
2. BYD Alloy Ltd. first opened its door in 1991 for business and now it is a major supplier of metals supporting over a dozen different industries and employs experts to support each industry. These include Wood & Panel Products Manufacturing, Hearth Products, Site Furnishings, Commercial and Residential Construction etc. It has grown through devotion to its customers, dedication to customer service and commitment to quality products. The company has two divisions: Division ‘Y’ and Division ‘D’. Each division works as an investment centre separately. The salary of each divisional manager is ₹7,20,000 per annum with the addition of an annual performance-related bonus based on divisional return on investment (ROI). A minimum ROI of 12% p.a. is expected to be achieved by each divisional manager. If a manager only achieves

the 12% target, he will not be rewarded with a bonus. However, for every whole 1% point above 12% which the division achieves for the year, a bonus equal to 3% of annual salary will be paid subject to a maximum bonus of 20% of annual salary. The figures belonging to the year ended 31 March 2024 are given below:

	Division 'Y' ('000)	Division 'D' ('000)
Revenue	29,000	17,400
Profit	5,290	3,940
Less: Head Office Cost	(2,530)	(1,368)
Net Profit	2,760	2,572
Non- Current Assets	19,520	29,960
Cash, Inventory, and Trade Receivable	4,960	6,520
Trade Payable	5,920	2,800
Manager Responsible	HAI	FAI

During the financial year 2023-24, FAI manager of Division 'D' invested ₹13.6 million in new equipment including an advanced cutting machine, which will increase productivity by 10% per annum. HAI, manager of Division 'Y', has made no investment during the year, even though its computer system needs updation. Division 'Y's manager has already delayed payments of its suppliers due to limited cash & bank balance although the cash balance at Division 'Y' is still better than that of Division 'D'.

Required

- For each division, COMPUTE, ROI for the year ending 31 March 2024. JUSTIFY the figures used in your calculation.
- COMPUTE bonus of each manager for the year ended 31 March 2024.
- DISCUSS whether ROI provides a justifiable basis for computing the bonuses of managers and the problems arising from its use at BYD for the year ended 31 March 2024.

Economic Value Added (EVA)

- X Greetings is a Korean company based in Seoul committed to supplying the highest quality stationery, greeting cards, gifts, and children's products, which are sourced from all over the world. The company also distributes Sunday Paper – Korean made eco-friendly stationery designed and manufactured in Seoul. X's home currency is the KRW. It is also listed on the KRX for last 20 years and its current share price is KRW 23.25.

You are the Management Accountant of X Greetings and the directors have asked you to study X on value-based management, which is a different approach to the performance management. The directors have heard about this method, considering it a way of focusing on shareholder's interests and in the present economic scenario, they think it to be useful for the growth of X.

Conventionally earnings per share (EPS) and share price were used to assess performance. The proposed changes are important, and the directors require you to have the implications of the new analysis and also want to convince the major investors about the future benefits.

Financial data for X Greetings

Particular	2023-24	2022-23
	KRW in million	KRW in million
Profit after interest and tax	55.55	65.38
Interest	15.60	8.00
Opening capital employed	273.58	198.40
Closing capital employed	329.13	273.58
	Debt to Equity	Debt to Equity
Capital structure	40:60	40:60
	%	%
Costs of capital		
Equity	14.20	11.50
Debt (pre-tax rate)	8.00	6.00
Tax rate	30	30
<i>Stock market information:</i>		
Average number of shares in issue	3.2 million	3.2 million
Stock market all-share index	1,985	2,561
Retailing sector index	1,155	1,408
X Greetings (share price)	KRW 22.50	KRW 24.40

Required

ASSESS the performance of X Greetings using Economic Value Added and ANALYSE the result relative to those of earnings per share (EPS) and share price. Assumptions, if any, should be clearly stated.

- Water Utilities Services (WUS) is established with an aim for supply and distribution of water in Mumbai as well as supply of water to the various local authorities for distribution to villages and other small cities adjacent to Mumbai. This involved planning, operating, treating, maintaining, and distributing water resources in the country's urban centres and other areas mandated by Maharashtra Government. Its mission is "To provide sustainable water in a cost effective and environmentally friendly manner to the economy".

The government ensures that WUS does not take advantage of its monopoly position in the regional area by increasing prices. The government controls majority of services through its

water regulatory body which determines an acceptable margin level (ROCE) and ensures that the pricing of WUS within these areas does not break this level. The remaining work, i.e. a water bottle operation (WBO) is not regulated by the government and WUS charges a market rate for water supply in bottles. The regulator computes the return on capital employed (ROCE) of WUS based on its own valuation of the capital assets which are used in operation and the profit from those services.

The acceptable level of ROCE set by the regulator is 7.00%. If WUS breaches this level, then the company would be penalized. The WUS board is trying to improve the performance for the benefit of the shareholders. In order to communicate the objective of maximizing shareholders' wealth, the directors have decided to consider economic value added (EVA) as the key performance indicator.

Compute EVA of WUS based on the following information for the year ending 31 March 2024:

Particulars	Water Distribution Operation (WDO)	Water Bottle Operation (WBO)	Total
	₹ in Crore	₹ in Crore	₹ in Crore
Revenue	555.00	186.00	741.00
Less: Operating Cost	460.00	119.00	579.00
Operating Profit	95.00	67.00	162.00
Less: Finance Charges			46.00
Profit Before Tax			116.00
Less: Tax at 30%			34.80
Profit After Tax			81.20
Capital Employed	2023-24	2022-23	
	₹ in Crore	₹ in Crore	
Audited Accounts	1,616.20	1,495.00	
Determined by the Regulator (for WDO Only)	1,558.00	1,422.00	

Notes

- Operating Costs includes:

Particular	2023-24	2022-23
	₹ in Crore	₹ in Crore
Depreciation	118	114
Provision for doubtful debts	4	1
Research and Development	24	–
Other non-cash items	14	12

2. Economic depreciation is ₹166 Crore in 2023-24. In FY 2022-23, economic and accounting depreciation were assumed to be the same.
3. Current year tax paid is ₹18 Crore and deferred tax provisions of ₹16.80 Crore has been adjusted. There was no deferred tax balance before 2023-24. The provision for doubtful debts was ₹9 Crore in the 2023-24 balance sheet.
4. Research and development has been non-capitalized. It belongs to a new project that will be developed over five years and is expected to be of long-term benefit to the company. 2023-24 is the first year of this project.

5. Cost of Capital

Equity	14%
Debt (Pre-Tax)	6%

6. Gearing of WUS

Equity	45%
Debt	55%

Required

- (i) EVALUATE the financial performance of WUS using EVA.
 - (ii) ASSESS whether WUS complies with its acceptable ROCE level.
 - (iii) Advise on how to improve profitability.
5. Beta Control (BC) is a global leader in the manufacturing of commercial building control systems with over 250 distributors and many thousands of installations in more than 50 countries. Control systems involve air conditioning systems, facility management, energy and water management, access control and security controls etc. At BC, manufacturing is done at a number of factory sites where some products are easy and largely produced and have a long life while other products are intricated and have a short life due to changing technologies. BC's mission statement is 'to keep you ahead through control systems that improve productivity and save energy'.

A Newly appointed chief executive officer (CEO) is anxious about declining share price of BC in the last two years. She identified that the business has grown through acquisition and senior management have focused on making corporate deals but not on making control systems. She announced that the BC's focus must be on optimization and upgradation of its value generation rather than just getting bigger through acquisitions.

Assuming yourself as a performance management expert of BC, the CEO has asked you to aid her in her improvement programme. Firstly, she wants your views on the use of EVA as the key performance metric at BC. You are given the current EVA computation (Annexure1) but there is some suspicion about whether the assistant who has done this work is sufficiently well trained in this method. So, she requires you to examine his accuracy and the assumptions forming part of the calculation.

Required

Write a report to the chief executive officer to EVALUATE the usefulness of EVA as performance measure and accuracy of the calculation done by assistant apart the assumptions taken if any.

Annexure 1**NOPAT**

Particulars	Year ended 31 st March 2024	
	₹ in Lacs (L)	Notes
Operating Profit	1,102.80	
<i>Add:</i>		
Non-Cash Expenses	30.20	
Marketing Expenditure Capitalised	46.20	7
<i>Less:</i>		
Tax	269.60	9
Lost Tax Relief on Interest	48.96	
Net Operating Profit After Tax (NOPAT)	860.64	

Capital Employed

Particulars	Year ended 31 st March 2024	
	₹ in Lacs (L)	Notes
From the Statement of Financial Position	4,802.00	10
<i>Add:</i>		
Marketing Expenditure Capitalized	46.20	7
Adjusted Capital Employed	4,848.20	

$$\begin{aligned} \text{WACC} &= (1/2 \times 15\%) + (1/2 \times 7.8\%) \\ &= 11.40\% \end{aligned}$$

$$\begin{aligned} \text{EVA} &= \text{NOPAT} - (\text{WACC} \times \text{Capital Employed}) \\ &= ₹860.64 \text{ L} - ₹4,848.20 \text{ L} \times 11.40\% \\ &= ₹860.64 \text{ L} - ₹552.69 \text{ L} \\ &= ₹307.95 \text{ L} \end{aligned}$$

Assumptions and Notes

1. Debt/Equity 1:1
2. Cost of Equity is 15.00%

3. Cost of Debt (pre-tax) is 7.80%
4. Tax Rate is 30.00%
5. Interest charged in the period was ₹163.20 L.
6. In the current fiscal year, BC spent ₹80.00 L in Training and Development by leveraging the latest digital technologies including virtual classrooms to deliver highly relevant training to staff at the point of need.
7. Marketing Expenditure has been ₹46.20 L each year for the last two years to build the long- term brand.
8. The total R & D spending was ₹20 L during this year for in- depth study of the TCP/IP protocols. The TCP/IP based products have not been launched yet.
9. BC has paid Tax of ₹260 L while the tax charged per the accounts was ₹269.60 L.
10. Capital employed during the Period (from the statement of financial position):

Opening	₹4,564.00 L
Closing	₹4,802.00 L

Balanced Scorecard

6. Your Bank Ltd. was established on the 30th September, 1940 under the provisions of Co-operative Societies Act by the eminent professionals to encourage self-help, thrift, cooperation among members. Bank was issued Banking License under Banking Regulation Act, 1949 on October 25, 1986 to carry out the Banking Business within the national capital and since then the Bank has been growing continuously. At present, the Bank has a large number of membership of individuals from different sections. The Bank has 12 branches in the NCT of Delhi. Bank offers 'traditional counter service'. Opening hours are designed to coincide with local market days.

The Board of Directors were worried about the growing popularity of new style banks. These banks offer a diverse range of services such as direct access to executive management, a single point of contact to coordinate all banking needs, appointment banking to save time, free online banking services 24/7, free unlimited ATM access etc.

It has now been decided that the bank will focus on "What Customers Want" and will use a balanced scorecard to achieve this goal.

Required

PRODUCE, for each of the three non-financial perspectives of a 'Balanced Scorecard', an objective and a performance measure that the bank could use with appropriate reason.

7. B. Steels is a leading manufacturer of flat and long products and have state-of-the-art plants. These plants manufacture value added products covering the entire steel value chain right from coal mining to manufacturing Pig Iron, Billets, HR Coils, Black Pipe/GI Pipe, Cable Tapes etc. conforming to international standards. The rock-solid foundation combined with nonstop upgradation and innovation has enabled B. Steels to surpass its goals constantly. Its vision

and values for sustainable growth are balancing economic prosperity and social equality while caring for the planet. It is preparing its balanced scorecard for the year 2023-24. It has identified the following specific objectives for the four perspectives.

▪ Improve post-sales service	▪ Improve employee morale	▪ Improve employee job satisfaction
▪ Increase gross margin	▪ Increase number of customers	▪ Increase profitability of core product line
▪ Increase plant safety	▪ Increase customer retention	

B. Steels has collected Key Performance Indicators (KPIs) to measure progress towards achieving its specific objectives. The KPIs and corresponding data collected for the year 2023-24 are as follows:

Key Performance Indicator	Goal	Actual
Average replacement time (number of days)	2	1.5
Gross margin growth percentage	15%	16%
Number of customers	15,000	15,600
Number of plant accidents	0	2
Percentage of repeat customers	83%	81%
Core product line profit as a percentage of core-product line sales	5%	4.4%
Employee turnover rate (number of employees leaving/ Average number of total employees)	2%	3%
Employees satisfaction rating (1-5, with 1 being the most satisfied)	1	1.2

For preparation of Balanced Scorecard report, the following format has been developed:

B. Steels Balanced Scorecard Report For the year ended March 31, 2024					
Perspective	Objective	KPI	Goal	Actual	Goal Achieved (Yes or No)
Financial	x	x	x	x	x
Customer	x	x	x	x	x
Internal Business Process	x	x	x	x	x
Learning and Growth	x	x	x	x	x

Required

- (i) PREPARE a balanced scorecard report using the above-mentioned format. Place objective under the appropriate perspective heading in the report. Select a KPI from the list of KPIs that would be appropriate to measure progress towards each objective.
- (ii) B. Steels desires to integrate sustainability and corporate social responsibility related KPIs in their balance scorecard to adhere vision and values. ADVISE B. Steels, using TBL framework.

8. History

In 2012, Luxo had a monopoly in the eyewear market of America, but the problem with the company was that it was selling a variety of eyewear, by putting a big price on it. At present, there is almost nothing that you can't buy online, but at that time there were limited things that you could order online. In 2012, **Arby Signer** Inc. launched a website to sell eyeglasses online. Selling eyewear online and competing with Luxo was a challenge for Arby. Within just 4 years Arby broke the monopoly of Luxo and captured the major market of America. People find it really convenient to buy sunglasses and glasses online and get delivery at doorstep. Following the footsteps of Luxo, Arby eliminated the middleman from the manufacturing process, launched its own optical lab to have its own manufacturing process. The range of products/services offered by Arby which make different from Luxo include easy buying process, delivery at doorstep, stylish glasses, customize eyewear glasses, products were sold on the site at very affordable, with a starting range of just \$95 etc.

Mission, Vision & Objectives

<i>Mission</i>	<i>"Improving people's lives with our health care products in a socially cognizant way"</i>
<i>Vision</i>	<i>"To be a trusted health care partner"</i>
<i>Objective</i>	<i>"To offer people designer eyewear at a revolutionary price"</i>

As a mission-based brand, Arby needed a way to instill in their team of employees a passion for the mission. Arby let their employee know 'what they value' and 'what the employee should value' in 'who they are'. This is important to setting up 'what they do' and 'why they do it' as a core foundation of their brand story. Arby also contributes to philanthropic work; it inspires the people with its mission. For every pair of glasses customer pays, Arby donates a pair of glasses to a needy person. In December 2023, Arby reported the donation of 9,60,000 pairs of eyeglasses. The company also claims to be 90% carbon neutral.

Extracts from the Balanced Scorecard

Performance Measure	2023 Actual	2023 Target
Financial perspective		
Return on capital employed (ROCE)	13%	14%
Net income	\$95 Millions	\$89 Millions
Customer perspective		
Number of first-time buyers	1,20,000	1,00,000
Customer retention ratio	78%	75%
Number of complaints (per 1,000 customers)	1.5	2
Number of glasses donated to needy people	9,60,000	9,00,000
Internal processes		
Number of business processes re-engineered	110	100
Number of new services made available through online application	2	4
Incidences of fraud on customers' accounts (per 1,000 customers)	3	10
Total CO ₂ emissions (tons)	850	1,100
Learning and growth		
Number of employees trained to instruct retailers	1,000	1,050
Number of hours (paid for) used to support social plans	10,200	10,000
Number of trainee positions from rural areas	189	200

Other Information

Arby Signer has recently invested heavily in IT security to prevent fraud.

Required

EXAMINE the performance of The Arby Signer in 2023.

Triple Bottom Line (TBL)

- Caregiver Ltd. is a multi-specialty hospital in a mid-sized town. A 300+ bedded facility offers treatment across all medical disciplines of Cardiac, Oncology (Medical, Surgical and Radiotherapy), Neurosciences, Urology, Nephrology, Kidney Transplant, Aesthetics and Reconstructive Surgery, and other ancillary services. Most of the community members have their livelihood linked with the hospital. Many of them are directly employed at the hospital as doctors, nursing staff, lab technicians or as other support staff. While others are indirectly related as suppliers of medical devices or drugs to the hospital, catering or housekeeping contractors etc. for the hospital. Hence, the existence of the hospital is vital to the community.

Growing awareness about sustainable business prompted the management to identify areas that can help the hospital operate in a sustainable manner that would be mutually beneficial to the organization as well as the town that depends on it. Therefore, it has identified the initiatives that have been put in place to create a sustainable business. Information captured from various departments are being considered to prepare the Triple Bottom Line (TBL) report that is for the consumption both to internal and external stakeholders.

Required

IDENTIFY, which of the following aspects need to be reported in the TBL report and under which of the three categories. Provide reasons for classifying the aspect under a specific category, if applicable.

- (i) Medical staff conduct charity camps every month. Open to all members of the community, who are provided with consultation free of charge.
- (ii) Prompt and accurate tax payments based on records maintained without errors or fraud.
- (iii) Caregiver, with the help of traffic police, has implemented a "green corridor" for ambulances that carry donor organs for transplantation. Organs harvested from the donor at one hospital can reach another hospital with the recipient patient at the earliest.
- (iv) Medical waste is discarded at a landfill in a nearby dumpsite. Some of the waste are not bio-degradable.
- (v) During review of the supplier for housekeeping service, it was observed that the service provider resorted to child labor to keep cost of operations lower.
- (vi) Training and professional development programs doctors and nurses.
- (vii) Lab reports are being made available online within the hospital computer system. This would reduce printing costs and storage space needed to maintain older records.
- (viii) Caregiver has a good track record of having no medical negligence litigation cases filed against it.
- (ix) The hospital is planning to market medical check-up packages so that facilities in its out-patient department can be utilized better.
- (x) The number of inpatient hospital deaths decreased 8%, from 776 in 2022 to 715 in 2023.

Assume all aspects are material enough to be reported in the TBL report.

ANSWERS/ SOLUTIONS

1. (i) Calculation of last year ROI of Division II

$$\begin{aligned}
 &= \text{Controllable Profit/ Controllable Net Asset} \\
 &= ₹16,80,000/ ₹52,50,000 \\
 &= 32\%
 \end{aligned}$$

(ii) Calculation of ROI of New Product Line

Particulars	Amount (₹)
Sales	90,00,000
Less: Variable Cost	58,50,000
Controllable Contribution	31,50,000
Less: Fixed Cost	25,20,000
Controllable Profit	6,30,000
Investment Available	30,00,000
Return on the Proposed Line (ROI)	21%

The manager of Division II will reject the investment proposal (Invest additional ₹30 lacs in new product line) because this would decrease Division II's ROI of 32% to 28%*.

$$(*) 28\% = (\text{₹}16,80,000 + \text{₹}6,30,000) / (\text{₹}52,50,000 + \text{₹}30,00,000)$$

Note – Divisional performance measures have certain issues, one among them is lack of goal congruence between divisions and organisation as a whole. The divisional managers are forced to choose between the best interests of their division (because their individual performance is linked to division performance) and the best interests of the company as a whole. It is obvious, a manager who is evaluated based on ROI will reject any project whose rate of return is below the division's current ROI even if the rate of return of the project is above the company's minimum required rate of return. In present case too investment proposal with ROI of 21% which above organisation wide ROI i.e. 18%. This will give birth to situation of **sub-optimisation**.

- (iii) RI is capable of overcoming the inherent shortcoming of ROI. If divisional managers are evaluated using residual income, then every such investment proposal will be acceptable whose rate of return is above the minimum required rate of return, because it will increase their residual income. Hence if decision is based upon RI rather ROI, division II will accept the proposal to invest additional capital of 30 lacs, because it will fetch them 21% which more than 18% the required rate of return; in the best interest of the company as a whole because capable to add ₹ 90,000 each year for next 5 year to profit of company.

Working Note – Calculation of RI for division II (from proposed investment).

Particulars	Amount in ₹
Controllable Profit	6,30,000
Cost of Capital (18%)	5,40,000
Residual Income (RI)	90,000

Note – Where RI is capable of overcoming the sub optimisation but has its own shortcomings. Being an absolute measure RI is not capable of comparing the performance of divisions which are different in size.

Alternative

To overcome the dysfunctional consequences of ROI, the residual income approach can be used. For the investment decision for Divisions II, the residual income calculations are as follows:

Proposed Investment	₹ 30,00,000
Controllable Profit	₹ 6,30,000
Cost of Capital (18%)	₹ 5,40,000
Residual Income (RI)	₹ 90,000

Advise

This calculation indicates that the residual income of Division II will increase if the manager accepts the project. However, it is important to note that Residual Income does not always point to the right decision, because notional interest on accounting capital employed is not the same as IRR on cash investment.

This Project has 1.65% IRR.

Overall, Residual Income is more likely than ROI to improve when managers make correct investment decisions, and so is probably a 'safer' basis than ROI on which to measure performance.

2. (i) ROI

Division 'Y'

Controllable Profit = ₹5,290K

Net Assets = ₹19,520k + ₹4,960K – ₹5,920K = ₹18,560K

ROI = 28.50%

Division 'D'

Controllable profit = ₹3,940K

Net Assets = ₹29,960K + ₹6,520K – ₹2,800K = ₹33,680K

ROI = 11.70%

Responsibility accounting advocates that manager's performance shall be judged based upon how well he or she manages the items under his or her control, hence in computation of ROI of both division, *controllable profit* has been taken into consideration, because head office costs are not controllable by divisional managers. Figures of Non-current and current assets apart from the current liabilities have been taken into consideration as they are such items over which divisional managers have complete control.

(ii) Bonus

Bonus to be paid for each whole percentage point is ₹21,600 (₹7,20,000×3%), But there is ceiling limit as well, i.e. 20% of salary hence the maximum Bonus will be ₹1,44,000 (₹7,20,000 × 20%).

Division 'Y'

Divisional ROI is 28.5%, which results in 16 whole percentage points above the minimum required ROI of 12%. Hence the bonus according to each whole percent of excess ROI will be ₹3,45,600 ($16 \times ₹21,600$). But there is upper cap of ₹1,44,000. Therefore HAI will be paid the bonus of ₹1,44,000.

Division 'D'

Divisional ROI is 11.7%, since same is less than the minimum required ROI of 12%, hence FAI will not be rewarded with a bonus.

(iii) Discussion

FAI will not receive any bonus since he has not earned any point above minimum percentage. This is due to the larger investment base on which the ROI figure has been computed. Total investment of Division 'D' is almost 1.81 times to that of Division 'Y'. The major reason behind this is that Division 'D' invested ₹13.6 million (₹13,600K) in new equipment during the year. Ignoring this investment of division D is just 1.1 times to that of division Y and net Investments would have been only ₹20,080K and the ROI for Division 'D' would have been 19.62% resulting in payment of a bonus ₹1,44,000 ($7 \times ₹21,600$ i.e. ₹1,51,200 but subject to upper cap of ₹1,44,000) rather than the nothing. So, FAI is being penalized for making investment decisions which are in the best interests of his division and company, because new investment enhance productivity which will support customer loyalty, dedication to customer services and quality, the CSFs for BYD. It is very surprising that he decided to invest where he knew that he would receive a lesser bonus subsequently. On the other hand, HAI has benefited from the fact that he has not invested in anything even though it was needed for computer system updation. This is an example of sub-optimal decision making.

Further, Division 'Y's trade payables are more than double those of Division 'D'. In part, one would expect this due to higher sales (almost 66% more than Division 'D') and low cash levels at Division 'Y'. Higher trade payable leads to a reduction in net assets figures. The fact that BYD is rewarding HAI with a bonus, even though relationships with suppliers may be badly affected, is again a case of sub-optimal decision making.

If the profit margin (excluding head office cost) as percentage of sales is calculated, it comes to 18.24% ($₹5,290 / ₹29,000$) for division 'Y' and 22.64% ($₹3,940 / ₹17,400$) for division 'D'. Therefore, it can be seen that division 'D' is performing better if capital employed is ignored. ROI is simply distorting the division 'D's performance.

FAI might feel extremely disappointed by getting nothing and in the future, he may opt to postpone the investment to increase the bonus. Non-investing in new technology and equipment will mean that the BYD will not be kept updated with industry changes and its overall future competitiveness will be affected.

Briefly, the use of ROI results in sub-optimal decision making and a lack of goal congruence i.e. what is good for the managers is not necessarily good for the company too and vice versa. Hence ROI is not a justifiable basis to for computing the bonuses of divisional managers and also cause problem for BYD.

3. Conventionally X Greetings considered EPS and Share Price as performance measure, but management has shown interest in using EVA as performance measure now.

EPS - The performance of X Greetings has gone down since earnings per share is down by 15.03% (WN2) from last year. This indicates the company is not performing well and it is not in the favor of investors to continue with their investment in X Greetings or invest further.

Share Price and Index - However, the share price seems relatively better than that of the sector and stock market as whole. The share price of X Greeting declined by 7.79% in comparison to 17.97% decline in retailing sector index and 22.49% decline in Stock Market all-share index (WN3). The sector comparison is relevant for determining the performance of X Greetings rather stock market all-share index. According to this measure, the performance of X Greetings is acceptable, because it registered comparatively less destruction of market cap.

This implies that the within retailing sector X Greetings is seen as company with better prospects and this will encourage the shareholders to continue to hold their shares in the company.

EVA - X Greetings has generated positive EVA KRW 37.03 million during 2023-24 and same is less than what it earns during year ago (KRW 53.96 million) (WN1). No doubt EVA falls by around 31% over a year, but it is still positive; means value is generated. Hence performance is acceptable.

To Conclude, even in the bearish market X Greetings is capable to generate value for fund providers including shareholders hence performance of X Greetings is acceptable can be consider as good investment option.

Working Note-1 (EVA)

EVA calculations for the periods given are:

Particulars	2023-24	2022-23
	KRW in million	KRW in million
Profit after interest and tax	55.55	65.38
Add Back: Interest (net of tax at 30%)	10.92	5.60
Net operating profit after tax (NOPAT)	66.47	70.98
Opening Capital employed	273.58	198.40

Assumptions

- There are no non-cash expenses to adjust the profit.
- Economic depreciation and accounting depreciation are equal.
- No lease exists for capitalisation.

Cost of Capital

$$\begin{aligned} \text{WACC}_{2023-24} &= 0.60 \times 14.20\% + 0.40 \times 5.60\% \\ &= 10.76\% \\ \text{WACC}_{2022-23} &= 0.60 \times 11.50\% + 0.40 \times 4.20\% \\ &= 8.58\% \\ \text{EVA} &= \text{NOPAT} - \text{Capital Employed} \times \text{WACC} \\ \text{EVA}_{2023-24} &= 66.47 \text{ m} - 273.58 \text{ m} \times 10.76\% \\ &= \text{KRW } 37.03 \text{ m} \\ \text{EVA}_{2022-23} &= 70.98 \text{ m} - 198.40 \text{ m} \times 8.58\% \\ &= \text{KRW } 53.96 \text{ m} \end{aligned}$$

Working Note-2 (EPS)

Particulars	2023-24	2022-23	Change
EPS	KRW 17.36	KRW 20.43	-15.03%

Working Note-3 (Index and Share Price Movement)

Particulars	2023-24	2022-23	Change
KOSPI (capitalization-weighted index of all common shares)	1,985	2,561	-22.49%
Retailing sector index	1,155	1,408	-17.97%
X share price	KRW 22.50	KRW 24.40	-7.79%

4. (i) Computation of NOPAT

Particulars	₹ in Crore
Operating Profit	162.00
<i>Add:</i>	
Non-Cash Items	14.00
Accounting Depreciation	118.00
Doubtful Debts	4.00
Research and Development	24.00
<i>Less:</i>	
Economic Depreciation	166.00
Tax Paid	18.00
Tax Saving on Interest (₹46 × 30%)	13.80
NOPAT	124.20

Computation of Capital Employed

Particulars	₹ in Crore
Capital Employed as on 31.03.2023	1,495.00
Add:	
Provision for Doubtful Debt as on 31.03.2023 (i.e. ₹9 - ₹4 crore)	5.00
Other Non-Cash Items (incurred in 2022-23)	12.00
Adjusted Opening Capital Employed	1,512.00

$$\begin{aligned} \text{WACC} &= 0.45 \times 14\% + 0.55 \times 6\% \times (1 - 30\%) \\ &= 8.61\% \end{aligned}$$

$$\begin{aligned} \text{EVA} &= \text{NOPAT} - (\text{WACC} \times \text{Capital Employed}) \\ &= ₹124.20 - (8.61\% \times ₹1,512) \\ &= ₹124.20 - ₹130.18 \\ &= - ₹5.98 \text{ Crores} \end{aligned}$$

Evaluation

Presently, WUS is distorting value as it is not able to meet the economic cost of its own capital. This put the company into the question of perpetual succession and lead the company against shareholder's interest. The reason could be the higher cost of equity for WUS. The investment risk should be low since 75% of the services that the company renders are important for the economy and demand is guaranteed in future. Optionally, WUS needs to either increase its NOPAT enough to break even on economic value added or slash its capital employed by selling unutilized or under-utilized assets.

(ii) Regulatory ROCE: Target 7.00%

$$\begin{aligned} \text{ROCE} &= \left(\frac{\text{Operating Profit}}{\text{Capital Employed}} \right) \times 100.00\% \\ &= \left(\frac{95}{1,422} \right) \times 100\% \\ &= 6.68\% \end{aligned}$$

The ROCE is within the acceptable ROCE of 7.00%.

(iii) *Operating Margins*

Water Distribution Operation = 17.12%

Water Bottle Operation = 36.02%

Advise

Operating margin from WBO is 36.02% compared to 17.12% (WDO). WUS may use the WDO activities as a trusted source of cash profit to reinvest in expansion of the WBO. Expansion through acquisition of appropriate non-regulated businesses using the cash generated by the regulated activities might be a good decision.

Further, WUS may improve profitability by controlling costs within WDO activities through performance measurement. The regulatory body cannot argue that the company is overcharging its customers to increase the profit margin. This is possible through strict observance of expenses and using cost savings techniques through efficiency improvements. In order to control costs within WDO, targets should be based on minimal variances and adopting cost cutting methods.

Overall, In WDO, there is only a limited scope for increase in the operating profit since the maximum operating profit allowed is ₹ 99.54 crore i.e. 7.00% of ₹ 1,422 crore of capital employed. Thus, WUS should go to expand its WBO as this is producing higher operating profit margins.

5. Report

To: CEO, Beta Control

From: Performance Management Expert

Date: 31st May 2024

Subject: Evaluation of EVA at Beta Control

EVA provides a link between decisions, performance measures and rewards, which focuses managers on performing better. Incentive schemes based on EVA provide better quality information and motivation in making decisions which in turn maximise shareholders' wealth. In other words, EVA links the operating returns to the assets that were used to generate those returns. The learning which flows from EVA analyses can be perceptive and can allow the manager not only to identify areas of weakness in performance but also to easily find solutions. BC is a multiproduct company having a number of factory sites. EVA can help to appraise divisional contributors to, or detractors from, overall profitability. Thus, managers may be educated through EVA and pursue such objectives that improve operating profits investing more capital.

In addition, this report deals with evaluation of the accuracy and assumptions used in the calculation of BC's EVA. There are many errors in the present calculation of EVA. These have been discussed below and revised calculations are enclosed.

- Non-Cash Expenses have been correctly added back to the profit as these are expenses which do not affect the cash flow of a given period.
- Addition back of Marketing Expenditure is also correct as spending contributes to *future value-creation*. For the same reason, the *prior year's spending* is also added into the capital employed.

- Training and Development Expenses should be capitalised. Training and Development Expenses have been treated as an expense in the income statement, they should be added back to profit, and added to capital employed (at the end of the year).
- Research and Development (R & D) Expenses should be treated as marketing expenditure for a long period.
- The tax expenses in the EVA calculation should be the tax *paid* with adjustment for lost tax relief on interest and not the adjusted amount of tax *charged* in the accounts.
- The WACC is incorrect because it should be based on post-tax cost of debt.
- Generally, a company takes at least a year's time to earn a return on its investment. Thus, the capital employed figure should be based on the beginning numbers.

NOPAT

Particulars	Year ended 31 st March 2024
	₹ in Lacs
Operating Profit	1,102.80
<i>Add:</i>	
Non-Cash Expenses	30.20
Marketing Expenditure Capitalised	46.20
Training & Development Expenses	80.00
R & D Expenses	20.00
<i>Less:</i>	
Tax	260.00
Lost Tax Relief on Interest	48.96
Net Operating Profit After Tax (NOPAT)	970.24

Capital Employed

Particulars	₹ in Lacs
From the Statement of Financial Position (Starting)	4,564.00
Marketing Expenditure Capitalized	46.20
Adjusted Capital Employed	4,610.20

$$\begin{aligned} \text{WACC} &= (1/2 \times 15\%) + (1/2 \times 7.8\% \times 70\%) \\ &= 10.23\% \end{aligned}$$

$$\begin{aligned} \text{EVA} &= \text{NOPAT} - (\text{WACC} \times \text{Capital Employed}) \\ &= ₹970.24 \text{ L} - ₹4,610.20 \text{ L} \times 10.23\% \\ &= ₹498.62 \text{ L} \end{aligned}$$

The recomputed EVA has increased from ₹307.95 Lacs to ₹498.62 Lacs, which shows a positive position for BC as it adds up the shareholder's wealth.



For calculating NOPAT, following most common adjustments to accounting profit as remarked by the Stern Stewart has been considered.

- For Advertising, Research and Development Items expensed, Staff Training
 - Impact on Profit: Increase CY's profit, deduct economic depreciation on PY's EVA adjustment.
 - Impact on Capital Employed: Increase capital employed at the end of the year, increase capital employed in respect of similar add backs of PY's investments not treated as such in financial statements (net of economic depreciation).
- For Depreciation
 - Impact on Profit: Add accounting depreciation and subtract economic depreciation.
 - Impact on Capital Employed: Alter value of non-current assets (and capital employed) to reflect economic depreciation not accounting depreciation.
- For Non- Cash Expenses
 - Impact on Profit: Add back to profit.
 - Impact on Capital Employed: Add to retained profits at the end of the year.
- For tax charge, this will be based on 'cash taxes' rather than the accruals-based methods used in financial reporting.

Further, the revised calculation of EVA is largely based on the following assumptions:

- There is an implicit assumption that accounting depreciation (included in operating profit) is equivalent to economic depreciation (which should be used for EVA calculations). This assumption is doubtful, although there is no information for more accurate calculation.
- For Additional Marketing Expenditure, no estimation of economic life (expected period during which an asset remains useful) in building the brand and corresponding economic depreciation has been considered in the above calculation.
- No amortisation of the R & D Costs is required to be recognised as the product has not been introduced yet. This is in line with the accounting treatment of such items. There was no Research & Development expenditure in the previous year.

6. Internal Business Process Perspective

Objective: Cross-sell Products

Measure: Products Purchased *per customer*

Reason: Cross-selling, or encouraging customers to purchase additional products e.g. insurance, forex etc. is a *measure of customer satisfaction*. Only if a service is perceived as highly satisfactory the service would be repeated/ additional products or services would be accepted.

Learning and Growth Perspective

Objective: Increase the Number of New Products or Services Sold

Measure: Number of Customers Buying the New Products/ New Services

Reason: Long-term financial success requires banks to create new products / services (e.g. internet banking, ATM access) that will meet emerging needs of current / future customers such as 24/7 banking.

Customer Perspective

Objective: Increase Customer Loyalty

Measure: Number of Accounts Closed or Closure Request Received

Reason: Customer loyalty describes the extent to which a bank maintains durable relations to its customers. The share of existing customers should have a high importance as it indicates about image and reputation. Closure request is not a good sign for the bank. Bank should investigate reasons for the same and take appropriate actions to improve services offered to retain customers.



Other **Objectives** and **Measures** are also possible, but they must relate to the bank's **Goal**.

7. (i)

B. Steels Balanced Scorecard Report For the year ended March 31, 2024

Perspective	Objective	KPI	Goal	Actual	Goal Achieved (Yes or No)
Financial	Increase Gross Margin	Gross margin growth percentage	15%	16%	Yes
	Increase Profitability of Core Product Line	Core product line profit as a percentage of core product line sales	5%	4.4%	No
Customer	Increase number of customers	Number of Customers	15,000	15,600	Yes
	Increase customer retention	Percentage of repeat customers	83%	81%	No
Internal Business Process	Improve post sales service	Average replacement time (number of days)	2.0	1.5	Yes
	Increase plant safety	Number of plant accidents	0	2	No
Learning and Growth	Improve employee job satisfaction	Employees satisfaction rating (1-5, with 1 being the most satisfied)	1	1.2	No
	Improve employee morale	Employee turnover rate (Number of employees leaving/ Average number of total employees)	2%	3%	No

- (ii) “**Triple Bottom Line**” concept encourages companies to measure not only their *financial profits*, but also the impact that its operations have on the *society* and *environment*. Therefore, this framework measures the full cost of doing business by measuring the following bottom lines (i) Profit (ii) People and (iii) Planet.

Diminishing non-renewable resources have forced businesses to focus on *sustainable manufacturing*. This term refers to managing manufacturing processes such that they *minimize any negative impact on the environment* by conserving energy and natural resources. In many instances, improved operational efficiency not only reduces waste (thereby costs) but also improves product safety, it strengthens the *brand's reputation* and builds *public's trust* about the company. As a long- term strategy, this improves *business viability* and provides a *competitive edge* to the company. This concept is the “**Planet Bottom Line**” within the Triple Bottom Line framework. Metrics on the following aspects may be investigated to find out the *environment impact* of business operations:

- Material consumption.
- Energy consumption.
- Water utilization.
- Emissions, treatment of effluents and waste (emissions affecting air, water, and land).
- Fuel consumption by tracking freight and transportation costs.
- Land utilization.
- Recyclability and disposal of product.

“Corporate Social Responsibility” enables the company to become conscious of the impact its operations have on society. CSR programs, through philanthropy and volunteer efforts can forge a stronger bond between *itself, its employees*, and the *wider community*. Again, this improves both the *brand image* as well as builds *the public's trust* about the company. This concept is the “**People Bottom Line**” of the Triple Bottom Line framework. Metrics on the following aspects maybe investigated to find out the *social impact* of business operations:

- Workplace environment and labour relations.
- Occupational health and safety, accident rates.
- Human rights practices – child labour, employee work-place security policies.
- Training and education.
- Equal opportunity employer – diversity of workforce and opportunities available for employees' growth.
- Suppliers – local sourcing versus sourcing from external markets.
- Philanthropy and volunteer programs organized.
- Product safety in terms of customer health and safety.
- Pricing of essential products to enable wider reach within society.
- Transparent and ethical business practices.

B. Steels can study these aspects, determine the relevant metrics, and prepare periodic KPI reports that can help in measuring responsibilities towards sustainability and social impact.

8. The balanced scorecard approach looks at both financial performance and non-financial performance. In order to gain competitive advantage, organizations have to be conscious of the needs and convenience of their customers. The Arby signer has a vision and strategy which goes far beyond just making money. They want to help the community and give something back to customers also. Hence, performance measures which address whether the Arby is being successful in pursuing their vision has been incorporated in Balanced Scorecard. The performance of the Arby will be considered under each of the titles used in the balanced scorecard:

Financial Perspective: The Arby has had a year of diverse achievements when looking at the extent to which it has met its financial targets. Its ROCE shows how efficiently it has used its assets to generate profit for the business. The target for ROCE for the year was 14% but it has only achieved 13% return. Arby's Net Income, however, was in fact \$6 million higher than its target, which is good. The most likely reason for the under-target ROCE is possibly the investment which Arby has made in IT security. Whilst this may have reduced ROCE, this investment is essentially a good idea as it helps Arby to pursue its mission and will keep customers happy.

Customer Perspective: Regarding its customers, Arby's performance is better in the current year. It has not just exceeded its target sales to first-time buyers by 20,000 but also improved its customer retention ratio, which is good for the company to pursue its vision of being a trusted healthcare partner.

Customers' complaints have reduced from 2 complaints to 1.5 complaints for every 1,000 customers, the exact reason is not clear, but it might be because of improved processes and the team efforts of employees.

Also, the number of glasses donated exceeded the target. It shows that the company has exceeded its target of helping people, which is good for the company's reputation.

Internal Processes: The number of business processes within Arby re-engineered has exceeded the target, which is very good and the impact of which may be reflected in the lowering of the level of customer complaints. Likewise, the investment to improve IT security has been a great success, with only three incidences of fraud per 1,000 customers reported compared to the target of 10. However, only two new services have been made available via online application, instead of the target of four, which is unsatisfactory. But fortunately, its CO₂ emission is below the target level.

Learning and Growth: Arby has succeeded in training its employees to instruct retailers. However, the number of employees trained to instruct retailers are comparatively lesser than targeted, shortfall in training of employees to give instruction to retailers may have an impact on the Arby's failure to meet its target of market expansion.

The number of hours (paid for) used to support social plans are comparatively higher, it results in additional costs which could have contributed to the fact that the Arby did not quite meet its target for ROCE. Further, company has not met aim for helping the rural area as targeted. This may be because the number of candidates applying from these areas was not as high as planned and this situation is beyond the company's control.

In general, the Arby Signer had a successful year, meeting many of its targets.

9. Aspects that need to be reported in the TBL report:

S.N.	Aspect	Category on the TBL Report
(i)	Medical staff conduct charity camps every month. Open to all members of the community, who are provided with consultation free of charge.	Social bottom line , as it benefits the local community.
(ii)	Prompt and accurate tax payments based on records maintained without errors or fraud.	Economic bottom line , since tax payments impact an organization's bottom line and money flow.
(iii)	Caregiver, with the help of traffic police, has implemented a "green corridor" for ambulances that carry donor organs for transplantation. Organs harvested from the donor at one hospital can reach another hospital with the recipient patient at the earliest.	Social bottom line , since green corridor would enable the ambulance to transport harvested organs between the hospitals at the earliest this would be beneficial for patients in need of critical care.
(iv)	Medical waste is discarded at a landfill in a nearby dumpsite. Some of the waste are not bio-degradable.	Environmental bottom line , as it affects the ecological surroundings of the town.
(v)	During review of the supplier for housekeeping service, it was observed that the service provider resorted to child labor to keep cost of operations lower.	Social bottom line , since employing child labor leads to exploitation of children within the community.
(vi)	Training and professional development programs doctors and nurses.	Social bottom line , since it contributes towards employee development.
(vii)	Lab reports are being made available online within the hospital computer system. This would reduce printing costs and storage space needed to maintain older records.	Environmental bottom line , since paper, cartridge and storage requirement would be lower. This preserves environmental resources.
(viii)	Caregiver has a good track record of having no medical negligence litigation cases filed against it.	Social bottom line , since this is an indicator of the quality of services provided to patients.
(ix)	The hospital is planning to market 'medical check-up packages' so that facilities in its outpatient department can be utilized better.	Not relevant to TBL report. This is a marketing strategy to improve profitability (alternatively, Economic bottom line).
(x)	The number of inpatient hospital deaths decreased 8%, from 776 in 2022 to 715 in 2023.	Social bottom line , since hospital mortality rate measures the clinical quality.

