Paper 17- Strategic Performance Management

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Full Marks: 100 **Time allowed: 3 hours**

The figures in the margin on the right side indicate full marks.
This question paper has two sections.
Both the sections are to be answered subject to instructions given against each.

Section – A

Question no. 1 is compulsory

1. Answer the Following Questions: **[4 × 5 = 20]**

(a) The cost function is C=100+q, where the product is sold at ₹ 5 per unit. Determine break even sales and profit when 125 units are sold.

Answer:

Let, Total Revenue (TR) = Pq = 5q [where, P = selling price per unit of the product
And, q = Quantity of the product]

And C = 100 + q

For Break even TR = C $\Rightarrow$ 5q = 100+q $\Rightarrow$ q = 25

For Break even sales = 5 x 25 = ₹ 125

Again, say that Profit = π

Now π = TR - C = 5q – 100 – q =4q – 100.

As per question, q = 125, π = 4 x125 – 100 = 400

So, Break Even sales is ₹ 125 and Break even profit is ₹ 400.

(b) ABC Ltd has two divisions A and B. A division is currently operating at full capacity. It has been asked to supply its product to division B. Division A sells its product to its regular customers for ₹ 30 each. Division B (Currently operating at 50 per cent capacity) is willing to pay ₹ 20 each for the components produced by division A (this represents the full absorption cost per component at divisions A). The components will be used by division B in supplementing its main product to conform to the need of special order. As per the contract terms of sale, the buyer calls for of full cost to division B, plus 10 percent. Division A has a variable cost of ₹ 17 per component. The cost per unit of divisions B subsequent to the buying part form division A is estimated as follows:

Particulars	Amount (₹)
Purchased parts – outside vendors	**90.00**
Purchased part – division A	**20.00**
Other variable costs	**50.00**
Fixed overheads and administration	**40.00**
	200.00

Required:

(i) As manager of division A would you recommend sales of your output to division B at the stipulated price of ₹ 20?

(ii) Would it be in the overall interest of the company for division A to sell its output to division B?

(iii) Suggest an alternative transfer price and show how could it lead to goal congruence?

Answer:

(i) As manager of division A, I would not recommend sales at ₹ 20 per unit to division B. The division is already operating at its full capacity and the market is presumably absorbing all its output at ₹ 30 per unit. The internal transfer made to division B, hence, would reduce its profit (by ₹ 10 per unit) as well as the ROI.

(ii) Decision Analysis (whether to transfer part from division A to division B at ₹20 per unit or not).

Particulars	**Sold externally**	**Transferred to division**
Sale price (division A)	30.00	
Sale price (division. B) (₹ 200 + 10%)		220.00
Less relevant/incremental cost: For part of division A	17.00	17.00
Purchased parts from outside		90.00
Other variable costs		50.00
Profit per unit	13.00	63.00

Yes it will be in the overall interest of the company that transfer takes place, as it would augment the company's profit by ₹ 50 per unit.

(iii) Dual price basis of effecting transfer is the most appropriate. In this case, the relevant transfer price will be ₹30.00 (sale) so far as division A is concerned, and ₹ 20 (purchase) so far as division B is concerned. It will keep the profits of division unaffected and will facilitate the utilization of the idle capacity of division B, as also increase its profit:

Particulars	₹
Sale price (₹ 210 + 10 per cent)	231.00
Less: costs (₹ 90 + ₹ 30 + ₹ 50)	170.00
	61.00

(c) What is meant by Decision Support System? State any four components of Decision Support System?

Answer:

Decision Support System (DSS) are a specific class of computer-based Information System that supports the decision-making activities. DSS analyzes business data and

provide interactive information supports to managers and business professionals during the decision-making process, from problem recognition to implementing the required decisions.

Components of a typical DSS:

- Data Management Components- It performs the function of storing and maintaining the information for DSS.
- Model Management Component-It consists of both the DSS's models and the DSS model management system.
- User Interface Management Components- It consists of the user interface management system. It combines the know-how with the storage and processing capabilities of the computer.
- Knowledge Management Component- It is an expert system, providing information about the relationship among data that is too complex for a database to represent.

(d) Describe the term 'Business Process Re-engineering'.

Answer:

Business Process Reengineering involves changes in structures and in processes within the business environment. The entire technological, human, and organizational dimensions may be changed in BPR.

Information Technology plays a major role in Business Process Reengineering as it provides office automation, it allows the business to be conducted in different locations, provides flexibility in manufacturing, permits quicker delivery to customers and supports rapid and paperless transactions. In general it allows an efficient and effective change in the manner in which work is performed.

The globalization of the economy and the liberalization of the trade markets have formulated new conditions in the market place which are characterized by instability and intensive competition in the business environment. Competition is continuously increasing with respect to price, quality and selection, service and promptness of delivery. Removal of barriers, international cooperation, technological innovations cause competition to intensify. All these changes impose the need for organizational transformation, where the entire processes, organization climate and organization structure are changed. Hammer and Champy provide the following definitions:

- Reengineering is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance such as cost, quality, service and speed.
- Process is a structured, measured set of activities designed to produce a specified output for a particular customer or market. It implies a strong emphasis on how work is done within an organization." (Davenport 1993).

Each process is composed of related steps or activities that use people, information, and other resources to create value for customers.

(e) Explain about the exchange rate risk and liquidity risk?

Answer:

- **Exchange Rate Risk:** Exchange Rate Risk Management through asset-liability management: At a particular exchange rate assets and liabilities of a financial institution match exactly. As the exchange rate fluctuates this balance gets disturbed. A simple solution to correct this risk is to match assets and liabilities of the same currency. Many financial institutions do not have foreign exchange exposure as all their assets and liabilities are in rupee currency. The risk of foreign exchange borrowings of these institutions are passed on to the lenders through dollar denominator loans. The uncovered loans are hedged at the time of contracting them through forward covers for the entire amount.

- **Liquidity Risk:** It is that portion of an asset's total variability of return which results from price discounts given or sales commissions paid in order to sell the asset without delay. It is a situation wherein it may not be possible to sell the asset. Assets are disposed off at great inconvenience and cost in terms of money and time. Any asset that can be bought or sold quickly is said to be liquid. Failure to realize with minimum discount to its value of an asset is called liquidity risk.

Section - B

Answer any five questions **[16 × 5 = 80]**

2. (a) Explain the Genetic Algorithm under the Corporate Bankruptcy Prediction Model.
(b) Name the Key Performance Indices (KPI) that should be monitored. **[8+8 = 16]**

Answer:

(a) <u>Genetic Algorithms (GA)</u>

Based on the idea of genetic inheritance and Darwinian theory of natural evolution (survival of the fittest), GAs work as a stochastic search technique. GAs perform their search for optimal solution to the problem posed from a large and complicated space of solutions.

GAs are usually explained with the help of vocabulary, inevitably, borrowed from natural genetics. Each individual potential candidate solution to the problem is represented by a string' (also called chromosome', genotype' or structure'). These strings 'are made of units'(also called genes', features', characters', or decoders').

Under GAs, an evolution process is run on a population of strings' that corresponds to a search through a space of potential solutions. GAs execute this search process in three phases: genetic representation & initialization, selection, and genetic operation (crossover and mutation). Genetic representation that is normally in binary alphabet (0 and 1) creates an initial population of solutions. After the initialization, each string is

evaluated with the help of a user-defined fitness function. Over time, such a selection process is likely to result into best performing strings only. Straightforward reproduction of selected strings entails no benefit in terms of exploration of solution space, as this will only reproduce the identical offspring's from the parent strings. Genetic operations of Crossover and Mutation are introduced for this purpose. The process continues until the actual population converges towards increasingly homogeneous strings. In general, the process is stopped when we are satisfied with a certain level of homogeneity. In order to solve a classification problem like bankruptcy, researchers extract a set of rules or conditions using GAs.

These conditions are associated with certain cut off points. Based on these conditions, the model would predict whether or not a firm is likely to go bankrupt.

(b) The following are some important Key Performance Indicators (KPI) that should be monitored:

(i) **Stock turnover – days:** Reflects the number of days that it takes to sell inventory. The lower the ratio means the quicker the stock is sold.

(ii) **Debtors turnover – days:** Reflects average length of time from sale to cash collection. The lower the ratio means the quicker that accounts are paid. From a cash flow perspective, it is important to keep days outstanding to a minimum.

(iii) **Current ratio:** Indicates the extent to which current assets cover current liabilities and is a measure of the ability to meet short-term obligations. The rough rule of thumb is a ratio of 2:1. That is for every ' 1 of liabilities (within 12 months), there should be at least '2 in current assets to meet such liabilities.

(iv) **Debt/equity:** This is a measure of the extent to which a business relies on external borrowings to fund its on-going operations. The higher the ratio, the more heavily that debt financing is used. In order to provide a reliable measure, assets should be valued at market value.

(v) **Interest coverage:** Provides a measure of the ability of the business to meet its interest commitments out of profits and is linked to the debt/equity ratio. The rough rule of thumb used by banks is a ratio of 3:1. That is, operating profit before income tax exceeding interest expense three times.

(vi) **Return on investment:** Represents the after-tax return that owners are receiving on their investment and should be compared with alternative forms of investment.

(vii) **Gross profit margin:** An indication of the profitability of the business and reflects control over cost of sales and pricing policies. This ratio should be compared with prior periods and to any available industry data.

(viii) **Breakeven sales:** Reflects the sales that need to be generated in order to cover expenses. In other words, this is the level of activity at which neither a profit nor loss is incurred, nor where total costs equate with total revenue. This is a very important ratio that every owner should monitor on a monthly basis.

3. (a) Amit Ltd. provides the following details on its new product

Years 1 and 2: R & D costs: ₹ 2,40,000, Design costs ₹ 1,60,000

Years 3 to 6: Other functional costs:

Function	One-time costs	Costs per unit
Production	₹ 1,00,000	₹ 25
Marketing	₹ 70,000	₹ 24
Distribution	₹ 50,000	₹ 16
Customer service	₹ 80,000	₹ 30

The sale quantities during the product Life Cycle at various selling prices are:

Selling price per unit (₹)	400	480	600
Sale Quantity in units	5,000	4,000	2,500

Ignoring time value of money, compute the Net incomes generated over the product Life Cycle of various prices. Which price should the company select?

(b) The price (P) per unit at which company can sell all that it produces is given by the function p(x) = 300-4x. The cost function is 500+28x, where 'x' is the number of units, find x, so that profit is maximum. [10+6 = 16]

Answer:

(a) Income Statement

Particulars	Option I	Option II	Option III
1. Life Cycle Sales Quantity	5,000 units	4,000 units	2,500 units
2. Life Cycle Selling Price p. u.	₹400	₹480	₹600
3. Life Cycle Sales Revenue (1x2)	₹ 20,00,000	₹ 19,20,000	₹ 15,00,000
4. Life Cycle Functional Costs			
(i) Research and Development	₹ 2,40,000	₹ 2,40,000	₹ 2,40,000
(ii) Design	₹ 1,60,000	₹ 1,60,000	₹ 1,60,000
(iii) Production One Time	₹ 1,00,000	₹ 1,00,000	₹ 1,00,000
Variable	5000 x ₹ 25 = ₹1,25,000	4000 x ₹25 = ₹1,00,000	2500 x ₹25 = ₹62,500
(iv) Marketing One Time	₹ 70,000	₹ 70,000	₹ 70,000
Variable	5000 x ₹ 24 = ₹1,20,000	4000 x ₹ 24 = ₹96,000	2500 x ₹24 = ₹60,000
(v) Distribution One Time	₹ 50,000	₹ 50,000	₹ 50,000
Variable	5000 x ₹ 16 = ₹ 80,000	4000 x ₹ 16 = ₹ 64,000	2500 x ₹16 = ₹ 40,000
(vi) Customer Service One Time	₹ 80,000	₹ 80,000	₹ 80,000
Variable	5000 x ₹ 30 = ₹1,50,000	4000 x ₹30 = ₹1,20,000	2500 x ₹30 = ₹75,000
Life Cycle Total Costs	₹ 11,75,000	₹ 10,80,000	₹ 9,37,500
5. Life Cycle Net Income	₹ 8,25,000	₹ 8,40,000	₹ 5,62,500

Conclusion: The Company may select Price of ₹ 480 to maximize Profits. Assumed that R&D Costs and Design Costs represent Total Costs incurred in 2 Years.

(b) $P = 300 - 4x$

$R = P(x) = 300x - 4x^2$

$C = 500 + 28x$

$P = R - C$

Profit $= 300x - 4x^2 - 500 - 28x$

$= -4x^2 + 272x - 500$

$\frac{dp}{dx} = -8x + 272 = 0$

$X = 272/8 = 34$

$\frac{d^2p}{dx^2} = -8$, which is Negative

Profit is maximum at x = 34 units.

4. (a) A Businessman has two independent investments A and B available to him but he lacks the capital to undertake both of them simultaneously. He can choose to take A first and then stop, or if A is successful, then take B or vice-versa. The probability of success on A is 0.7, while for B, it is 0.4. Both the investments require an initial capital outlay of ₹2,000 and both return nothing, if the venture is unsuccessful. Successful completion of A will return ₹3,000 (over cost) and successful completion of B will return ₹5,000 (over cost).

Draw the Decision Tree and determine the best strategy. [4+4=8]

(b) Jai Ltd. has the capacity of production of 80,000 units and presently sells 20,000 units at ₹50 each. The demand is sensitive to Selling Price and it has been observed that for every reduction of ₹10 in Selling Price, the demand is doubled.

As a Cost and Management Accountant, you are required to find out

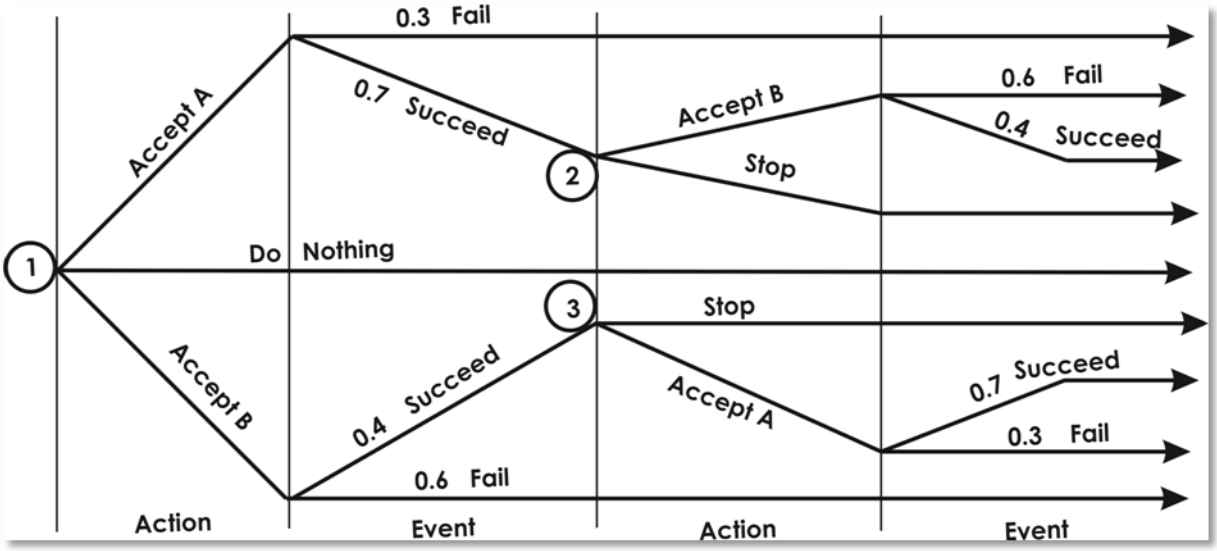
(i) What should be the Target Cost at full capacity, if the Profit Margin on Sale is 10%?

(ii) What should be the Cost Reduction Scheme, if at present, 40% of the Cost is variable, with the same % of profit?

(iii) If the rate of return desired is 15%, what will be the maximum investment at full capacity? [2+4+2=8]

Answer:

(a) The required **Decision tree** is as shown below:



There are three Decision points in this tree. They are indicated as 1, 2 and 3.

Evaluation of Decision point 3:

Accept A:

Outcome (1)	Probability (2)	Conditional values (3) ₹	Expected values (4) = (2) × (3) ₹
Success	0.7	3,000	2,100
Failure	0.3	-2,000	-600
			1,500
Stop			Expected Value = 0

Evaluation of Decision point 2:

Accept B:

Outcome (1)	Probability (2)	Conditional values (3) ₹	Expected values (4) = (2) × (3) ₹
Success	0.4	5,000	2,000
Failure	0.6	-2,000	-1,200
			800
Stop			Expected Value = 0

Evaluation of Decision point 1:

1. Accept A:

Outcome (1)	Probability (2)	Conditional values (3) ₹	Expected values (4) = (2) × (3) ₹
Success	0.7	3,000 + 800	2,660
Failure	0.3	-2,000	-600
			2,060

2. Accept B:

Outcome (1)	Probability (2)	Conditional values (3) ₹	Expected values (4) = (2) × (3) ₹
Success	0.4	5,000 + 1,500	2,660
Failure	0.6	-2,000	-1,200
			1,400

3. Do Nothing Expected Value = 0

Conclusion: The best strategy is to accept A first, and if it is successful, then accept B.

(b)

Jai Ltd.

i. Target Cost at Full capacity:

Selling Price/unit	₹50	₹40	₹30
Demand (units)	20,000	40,000	80,000 (Full Capacity)

Hence, target Cost at full Capacity = Sale price Less Profit margin
= ₹30 less 10% thereon
= ₹27 per unit.

ii. Determination of Target Cost reduction

		₹
a. Since Present Price is ₹ 50/ unit and Profit is 10% thereon. Present Cost per unit = ₹45, of which 40% is variable. Therefore the Fixed Cost is 60% of ₹45 = ₹27/unit. So, the Total Fixed Cost =	27 × 80,000	21,60,000
b. Variable Cost at full capacity (40% of ₹45/unit) × 80,000	18 × 80,000	14,40,000
c. Estimated Cost at Full Capacity [Fixed Cost (constant at all levels + Variable Cost)] i.e., (a +b)		36,00,000
d. Target Cost at Full Capacity [₹27/unit for 80,000 units]		21,60,000
e. Cost Reduction Target /Scheme [Estimated Cost less Target Cost] i.e., (c-d)		14,40,000

iii. Computation of Investment required:

a. Profit at full capacity (10% of ₹30) × 80,000umts	2,40,000
b. Since ROCE desired is 15%, Maximum required investment	₹2,40,000/15% = 16,00,000

5. (a) What is balanced scorecard and what are its advantages.

(b) "Competitive Intelligence is a process of gathering data, creating information and making decisions. Management accountants are trained to gather data, assimilate data into information and make decisions based on information, frequently with their management counterparts". Comment. [10 + 6 = 16]

Answer:

(a) The Balanced Score Card approach emphasizes the need to provide management with a set of information, which deals with all relevant areas of performance in an objective and unbiased fashion. The information provided may be both financial and non-financial. It covers areas such as profitability, customer satisfaction, internal efficiency

and innovation. This approach looks at both internal and external matters concerning the organization.

A number of benefits have materialized from this approach. It is a more effective reporting process. There is greater clarity and focus and the issues to be tackled. There will be improved understanding of the key issues and it helps the managers to focus resources and take action more effectively.

Balanced Score Card is a performance management and strategy development methodology that helps executives translate on organization's mission statement and overall business strategy into specific, qualifiable goals and monitors the organization's performance in terms of these goals. Balance Score Card also aligns budgets to strategy and helps in developing an enterprise performance management system.

It is a set of financial and non-financial measures relating to company's critical success factors. As a management tool it helps companies to assess overall performance, improve operational processes and enable management to develop better plans for improvements. It offers managers a balanced view of their organization upon which they can base real change.

Balanced Score Card has the following four perspectives:

(a) **Customer perspective:** To achieve the company's vision and strategy, how should the company appear its customers

(b) **Internal business perspective:** To satisfy the company's shareholders and customers and what business processes must the company excel

(c) **Learning and growth perspective:** To achieve the vision, how will the company sustain its ability to change and improve.

(d) **Financial perspective:** To succeed financially how should the company appear to the company's share holders

Advantages of Balanced Scorecard

(i) **Holistic approach:** It brings strategy and vision as the center of Management focus. It helps Companies to assess overall performance, improve operational processes and enable Management to develop better plans for improvement. It provides Management with a comprehensive picture of business operations.

(ii) **Overall Agenda:** It brings together in a single Management Report, various aspects like customer oriented, shortening response time, and improving quality etc. of competitive agenda.

(iii) **Objectivity:** It emphasizes the need to provide the user with a set of information, which addresses all relevant areas of performance in an objective and unbiased manner.

(iv) **Management by Objectives:** The methodology of BSC facilitates communication and understanding of business goals and strategies at all levels of the Firm. Thus it enables Management by Objective.

(v) **Feedback and Learning:** It provides strategic feedback and learning. BSC guards against sub-ordination. It emphasizes an integrated combination of traditional and non-traditional performance measures.

(vi) **System Approach:** It helps Senior Managers to consider all the important performance measures together and allows them to see whether an improvement in one area has been achieved at the expense of another.

(b) The above statement is related to the Role of Management Accountant in Competitive Intelligence. Competitive intelligence may also be viewed as a competitiveness audit, a concept that management accountants are familiar with. Management accountants training and experience make them well -suited to the requirements of the competitive intelligence process.

Management accountants may be actively involved in introducing a competitive intelligence process in several ways:

(i) Identifying the need for a new or improved competitive intelligence process;
(ii) Educating top management and other senior managers about that need;
(iii) Developing a plan along with cross-functional team members for designing, developing and implementing the new, improved competitive intelligence practice, including its underlying architectures;
(iv) Identifying the appropriate tools and techniques for conducting competitor analysis;
(v) Providing financial input, analysis and expertise to the competitive intelligence effort;
(vi) Contributing to and using competitive intelligence in target costing;
(vii) Ensuring that the competitive intelligence efforts are tied to the firm's goals, strategies, objectives and internal processes, as appropriate; and,
(viii) Continually assessing the new, improved competitive intelligence process and its implications for the organization and continually improving the process.

6. (a) Discuss the steps to be taken for preventing the Corporate Failures?
(b) Discuss Altman's Model and Explain the Five Z-Score constituent Ratios? [8 + 8 = 16]

Answer:

(a) It is a fact that some companies perform well and that some underperform and some fails. In many, if not most cases, these companies are led by executives that are quite experienced. Below are some recommendations that can help to reduce the risk of failures of organizations:

(i) Appointment of non-executive directors:
The non-executive directors will bring their special expertise and knowledge on strategies, innovative ideas and business planning of the organization. They will monitor the work of the executive management and will help to resolve situations where conflict of interest arises. Overall, the non-executive directors will act as a Cross Check.

(ii) Audit committees:

Very often, there is occurrence of fraud in management and financial reporting. The presence of the audit committees will help to resolve this problem. Audit committees have the potential to reduce the occurrence of fraud by creating an environment where there is both discipline and control.

(iii) Development of environment learning mechanism:

Some organizations fail because they lose touch with their environment. Therefore, to counter this problem, there is a need to develop the environmental learning mechanism. Through it, new information can be brought on continuous basis. This is mainly done by carrying customer-feedback surveys. In this way, the organization can realign itself with the new needs and challenges.

(iv) Focus on research and development:

Organizations can generate new knowledge by investing and focusing more on research and development. Thus, there will be more ideas how to make the products much better than that of their competitors. It can be deducted that a director has a big responsibility that he has to assume there commendations mentioned above can help directors to reduce corporate failure, provided that the directors abide. Proper planning also is critical to the success of a business.

(b) The Altman Model: Z-Score

The Z-Score model is a quantitative model developed by Edward Altman in 1968, to predict bankruptcy or financial distress of a business. The Z-score is a multi variate formula that measures the financial health of a company and predicts the probability of bankruptcy within 2years. This model involves the use of a specified set of financial ratios and a statistical method known as a Multiple Discriminant Analysis. (MDA). The real world application of the Altman score successfully predicted 72% of bankruptcies two years prior to their failure. The model of Altman is based on a linear analysis in which five measures are objectively weighted and summed to arrive at an overall score that then becomes the basis for classification of companies into one of the two a priori groupings that is bankrupt or non-bankrupt. These five indicators were then used to derive a Z-Score. These ratios can be obtained from corporations' financial statements.

The Five Z-Score Constituent Ratios are:

- **Working Capital/Total Assets (WC/TA):-** a firm with negative working capital is likely to experience problems meeting its short-term obligations.
- **Retained Earnings/Total Assets (RE/TA): -** Companies with this ratio high probably have a history of profitability and the ability to stand up to a bad year of losses.
- **Earnings before Interest & Tax/ Total Assets (EBIT/TA): -** An effective way of assessing a firm's ability to profit from its assets before things like interest and tax are deducted.

- **Market Value of Equity/ Total Liabilities (MVE/TL): -** A ratio that shows, if a firm were to become insolvent, how much the company market value would declines before liabilities exceed assets.

- **Sales/Total Assets (SL/TA): -** A measure of how management handles competition and how efficiently the firm uses assets to generate sales.

Based on the Multiple Discriminant Analysis, the general model can be described in the following form: Z = 1.2WC/TA + 1.4 RE/TA + 3.3 EBIT/TA + 0.6 MVE/TL + 1.0 SL/TA.

7. (a) State the different types of Bench – Marking and explain them.
(b) What are the key roles required for successful implementation of Six sigma.

[8 + 8 = 16]

Answer:

(a) Benching Marking:

Benching marking is the establishment - through data gathering of targets and comparatives, with which performance is sought to be assessed. After examining the firm's present position, benchmarking may provide a basis for establishing better standards of performance. It focuses on improvement in key areas and sets targets which are challenging but evidently achievable. Bench marking implies that there is one best way of doing business and orients the firm accordingly. It is a catching-up exercise and depends on the accurate information about the comparative company - be it inside the group or an outside firm. Benchmark is the continuous process of enlisting the best practices in the world for the process, goals and objectives leading to world-class levels of achievement.

Types of benchmarking: The different types of Benchmarking are:

(i) Product Benchmarking (Reverse Engineering)
(ii) Competitive Benchmarking
(iii) Process Benchmarking
(iv) Internal Benchmarking
(v) Strategic Benchmarking
(vi) Global Benchmarking
(vii) Functional Benchmarking
(viii) Generic Benchmarking

(i) **Product Benchmarking (Reverse Engineering)**: is an age old practice of product oriented reverse engineering. Every organization buys its rival's products and tears down to find out how the features and performances etc., compare with its products. This could be the starting point for improvement.

(ii) **Competitive Benchmarking:** This has moved beyond product-oriented comparisons to include comparisons of process with those of competitors. In this type, the process studied may include marketing, finance, HR, R&D etc.,

(iii) **Process Benchmarking:** is the activity of measuring discrete performance and functionality against organization through performance in excellent analogous business process e.g. for supply chain management.

(iv) **Internal Benchmarking:** is an application of process benchmarking, within an organization by comparing the performance of similar business units or business process.

(v) **Strategic Benchmarking:** differs from operational benchmarking in its scope. It helps to develop a vision of the changed organizations. It will develop core competencies that will help sustained competitive advantage.

(vi) **Global Benchmarking:** is an extension of Strategic Benchmarking to include benchmarking partners on a global scale. E.g. Ford Co. of USA benchmarked its A/c payable functions with that of Mazda in Japan and found to its astonishment that the entire function was managed by 5 persons as against 500 in Ford.

(vii) **Functional Benchmarking:** An application of process benchmarking that compares a particular business function at two or more organizations.

(viii) **Generic Benchmarking:** An application of functional process benchmarking that compares a particular business function at two or more organizations, selected without regard to their industry.

(b) Six Sigma identifies several key roles for its successful implementation:

(i) **Executive Leadership** includes CEO and other key top management team members. They are responsible for setting up a vision for Six Sigma implementation. They also empower the other role holders with the freedom and resources to explore new ideas for breakthrough improvements.

(ii) **Champions** are responsible for the Six Sigma implementation across the organization in an integrated manner. The Executive Leadership draws them from the upper management. Champions also act as mentors to Black Belts. At GE this level of certification is now called ―Quality Leader‖.

(iii) **Master Black Belts**, identified by champions, act as in-house expert coaches for the organization on Six Sigma. They devote 100% of their time to Six Sigma. They assist champions and guide Black Belts and Green Belts. Apart from the usual rigour of statistics, their time is spent on ensuring integrated deployment of Six Sigma across various functions and departments.

(iv) **Experts** this level of skill is used primarily within Aerospace and Defense Business Sectors. Experts work across company boundaries, improving services, processes, and products for their suppliers, their entire campuses, and for their customers. Raytheon Incorporated was one of the first companies to introduce Experts to their organizations. At Raytheon, Experts work not only across multiple sites, but across business divisions, incorporating lessons learned throughout the company.

(v) **Black Belts** operate under Master Black Belts to apply Six Sigma methodology to specific projects. They devote 100% of their time to Six Sigma. They primarily focus on Six Sigma project execution, whereas Champions and Master Black Belts focus on identifying projects/functions for Six Sigma.

(vi) **Green Belts** are the employees who take up Six Sigma implementation along with their other job responsibilities. They operate under the guidance of Black Belts and support them in achieving the overall results.

(vii) **Yellow Belts** are employees who have been trained in Six Sigma techniques as part of a corporate - wide initiative, but have not completed a Six Sigma project and are not expected to actively engage in quality improvement activities.

8. Answer any four questions below: [4 × 4 = 16]

(a) Discuss the BPR Tools and Techniques.

Answer:

BPR Tools and Techniques

The various definitions of BPR suggest that the radical improvement of processes is the goal of BPR. They do not, however, refer specifically to the tools and techniques used in reengineering business processes.

(i) Process visualization:
While many authors refer to the need to develop an ideal "end state" for processes to be reengineered, some suggest that the key to successful reengineering lies in the development of a vision of the process.

(ii) Process mapping /operational method study:
Process mapping and operational method studies have been incorporated into tools such as IDEF (Integrated Definition Method), DFD (Data Flow Diagrams), OOA (Object Oriented Analysis), and Prince2 (Process Based Project Management).

(iii) Change management:
Since management of change is the largest task in reengineering, the human side of reengineering, in particular the management of organizational change should not be neglected.

(iv) Benchmarking:
Benchmarking forms an integral part of reengineering, since it allows the visualization and development of processes which are known to be in operation in other organizations.

(v) Process and customer focus:

The primary aim of BPR, is to redesign processes with regard to improving performance from the customer's perspective.

It should be noted that few authors refer to any single technique when discussing BPR. Most incorporate a mixture of tools, although the nature of the mix depends on the application, whether it be hard (technological) or soft (management of people).

While some authors appear to suggest that tools and techniques are the key, most authors suggest that a strategic approach to BPR, and the development of a BPR strategy is the key to success. There seems little doubt in either the literature or in practice that efforts on the scale of BPR must be strategically driven and supported by senior management if they are to succeed.

(b) Discuss about the price discrimination under the demand oriented pricing.

Answer:

There are many bases on which the open price discrimination is practiced. These are discussed below:

(i) Time Price Differentials: It is a general practice to use the expression "the demand for a product or service", but it is important to note that demand also has a time dimension. The demand may shift in fairly short-time intervals. For example, demand for telephone facilities is more in the day time rather than at night.

(ii) Use Price differentials: Different buyers have different uses of a product or a service. For example railways can be used for long-haul or short-haul freight traffic. Railways can also be used for transporting different types of commodities. Electricity can similarly, be used for industrial or residential purposes.

(iii) Quality price Differentials: If the product caters to that group of consumers who are concerned about its quality, then the quality becomes a significant determinant of demand elasticity. The seller has, therefore, to crate differences in quality to sell his product. It must be emphasized here that the differences in quality basically depend upon the buyers' understanding of the quality. Sellers use many devices to create quality differences.

(iv) Quantity Differentials: When the seller discriminates on the basis of the quantity of purchase, it is known as quantity differentials. Quantity discounts are price concessions based on the size of the lot purchased at one time and delivered at one location. These discounts are thus related to size of a single purchase. The size of the lot purchased is measured in terms of either physical units or monetary units. Sometimes, discounts are according to the trade status, i.e., wholesaler, retailer, jobber, etc.

(c) State the factors on which the amount Economic Risk in a country is dependable.

Answer:

Economic Risk: Economic risk is concerned with the general economic climate within the country. Some of the factors which reflect the economic climate of a country are:

(i) level of affluence enjoyed by the country.

(ii) the growth rate of income.

(iii) the nation's propensity to save/invest.

(iv) the stability of prices (inflation).

(v) characteristics of the labour force.

(vi) level of sophistication of the financial system.

(vii) level of foreign debt outstanding.

(viii) major income earners (exports) and their sensitivity to overall global economic changes.

(ix) extent of dependence on major export items.

(x) trends in balance of payments.

(xi) level of imports

(xii) level of reserve and credit standing, and

(xiii) fluctuations of exchange rate and controls on foreign exchange.

(d) Discuss the needs for implementation of ERM.

Answer:

Need for Implementation of ERM —

ERM needs to be implemented for the following reasons:

- Reduce unacceptable performance variability.
- Align and integrate varying views of risk management.
- Build confidence of investment community and stakeholders.
- Enhance corporate governance.
- Successfully respond to a changing business environment.
- Align strategy and corporate culture.

(e) Describe the limitations of financial performance measures.

Answer:

Limitations of financial performance measures:

Financial performance measures are generally based on short-term measurement periods and this can encourage managers to become short-term oriented. For example, relying on short-term measurement periods may encourage managers to reject positive NPV investments that have an initial adverse impact on the divisional performance measure but have high payoffs in later periods. Financial performance measures are also 'lagging indicators'. They determine the outcomes of management's actions after a period of time. Therefore, it is difficult to establish a relationship between managers' actions and the reported financial results. Financial performance measures are also subject to the limitation that they deal with only the current reporting period, whereas managerial performance measures should focus on future results that can be expected because of present actions. Ideally, divisional performance should be evaluated on the basis of economic income by estimating future cash flows and discounting them to their present value. This calculation could be made for a division at the beginning and the end of a measurement period. The difference between the beginning and end values represents the estimate of economic income. The main problem with using estimates of economic income to evaluate performance is that it lacks precision and objectivity and that the best estimates of future outcomes are likely to be derived from divisional managers.

According to Johnson and Kaplan (1987), companies tend to rely on financial accounting-based information for internal performance measurement. This information may be appropriate for external reporting but it is questionable for internal performance measurement and evaluation. The major problem is that profit measures derived from using GAAP are based on the historical cost concept and thus tend to be poor estimates of economic performance. In particular, using GAAP requires that discretionary expenses are treated as period costs, resulting in managers having to bear the full cost in the period in which they are incurred. A possible reason for the use of GAAP for divisional performance evaluation is to ensure that performance measures are consistent with external financial accounting information that is used by financial markets to evaluate the performance of the company as a whole. This may arise because of the preference of corporate management for divisional managers to focus on the same financial reporting measures.