Paper 20 - Strategic Performance Management & Business Valuation

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

The figures in the margin on the right side indicate full marks.
Working notes should form part of the answer.

Section - A

Answer Question No. 1 which is compulsory and any two from the rest of this section

1. Multiple choice questions: [1 mark for right choice and 1 mark for justification] [5×2=10]

(i) A successful TQM program incorporates all of the following except :
(a) continuous improvement
(b) employment involvement
(c) benchmarking
(d) centralized decision making authority.

(ii) The risk which refers to the possibilities of loss due to factors such as religious fanaticism, ethnic polarization, dissatisfaction among the people as a result of wide disparity in income distribution, or regionalism, is called:
(a) Social Risk
(b) External Risk
(c) Political Risk
(d) Country Risk.

(iii) The revenue function of a firm given by $R=(2200-3x)\frac{x}{2}$, the firm's marginal revenue function will be:
(a) 2200 – 3x
(b) 1100 – 3x
(c) 1100 – 2x
(d) 2200 – 2x

(iv) As per Altman's model, if the value of z-score of a firm falls between 1.81 and 2.99, then the firm will be:
(a) Non-failed firm
(b) Failed firm
(c) Mixture of failed and non-failed elements
(d) None of the above.

(v) The type of benchmarking, which is concerned with the development of core competencies that will help sustained competitive advantage, is called:
(a) Global Benchmarking
(b) Strategic Benchmarking
(c) Internal Benchmarking
(d) Competitive Benchmarking.

Answer:

1. (i) (d)

Reason:

A successful TQM program incorporates continuous improvement, employment involvement, benchmarking etc.

(ii) (a)

Reason:

The risk which refers to the possibilities of loss due to factors such as religious fanaticism, ethnic polarization, dissatisfaction among the people as a result of wide disparity in income distribution, or regionalism, is called social risk.

(iii) (b)

Reason:

$$R = (2200 - 3x)\frac{x}{2} = \frac{2200x}{2} - \frac{3}{2}x^2$$

$$= 1100x - \frac{3}{2}x^2$$

$$MR = \frac{dR}{dx} = 1100 - 3x$$

(iv) (c)

Reason:

As per Altman's model, if the value of z-score of a firm falls between 1.81 and 2.99, then the firm will be mixture of failed and non-failed elements.

(v) (b)

Reason:

Strategic Benchmarking helps to develop a vision of the changed organizations. It will develop core competencies that will help sustained competitive advantage.

2. (a) What is Customer Relationship Management? State the objectives of Customer Relationship Management Application and also state the advantages of it. [2+4+4]

(b) What do you understand by Balanced Score Card (BSC)? A BSC allows managers to look at business from four different perspectives — Write about those four perspectives. [2+8]

Answer:

2. (a) Customer Relationship Management (CRM) entails initiatives that surround the customer side of the business. CRM is a business strategy comprised of process, organizational and technical change whereby a company seeks to better manage its enterprise around its customer behaviors. It entails acquiring and deploying knowledge about customers and using this information across the various customers touch points to increase revenue and achieve cost reduction through operational efficiencies.

Objectives of using CRM Applications, defined in the following line:

a. To support the customer services
b. To increase the effectiveness of direct sales force.
c. To support of business to business activities.
d. To support of business to consumer activities.
e. To manage the call center.
f. To operate the In- bound call centre.
g. To operate the Out - bound call centre.
h. To operate the full automation

The advantages of CRM are these:

- satisfied customer does not consider leaving
- product development can be defined according to current customer needs
- a rapid increase in quality of products and services
- the ability to sell more products
- optimization of communication costs
- proper selection of marketing tools (communication)
- trouble-free run of business processes
- greater number of individual contacts with customers etc.

(b) Balanced Score Card (BSC) is a performance management and strategy development methodology that helps executives to 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. It is a set of financial and non-financial measures relating to company's critical success factors.

The objectives and measures view organizational performance from four perspectives - (A) Financial, (B) Customers, (C) Internal Business Process, and (D) Learning and Growth.

i. Financial: The financial perspective serves as the focus for the objectives and measures for the objectives and measures in the other scorecard perspectives. This perspective is concerned for profit of the enterprises. Under this perspective the focus will be on financial measures like operating profit, ROI, residual income, economic value added concept, revenue growth, cost reduction, asset utilization etc. These financial measures will provide feedback on whether improved operational performance is being translated into improved financial performance.

ii. Customer: This perspective captures the ability of the organization to provide quality goods and services, the effectiveness of their delivery, and overall customer service and satisfaction. Needs and desires of customers have to be attended properly because customer pay for the organization's cost and provided for its profits. This perspective typically includes several core or genetic measures that relate to customer loyalty and the result of the strategy in the targeted segment. They include market share, customer retention, new customer acquisition, customer satisfaction and customer profitability.

iii. Internal Business Processes: This perspective focuses on the internal business results that lead to financial success and satisfied customer. To meet organizational objectives and customers' expectations, organizations must identify the key business processes at which they must excel. Key processes are monitored to ensure that outcomes will be satisfactory. The principal internal business processes include the following:
   1. Innovation processes for exploring the needs of the customers.
   2. Operation processes with a view to providing efficient, consistent and timely delivery of product/ service.
   3. Post service sales processes.

iv. Learning and Growth: This perspective looks at the ability of employees, the quality of information systems, and the effects of organizational alignment in supporting accomplishment of organizational goals. Processes will only succeed if adequately skilled and motivated employees, supplied with accurate and timely information, are driving them. In order to meet changing requirements and customer expectations, employees may be asked to take on dramatically new responsibilities, and may require skills, capabilities, technologies, and organizational designs that were not available before. The learning and growth perspective identifies the infrastructure that the business must build to create long-term growth and improvement. There will be focus on factors like employee capability, employee productivity, employee satisfaction, employee retention.

3. (a) Cost = $300x - 10x^2 + \frac{1}{3}x^3$, Calculate

(i) Output at which Marginal Cost is minimum
(ii) Output at which Average Cost is minimum
(iii) Output at which Marginal Cost = Average Cost. **[10]**

(b) Using Altman's Multiple Discriminant Function, calculate Z-score of S & Co. Ltd., where the five accounting ratios are as follows and comment about its financial position:
Working Capital to Total Assets = 0.250
Retained Earnings to Total Assets = 50%
EBIT to Total Assets = 19%
Book Value of Equity to Book Value of Total Debt = 1.65
Sales to Total Assets = 3 times **[10]**

Answer:

3. (i) Cost = $300x - 10x^2 + \frac{1}{3}x^3$,

Marginal Cost $= \frac{dc}{dx} = 300 - 20x + x^2$ (say, y)

In order that MC is minimum first derivate must be equal to zero and 2nd derivate must be positive.

$\therefore \frac{dy}{dx} = 2x - 20 \Rightarrow 2x = 20$

x = 10

$\frac{d^2y}{dx^2} = 2$, which is positive. It is minimum at x = 10.

(ii) Average Cost = $300 - 10x + \frac{1}{3}x^2$, (y say)

$\frac{dy}{dx} = -10 + \frac{2}{3}x = 0$

=> x = 30/2 = 15

$\frac{d^2y}{dx^2} = \frac{2}{3} > 0$,

Therefore, average Cost is minimum of output at x = 15

(iii) Output at which Marginal Cost = Average Cost

$300 - 20x + x^2 = 300 - 10x + \frac{1}{3}x^2$

$-20x + 10x + x^2 - \frac{1}{3}x^2 = 0$

$-10x + \frac{2}{3}x^2 = 0$

$\frac{-30x + 2x^2}{3} = 0$

2x2 – 30x = 0

2x (x – 15) = 0

X – 15 = 0

Therefore, x = 15

(b) As the Book Value of Equity to Book Value of Total Debt is given in the problem in place of Market Value of Equity to Book Value of Total Debt, the value of Z-score is to be computed as per Altman's 1983 Model of Corporate Distress Prediction instead of Altman's 1968 Model of Corporate Distress Prediction.

As per Altman's Model (1983) of Corporate Distress Prediction,

$Z=0.717\ X_1 + 0.847\ X_2 + 3.107\ X_3 + 0.420\ X_4 + 0.998\ X_5$

Here, the five variables are as follows:

X_1 = Working Capital to Total Assets = 0.250

X_2 = Retained Earnings to Total Assets = 0.50

X_3 = EBIT to Total Assets = 0.19

X_4 = Book Value of Equity Shares to Book Value of Total Debt = 1.65

X_5 = Sales to Total Assets = 3 times

Hence, Z-score = (0.717 x 0.25)+(0.847 x 0.50)+(3.107 x 0.19)+(0.420 x 1.65)+(0.998 x 3)

= 0.17925 + 0.4235 + 0.59033 + 0.693 + 2.994 = 4.88

Note: As the calculated value of Z-score is much higher than 2.9, it can be strongly predicted that the company is a non-bankrupt company (i.e., non-failed company).

4. (a) "The Enterprise Risk Management (ERM) is a comprehensive and integrated approach to addressing corporate risk." — State the basic characteristics of ERM and mention the needs for implementation of ERM. [5+5]

(b) (i) State the objectives of MIS (Management Information System). [7]

(ii) Write a short note on OLAP Server. [3]

Answer:

4. (a) "The Enterprise Risk Management (ERM) is a comprehensive and integrated approach to addressing corporate risk." The basic characteristics of ERM are as follows:

1. A process, ongoing and following through an entity.
2. Effected by people at every level of an organization.
3. Applied in strategy-setting.
4. Applied across the enterprise, at every level and unit, and includes taking an entity-level portfolio view of risk.
5. Designed to identify potential events affecting the entity and manage risk within its risk appetite.
6. Able to provide reasonable assurance to an entity's management and board.
7. Geared to the achievement of objectives in one or more separate but overlapping categories.

Need for Implementation of ERM:

ERM needs to be implemented for the following reasons:

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

Traditional risk management approaches are focused on protecting the tangible assets reported on a company's Balance Sheet and the related contractual rights and obligations. The emphasis of ERM, however, is on enhancing business strategy. The scope and application of ERM is much broader than protecting physical and financial assets. With an ERM approach, the scope of risk management is enterprise-wide and the application of risk management is targeted to enhancing as well as protecting the unique combination of tangible and intangible assets comprising the organization's business model.

(b) (i) The objectives of Management Information System:

1. To provide the managers at all levels with timely and accurate information for control of business activities
2. To highlight the critical factors in the operation of the business for appropriate decision making
3. To develop a systematic and regular process of communication within the organization on performance in different functional areas
4. To use the tools and techniques available under the system for programmed decision making
5. To provide best services to customers
6. To gain competitive advantage
7. To provide information support for business planning for future.

(ii) OLAP Server: An OLAP server is a high-capacity, multi-user data manipulation engine specifically designed to support and operate on multi-dimensional data structures. A multi- dimensional structure is arranged so that every data item is located and accessed based on the intersection of the dimension members which define that item. The design of the server and the structure of the data are optimized for rapid ad-hoc information retrieval in any orientation, as well as for fast, flexible calculation and transformation of raw data based on formulaic relationships. The OLAP Server may either physically stage the processed multi-dimensional information to deliver consistent and rapid response times to end users, or it may populate its data structures in real-time from relational or other databases, or offer a choice of both. Given the current state of technology and the end user requirement for consistent and rapid response times, staging the multi-dimensional data in the OLAP Server is often the preferred method.

Section - B

Answer Question No. 5 which is compulsory and any two from the rest of this section

5. Multiple choice questions: 10] [1 mark for right choice and 1 mark for working] [5x2=10]

(i) A firm's current assets and current liabilities are ₹ 1600 and ₹ 1000 respectively. How much can it borrow on a short-term basis without reducing the current ratio below 1.25?
(A) ₹1,000
(B) ₹ 1,200
(c) ₹ 1,400
(D) ₹ 1,600

(ii) If an all equity firm has Cash from Operating activities amounting to ₹ 60 lakhs, Depreciation ₹ 30 lakhs, increase in non-cash Working Capital ₹ 25 lakhs and Capital Expenditure ₹ 20 lakhs, its Free Cash Flows to Equity amounts to (in Lakhs):
(A) 90 lakhs
(B) 45 lakhs
(C) 40 lakhs
(D) 65 lakhs.

(iii) Sun Ltd. has announced issue of warrants on 1:1 basis for its equity shareholders. The warrants are convertible at an exercise price of 12. Warrants are detachable and trading at ₹7. What is the minimum price of the warrant if the current price of the stock is ₹16?
(A) ₹ 6
(B) ₹ 4
(C) ₹ 10
(D) ₹ 12.

(iv) It is assumed that M. Ltd., would realize ₹40 million from the liquidation of its assets. It pays ₹20 millions to its creditors and Preference Shareholders in full and final settlement of their claims. If the number of Equity Shares of M. Ltd. is 2 million, the Liquidation per Share would be:
(A) ₹1 per Share
(B) ₹10 per Share
(C) ₹ 12 per Share
(D) ₹15 per Share.

(v) Assume that the following details are given for a company:
Sales-₹1,00,000; Costs-₹75,000; Depreciation-₹20,000; Tax-35%;
Change in Net Working Capital-₹1,000; Change in Capital Spending-₹10,000.
The Free Cash Flow to Firm (FCFF) for the given data would be:
(A) ₹10,000
(B) ₹12,250
(C) ₹13,500
(D) ₹15,000.

Answer:

5. (i) (B) ₹ 1,400.
Reason:
Amount of borrowing be x. (Current Asset will increase because borrowing will increase the cash amount)
Thus, 1600 + X/ 1000 + X = 1.25
Or X =₹ 1400.

(ii) (C) ₹ 40 lakhs.
Reason:
[60-20=40]. [Depreciation and Working Capital change already adjusted in Cash Flows and no adjustment for Cost of Debt Capital, the firm being all equity].

(iii) (B) ₹4.
Reason:
Minimum Price of warrant of Sun Ltd. = current stock price -exercise price of warrant =₹ (16-12) =₹4.

(iv) (B) ₹ 10 per share.
Reason:
Liquidation/share= (₹40 million-₹20 million)/2 million = ₹10 per share.

(v) (B) ₹ 12,250.
Reason:

Sales –Cost-Depreciation	₹ 5000
Less- Tax	₹ 1750
PAT	₹ 3250
Add-Depreciation	₹ 20,000

Less- Change in Net Working Capital	₹ 1000
Less- Change in Capital Spending	₹ 10,000
Free Cash Flow to Firm (FCFF)	₹ 12,250

6. **(a) If, Earnings per share: ₹ 3.15;**
Capital Expenditure per share: ₹3.15.
Depreciation per share: ₹ 2.78
Change in working capital per share: ₹0.50
Debt financing ratio: 25%

Earnings, Capital expenditure, Depreciation, Working Capital are all expected to grow at 6% per year. The beta for stock is 0.90. Treasury bond rate is 7.5%. A premium of 5.50% is used for market.
Calculate value of stock.

(b) Zinc Ltd. has an issued and paid-up capital of 50,000 shares of ₹100 each. The company declared a dividend of ₹12.50 lakhs during the last five years and expects to maintain the same level of dividends in the future. The control and ownership of the company is lying in the few hands of Directors and their family members. The average dividend yield for listed companies in the same line of business is 18%. Calculate the value of 3,000 shares in the company. **8+8**

Answer:

6. **(a)** Estimating value:
Long term bond rate 7.5%
Cost of equity = 7.5% + (0.90 × 5.50%) = 12.45%
Expected growth rate 6%
Base year FCFE = Earning per share – (Capital Exp. – Dep.)(1 – Debt Ratio) – Change in working capital (1 – Debt Ratio)
= 3.15 – (3.15 – 2.78) (1 – 0.25) – 0.50 (1 – 0.25)
= 2.49
Value per share = 2.49 × 1.06 / (0.1245 – 0.06) = ₹ 41.

(b) Dividend per share = 12,50,000 / 50,000 =₹ 25
Dividend yield = 18%
Value per share = 2.5 /0.18 ₹138.90
Value of 3,000 shares = 3,000 shares × ₹ 138.90 = ₹ 4,16,700.

7. **(a) Marico Ltd. acquired 100% of Sun Ltd. for ₹2,000 (lacs). As on the date of acquisition, the net assets of Marico Ltd. were:**

Particulars	₹ (in Lacs)
Tangible Fixed Assets	500
Brand (Valued by Management)	120
Net Current Assets	380

Compute Goodwill on acquisition under the following situation:
(i) Ignore Brand Value
(ii) Consider Brand Value.

(b) Tridev Ltd is in the business of making sports equipment. The Company operates from Thailand. To globalise its operations Tridev has identified Try Toys Ltd, an Indian Company, as a potential takeover candidate. After due diligence of Try Toys Ltd, the following information is available:

(a) Cash Flow Forecasts (₹in Crores)

Year	10	9	8	7	6	5	4	3	2	1
Try Toys Ltd.	24	21	15	16	15	12	10	8	6	3
Tridev Ltd.	108	70	55	60	52	44	32	30	20	16

(b) The Net Worth of Try Toys Ltd (in Lakh ₹) after considering certain adjustments suggested by the due diligence team reds as under —

Tangible	750	
Inventories	145	
Receivables	75	970
Less- Creditors	165	
Bank Loans	250	(415)
Represented by Equity Shares @ ₹ 1000 each		555

Talks for the takeover have crystallized on the following –

(i) Tridev Ltd will not be able to use Machinery worth ₹75 Lakhs which will be disposed off by them subsequent to take over. The expected realization will be ₹50 Lakhs.

(ii) The inventories and receivables are agreed for takeover at values of ₹100 and ₹50 Lakhs respectively, which is the price they will realize on disposal.

(iii) The liabilities of Try Toys Ltd will be discharged in full on take over along with an employee settlement of ₹90 Lakhs for the employees who are not interested in continuing under the new management.

(iv) Tridev Ltd will invest a sum of ₹150 Lakhs for upgrading the Plant of Try Toys Ltd on takeover. A further sum of ₹50 Lakhs will also be incurred in the second year to revamp the machine shop floor of Try Toys Ltd.

(v) The anticipated cash flow (in ₹Crore) post takeover are as follows-

Year	1	2	3	4	5	6	7	8	9	10
Cash Flows	18	24	36	44	60	80	96	100	140	200

You are required to advise the management the maximum price which they can pay per share of Try Toys Ltd., if a discount factor of 15% is considered appropriate. 10+10

Answer:

7. (a) (i) If Brand Value is ignored:

Particulars	**₹ (in Lacs)**
Purchase consideration	2,000
Less- Net Assets acquired (500+380)	880
Goodwill	1,120

(ii) If Brand Value is considered:

Particulars	**₹ (in Lacs)**
Purchase consideration	2,000
Less- Net Assets acquired (500+120+380)	1,000
Goodwill	1,000

In first case above goodwill includes brand, in second case brand has been recognized separately. In India no company has so far attempted to recognize brand separately from goodwill on acquisition. This is because of two reasons:

(a) Difficulty in measuring brand; and
(b) Absence of statutory or regulatory requirement to recognize brand separately from goodwill.

But with the growing importance of brand both nationally and internationally, many multinational companies started recognizing brand separately.

(b) (i) Computation of Operational Synergy expected to arise out of merger (₹ lakhs):

Year	1	2	3	4	5	6	7	8	9	10
Cash Flow after merger	1800	2400	3600	4400	6000	8000	9600	10000	14000	20000
Cash flow without merger	1600	2000	3000	3200	4400	5200	6000	5500	7000	10800
Synergy Effect	200	400	600	1200	1600	2800	3600	4500	7000	9200

(ii) Valuation of Try Toys Ltd. (₹ Lakhs)

		Without Merger		Considering Merger	
Year	**Discount Factor**	**Cash Flows**	**Discounted Cash Flow**	**Cash Flow**	**Discounted Cash Flow**
1	0.870	300	261.00	200	174.00
2	0.756	600	453.60	400	302.40
3	0.657	800	525.60	600	394.20
4	0.572	1000	572.00	1200	686.40
5	0.497	1200	596.40	1600	795.20
6	0.432	1500	648.00	2800	1209.60
7	0.376	1600	601.60	3600	1353.60
8	0.327	1500	490.50	4500	1471.50
9	0.284	2100	596.40	7000	1988.00
10	0.247	2400	592.40	9200	2272.40
			5337.90		10,647.30
			5338.00		10,647.00

(iii) Computation of Maximum Value to be quoted

Particulars	₹ in Lakhs	₹ in Lakhs
Value as per discounted Cash Flow from Operations		10,647
Add- Cash to be collected immediately by disposal of assets:		
Sundry Fixed Assets	50	
	150	
	165	
	90	
	250	
	150	
	38	693
Maximum Amount to be quoted		10,154
Difference in Valuation had there been no merger = (10,647-5338) = ₹ 5309 Lakhs.		

8. (a) A company has a capital base of ₹ 3 crore and has earned profits of ₹33 Lakhs. Return on investment of the particular industry to which the company belongs is 12.5%. If the services of a particular executive are acquired by the company, it is expected that the profits will increase by ₹7.5 lakhs over and above the target profit. Determine the amount of maximum bid price for that particular executive and the maximum salary that could be offered to him. 8+12

(b) The chief executive of a Company thinks that shareholders always look for the earnings per share. Therefore, he considers maximization of the earning per share (EPS) as his Company's objective. His company's current net profit is ₹ 80 lakhs and EPS is ₹4. The current market price is ₹42. He wants to buy another firm which has current income of ₹15.75 lakhs, EPS of ₹10.50 and the market price per share of ₹85. What is the maximum exchange ratio which the chief executive should offer so that he could keep EPS at the current level? If the chief executive borrows funds at 15 per cent rate of interest and buys out the other Company by paying cash, how much should he offer to maintain his EPS? Assume a tax rate of 50%. 12

Answer:

8. (a)

1. Maximum Salary Payable:

Particulars	₹ (in Lakhs)
Capital Base	300.00
Target Profits =(Capital Base x 12.50%)	37.50
Add- Extra Profit due to Induction of the Executive	7.50
Total Profits of the Company (anticipated after induction of the executive)	45.00
Less-Current Profit	33.00
Incremental Profit	12.00

Maximum Salary = Incremental Profit due to introduction = ₹12.00 Lakhs per annum.

2. Maximum Bid Price:

= Value of Salary Payable in perpetuity
= Maximum Salary Payable ÷ Desired Rate of Return on Investment
= ₹12 Lakh ÷ 12.5% = ₹96 Lakh.

(b)

Current Data	**Acquiring Co.**	**Target Co.**
Net Profit	80,00,000	15,75,000
EPS	4	10.50
Market Price of Share	42	85
No. of Equity Shares (Net Profit ÷EPS)	20,00,0000	1,50,000

Assuming, X no. of shares issued.
Calculation of share Exchange Ratio:
Combined net profit / No. of shares=4
= 80,00,000 + 15,75,000 / 20,00,000 +X=4
= 95,75,000 = 80,00,000+4X
Or 4X = 95,75,000-80,00,000
Or, X= 15,75,000/4 = 3,93,750 shares

Share exchange ratio = 3,93,750 shares / 1,50,000 = 2.625.
The acquiring company can offer its 2.625 shares against the company's 1 share.

If funds borrowed @ 15% interest and buys out the target company by paying cash, and maintain the same level of EPS as before.
80,00,000 + 15,75,000- 0.15 Debt(1 -0.50)/ 20,00,000 shares=₹ 4
95,75,000 – 0.075 Debt = 80,00,000
0.075 Debt = 95,75,000 – 80,00,000
Debt = 15,75,000/0.075 = ₹2,10,00,000
$\therefore$CFO can offer ₹2,10,00,000 to acquire the target company.
Amount payable to each share in target company = ₹2,10,00,000/1,50,000
= ₹ 140.00 per share.