

FINAL EXAMINATION GROUP IV (SYLLABUS 2012)

SUGGESTED ANSWERS TO QUESTIONS DECEMBER 2014

Paper-17: STRATEGIC PERFORMANCE MANAGEMENT

Time Allowed : 3 Hours

Full Marks : 100

The figures in the margin on the right side indicate full marks.

This Question paper has been divided into 3 parts viz., Section-A (60 marks),
Section-B (20 marks) and Section-C (20 marks).

Please note:

- From Section-A: Performance Management, you are to answer Question No. 1 which is Compulsory, carrying 20 marks. Further answer any two Questions from the rest of the Questions in this section, each carrying 20 marks.
- From Section-B: IT & Econometric tool in Performance Management, you are to answer any two questions, each carrying 10 marks.
- From Section-C: Enterprise Risk Management, you are to answer any two Questions, each carrying 10 marks.

Section-A (60 Marks) Performance Management

Answer question No. 1, which is compulsory, carrying 20 marks.
Further answer any two questions from the rest of the questions
in this section, each carrying 20 marks.

1. The Royal Botanical Gardens has been established for more than 120 years and has the following mission statement:

"The Royal Botanical Gardens belongs to the nation. Our mission is to increase knowledge and appreciation of plants, their importance and their conservation, by managing and displaying living and preserved collections and through botanical and horticultural research."

Located towards the edge of the city, the gardens are visited regularly throughout the year by many local families and are an internationally well known tourist attraction. Despite charging admission, it is one of the top five visitor attractions in the country. Every year it answers many thousands of inquiries from universities and research establishments, including pharmaceutical companies from all over the world and charges for advice and access to its collection. Inquiries include requests for access to the plant collection for horticultural work, seeds for propagation or samples for chemical analysis to seek novel pharmaceutical compounds for commercial exploitation. It receives an annual grant in aid from Central Government, which is fixed once every five years. The grant is due for review in three years' time.

The finance director has decided that, in order to strengthen its case when meeting the government representatives to negotiate the grant, the management board should be able to present a balanced scorecard demonstrating the performance of the gardens. He has asked you, the senior management accountant, to help him. Many members of the board, which consists of eminent scientists, are unfamiliar with the concept of a balanced scorecard.

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Required:

(a) Describe the benefit of the Balance Scorecards.

(b) Discuss the process you would employ to develop a suitable balanced scorecard for the Royal Botanical Gardens and give examples of measures that would be incorporated within it.

10+10=20

Answer:

1. (a) Balance Scorecard is a set of financial and non- financial measures relating to a company's critical success factors. The main objective of Balanced Scorecard is to provide a comprehensive framework for translating a firm's strategic objectives into a coherent set of performance measures.

The benefits of adopting a Balanced Scorecard approach to performance management may include:

- (i) It creates a longer term strategic view of performance rather than a myopic short term view.
- (ii) It broadens the view of divisional managers as to what represents good performance away from a solely financially orientated view.
- (iii) Organizations can develop performance measures that are explicitly aligned to the corporate strategy and in support thereof.
- (iv) It considers customer viewpoint which is critical in any business,
- (v) It helps to promote accountability as each performance measure could be the responsibility of a nominated individual or individuals.
- (vi) It brings together in a single Management Report, various aspects like customer orientation, shortening the response time, improving quality, etc. of a competitive agenda.
- (vii) 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.
- (viii) 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.
- (ix) It provides strategic feedback and learning. BSC guards against sub-ordination. It emphasizes an integrated combination of traditional and non-traditional performance measures.

The implementation of the Balanced Scorecard should be relatively simple and understandable.

- (b) We should look at the specific measures that the Royal Botanical Gardens could introduce, as well as considering the organization from a financial viewpoint.

There are three new perspectives that businesses should consider:

- The customer perspective,
- The internal business perspective and
- The learning and growth perspective.

We should start the task of developing a balanced scorecard by looking at the organization from all of these perspectives.

The customer perspective considers areas such as customer satisfaction and how the organization adds value to these customers. In the Royal Botanical Gardens' case this would include everyone who makes an inquiry as well as all of its Visitors.

The internal business perspective considers the internal processes that the

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organization needs to perform well in order to be successful. For the Royal Botanical Gardens these would include the procedure it goes through to reply to a query from a university.

The learning and growth perspective considers areas that require constant improvement. For the Royal Botanical Gardens this would include staff training and investment in modern equipment. The organization could then look at a range of measures for each area mentioned in the mission statement. For example, one of the aspects was —displaying living and preserved collections.

The balanced scorecard could turn these into specific measures:

Financial Perspective: Budget for the cost of adding new preserved collections.

Customer Perspective: Attractiveness of displays. Quality of information provided about displays.

Internal Business Perspective: Time spent on maintaining preserved collections.

Learning and growth Perspective: Number of new displays presented during the year. Number of visits made to overseas equivalents of the Royal Botanical Garden etc.

2. (a) Amit Co. manufactures and sells 15,000 units of a product. The full cost per unit is 200. The Company has fixed its price so as to earn a 20% return on an Investment of ₹ 18,00,000.

Required:

- (i) Calculate the selling price per unit from the above. Also, calculate the mark-up % on the full cost per unit.
- (ii) If the selling price as calculated above represents a mark-up % of 40% on variable cost per unit, calculate the variable cost per unit.
- (iii) Calculate the Company's income if it had increased the selling price to ₹230. At this price, the Company would have sold 13,500 units. Should the Company have increased the selling price to ₹230?
- (iv) In response to competitive pressures, the Company must reduce the price to ₹210 next years, in order to achieve sales of 15,000 units. The Company also plans to reduce its investment to ₹16,50,000. If a 20% Return on Investment should be maintained, what is the Target Cost per unit for the next year? 3x4=12

(b)

Equity Share Capital	₹10,00,000
Reserves & Surplus	₹ 3,00,000
12% Preference Share Capital	₹ 2,00,000
10% Debenture	₹ 4,00,000
Immovable property (held an investment)	₹ 1,00,000
Profit after Tax	₹ 2,00,000
Rent of Tax	40%

Companies with Beta factor of 1 in similar business have market rate of return 15%. Beta factor of Amit Co. is 1.1. 8

Calculate Economic Value Added (EVA) assuming Risk Free Return-7%.

Answer:

2. (a) Statement showing the Target costing of the product

(i) Target sale Price per unit = Full Cost + Target profit = ₹200 + (₹18,00,000 x 20%) / 15,000 units	₹ 224
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So, Mark-up on Full Cost = ₹ (24 ÷ 200) x 100	12%
(ii) Above sale price ₹224 = VC + 40% thereon, i.e., 140% on VC. So, Var. Cost ₹ 224/140%	₹ 160
(iii) Present Contribution at 15,000 units = (₹ 224 – ₹ 160) x 15,000 units	₹ 9,60,000
Revised Contribution at 13,500 units = (₹230 – ₹ 160) x 13,500 units	₹ 9,45,000
Hence, Increase in sale Price is not beneficial, due to reduction in Contribution	₹ 15,000
(iv) Target profit for next year = (₹16,50,000 x 20%)/15,000 units	₹ 22
So, Target cost for next year = New sale price less Target Profit = ₹ 210 – ₹ 22	₹ 188

- (b) EVA = (Return on operating capital – weighted average cost of capital) x Operating Capital
 = (12.44% - 13.33%) x ₹ 18,00,000 = ₹ 16,020.

Working Note – 1

Operating Capital	₹
Equity Share Capital	10,00,000
Reserves & Surplus	3,00,000
12% Preference Share Capital	2,00,000
10% Debenture	4,00,000
Total	19,00,000
Less: Non-Operating Investment	1,00,000
Operating Capital	18,00,000

Working Note – 2

Calculation of NOPAT

	₹
NOPAT = Profit after Tax	2,00,000
Add: Taxes (2,00,000 x 40/60)	1,33,333
	3,33,333
Add: Interest Expense	40,000
Operating EBIT	3,73,333
Less: Economic taxes @ 40%	1,49,333
NOPAT	2,24,000

Working Note – 3

Calculation of WACC	
$K_d = 10\% (1 - 0.40) \times 4,00,000 / 19,00,000 = 1.26$	
$K_p = 12\% \times 2,00,000 / 19,00,000 = 1.26$	
$K_e = 7\% + 1.1(15\% - 7\%) = 15.8\% \times 13/19 = 10.81$	13.33%

Working Note – 4

Return on operating capital (%) = (₹2,24,000 / ₹18,00,000) x 100 = 12.44%

3. (a) **Define Benchmarking. Outline the different types of Benchmarking, with a brief note on each.** 1+9=10
- (b) M/s. XYZ Company, a manufacturing company sells its products at ₹1,000 per unit. Due to competition, its competitors are likely to reduce price by 15%. M/s. XYZ company wants to respond aggressively by cutting its price by 20% and expects that the present volume of 1,50,000 units per annum will increase to 2,00,000 units. M/s. XYZ company

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wants to earn a 10% target profit on sales. Based on a detailed value engineering exercise, the comparative position is as given follow:

Particulars	Existing (₹)	Target (₹)
Direct Materials Cost per unit	400	385
Direct Manufacturing Labour per unit	55	50
Direct Machinery Costs per unit	70	60
Direct Manufacturing Costs per unit	525	495
Manufacturing Overheads:		
No. of Orders (₹ 80 per order)	22,500	21,250
Testing hours (₹ 2 per hour)	45,00,000	30,00,000
Units Reworked (₹ 100 per unit)	12,000	13,000

Manufacturing Overheads are allocated using relevant cost drivers. Other operating costs per unit for the expected volume are estimated as follows:

Research and Design (₹)	50
Marketing and Customer Service (₹)	130
	180

Required:

- (i) Calculate Target Costs per unit and Target Costs for the proposed volume showing break-up of different elements.
- (ii) Prepare Target Product Profitability Statement. 5+5=10

Answer:

3. (a) Bench Marking:

Traditionally control involves comparison of the actual results with an established standard or target. The practice of setting targets using external information is known as 'Bench 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

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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) (i)

Target Selling Price: ₹ 1,000 less 20%	₹ 800
Less: Target profit Margin (10%)	₹ 80
Target Costs per unit (₹)	720

The break-up of ₹ 720 per unit is as follows:

Target Costs per unit:

Particulars		Per unit (₹)
Direct Materials		385
Direct Manufacturing Labour		50
Direct Machining costs		60
Direct Manufacturing costs		495
Add: Manufacturing Overheads:		
Ordering and receiving = $(21,250 \times ₹ 80) \div 2,00,000$	8.50	
Testing and Inspection = $(30,00,000 \times ₹ 2) \div 2,00,000$	30.00	
Rework = $13,000 \times ₹ 100 \div 2,00,000$	6.50	45
Total Manufacturing Costs:		495+45 = 540
Research and Design	50	
Marketing and Customer Service	130	180
Full Product Cost		540+180 = 720

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(ii) Target Product Profitability:

Particulars	Per unit (₹)	2,00,000 Unit (₹)
1. Sales	800	16,00,00,000
2. Costs of goods sold:		
Direct materials	385	7,70,00,000
Direct Labour	50	1,00,00,000
Direct machining costs	60	1,20,00,000
	495	9,90,00,000
Manufacturing Overheads	45	90,00,000
	540	10,80,00,000
3. Gross Margin (1-2)	260	5,20,00,000
4. Operating Costs:		
Research and Design	50	1,00,00,000
Marketing and Customer Service	130	2,60,00,000
	180	3,60,00,000
5. Operating Profit (3-4)	80	1,60,00,000

4. (a) Explain about Balanced Score Card. Mention the different perspectives of Balanced Score Card. 5+5=10

(b) A company earns a profit of ₹3,00,000 per annum after meeting its interest liability of ₹1,20,000 on 12% Debentures. The tax rate is 50%. The number of equity shares of ₹10 each are 80,000 and retained earnings amounting to ₹12,00,000. The company proposes to take up an expansion scheme for which a sum of ₹ 4,00,000 is required. It is anticipated that after expansion, the company will be able to achieve the same return on investment as at present. The funds required for an expansion can be raised either through debt at the rate of 12% or by issuing equity shares at par.

Required:

Compute the Return on Investment (ROI).

10

Answer:

4. (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 an 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

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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:

The Learning & Growth Perspective: This perspective includes employee training and corporate cultural attitudes related to both individual and corporate self-improvement. In a knowledge worker organization, people, the only repository of knowledge, are the main resource. In the current climate of rapid technological change, it is becoming necessary for knowledge workers to be in a continuous learning mode. Metrics can be put into place to guide managers in focusing training funds where they can help the most. In any case, learning and growth constitute the essential foundation for success of any knowledge worker organization. nd Norton developed the Balanced Scorecard.

The Internal Business Process Perspective: This perspective refers to internal business processes. Metrics based on this perspective allow the managers to know how well their business is running, and whether its products and services conform to customer requirements (the mission). These metrics have to be carefully designed by those who know these processes most intimately; with our unique missions these are not something that can be developed by outside consultants.

The Customer Perspective: Recent management philosophy has shown an increasing realization of the importance of customer focus and customer satisfaction in any business. These are leading indicators. If customers are not satisfied, they will eventually find other suppliers that will meet their needs. Poor performance from this perspective is thus a leading indicator of future decline, even though the current financial picture may look good.

The Financial Perspective: Kaplan and Norton do not disregard the traditional need for financial data. Timely and accurate funding data will always be a priority, and managers will do whatever necessary to provide it. In fact, often there is more than enough handling and processing of financial data. With the implementation of a corporate database, it is hoped that more of the processing can be centralized and automated. But the point is that the current emphasis on financials leads to the "unbalanced" situation with regard to other perspectives. There is perhaps a need to include additional financial-related data, such as risk assessment and cost-benefit data, in this category.

(b) (i) Capital Employed before the Expansion Plan

	₹
Equity Shares (80,000 x ₹ 10)	8,00,000
Debentures (₹ 1,20,000/12) x 100	10,00,000
Retained Earnings	12,00,000
Total Capital Employed	30,00,000

(ii) Earnings before the payment of Interest and Tax (EBIT):

	₹
Profit	3,00,000
Interest	1,20,000
EBIT	4,20,000

(iii) Return on Investment (ROI)

$$= (\text{EBIT}/\text{Capital Employed}) \times 100 = (4,20,000/30,00,000) \times 100 = 14\%$$

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Section-B (20 Marks)

IT & Econometric tool in Performance Management
Answer any two questions, each carrying 10 marks.

5. (a) Define the following term in the context of Supply Chain Management: 2x3=6
- (i) Capacity Utilization
 - (ii) Logistics Management
 - (iii) Strategic Alliance
- (b) What do you mean by the term 'Total Productivity Management'? 4

Answer:

5. (a) (i) Capacity Utilization
This is a measure (usually expressed as a percentage) of how intensively a resource is being used to produce a good or service. Utilization compares actual time used to available time. Traditionally, utilization is the ratio of direct time charged (run time plus setup time) to the clock time available.
- ii. Logistics Management:
Logistics management is the process of strategically managing the procurement, movement and storage of materials, parts and finished inventory (and the related information flows) through the organization and its marketing channels in such a way that current and future profitability are maximized through the cost-effective fulfillment of orders.
- iii. Strategic Alliance
A relationship formed by two or more organizations that share (proprietary), participate in joint investments, and develop linked and common processes to increase the performance of both companies. Many organizations form strategic alliances to increase the performance of their common supply chain.
- (b) Benefits of Total Productivity Management:
- A set of new management goals will be developed by the Management, using the skills and training provided during the implementation of the TPM
 - Team bonding and better accountability
 - Improved quality and total cost competitiveness
 - Productivity and quality team training for problem solving
 - Earlier detection of factors critical to maintaining equipment —uptime
 - Measure impact of defects, sub-optimal performance, and downtime using 'Overall Equipment Effectiveness' (OEE)
 - Motivated people function better all the time
 - The cost is reduced because the losses and other not value added work is reduced
6. (a) State the technological and operational factors of "E-commerce".
(b) Discuss about the Data Availability. 6+4=10

Answer:

6. (a) Technical and Operational Factors of E-commerce
- (i) Protocol (Standards) Making Process
A well-established telecommunications and Internet infrastructure provides many of the necessary building blocks for development of a successful and vibrant e-commerce marketplace.

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- (ii) **Delivery Infrastructure**
Successful e-commerce requires a reliable system to deliver goods to the business or private customer.
- (iii) **Availability of Payment Mechanisms**
Secure forms of payment in e-commerce transactions include credit cards, checks, debit cards, wire transfer and cash on delivery.
- (iv) **General Business Laws**
The application of general business laws to the Internet will serve to promote consumer protection by insuring the average consumer that the Internet is not a place where the consumer is a helpless victim.
- (v) **Public Attitude to E-commerce**
The public attitude toward using e-commerce in daily life is a significant factor in the success of e-commerce.
- (vi) **Business Attitude to E-commerce**
The willingness of companies to move away from traditional ways of doing business and develop methods and models that include e-commerce is essential.

(b) **Data Availability:**

Data availability is a term used by some computer storage manufacturers and Storage Service Providers (SSPs) to describe products and services that ensure that data continues to be available at a required level of performance in situations ranging from normal through disastrous.

In general, data availability is achieved through redundancy involving where the data is stored and how it can be reached. Some vendors describe the need to have a data center and a storage-centric rather than a server-centric philosophy and environment. In large enterprise computer systems, computers typically access data over high-speed optical fiber connection to storage devices.

Among the best-known systems for access are ESCON and Fibre Channel. Storage devices often are controlled as a Redundant Array of Independent Disks (RAID), Flexibility for adding and reconfiguring a storage system as well as automatically switching to a backup or failover environment is provided by a programmable or manually-controlled switch generally known as a director,

Two increasingly popular approaches to providing data availability are the Storage Area Network (SAN) and Network-Attached Storage (NAS). Data availability can be measured in terms of how often the data is available (one vendor promises 99.999 per cent availability) and how much data can flow at a time (the same vendor promises 3200 megabytes per second).

7. (a) What are the key roles required for successful implementation of Six-Sigma?

(b) Explain about the Dashboard and comparison with the Scorecard.

6+4=10

Answer:

7. (a) 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

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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 methodologies to specific projects. They devote 100% of their time to Six Sigma. They primarily focus on Six Sigma project executions, 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.

(b) **Dashboard**

In information technology, a dashboard is a user interface that, somewhat resembling an automobile's dashboard, organizes and presents information in a way that is easy to read. However, a computer dashboard is more likely to be interactive than an automobile dashboard (unless it is also computer-based). To some extent, most graphical user interfaces (GUIs) resemble a dashboard. However, some product developers consciously employ this metaphor (and sometimes the term) so that the user instantly recognizes the similarity.

Some products that aim to integrate information from multiple components into a unified display refer to themselves as dashboards. For example, a product might obtain information from the local operating system in a computer, from one or more applications that may be running, and from one or more remote sites on the Web and present it as though it all came from the same source. Hewlett Packard developed the first such product, which began as a tool for customizing Windows desktops, called Dashboard. The HP product was subsequently acquired by Borland and then a company called Starfish. Microsoft's Digital Dashboard tool incorporates Web-based elements (such as news, stock quotes, and so on) and corporate elements (such as e-mail, applications, and so on) into Outlook. Dashboards may be customized in a multitude of ways and named accordingly, generally, for example as a general corporate or enterprise dashboard, or more specifically, as a CIO or CEO dashboard.

Comparison between Scorecard and Dashboard

The two terms - scorecards and dashboards - have a tendency to confuse, or rather get used interchangeably, but each brings a different set of capabilities. The sources of the confusion are:

- Both represent a way to track results.
- Both use traffic lights, dials, sliders and other visual aids.
- Both have targets, thresholds and alert messages.

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- Both provide linkage or drill down to other metrics and reports.

The difference comes from the context in how they are applied. To provide some history, as busy executives and managers struggled to keep up with the amount of information being thrust at them, the concept of traffic lighting were applied to virtually any and all types of reporting. As technology has improved, more bells and whistles were added - the ability to link to other reports and to drill down to finer levels of detail. The common denominator was the speed of being able to focus on something that required action or further investigation. The terminology evolved to reflect how technology vendors described the widgets that provided this capability - dashboards. As a consequence, both dashboard and scorecard terms are being used interchangeably.

Some refer to dashboards as "dumb" reporting and scorecards as "intelligent" reporting. The reason is dashboards are primarily for data visualization; they display what is happening during a time period. Most organizations begin with identifying what they are already measuring and construct a dashboard dial from there. However, dashboards do not communicate why something matters, why someone should care about the reported measure or what the impact may be if an undesirable declining measure continues. In short, dashboards report what you can measure.

Section-C (20 Marks) Enterprise Risk Management

You are to answer any two questions, each carrying 10 marks.

8. (a) Describe the Asset Liability Management Model in the perspective of Corporate Risk Management. **5**
- (b) Describe about the Business Risk and Exchange Risk. **5**

Answer:

8. (a) Any financial planning strategy should be such that the mix of asset classes in a portfolio is able to grow and satisfy future goals with the best possible returns. This is the crux of asset liability management.

Asset liability management applications with the aid of stochastic programming conceptualize the problem of creating a portfolio by allocating a set of assets. The investor needs to decide the three factors, namely:

Amount of assets to buy
Amount of assets to sell
Amount of assets to hold

The indices are defined and the problem parameters and decision variables are set out so that the stochastic programming model can develop a solution. In this deterministic model, uncertainty is introduced to take care of risk. A refinement to the deterministic model is to apply a more sophisticated technique for estimation of asset prices that takes into consideration any unusual occurrence in the market as well as volatility. Sub-models based on randomness are introduced into the programming to take care of the risk as well. The randomness introduced is able to generate a set of scenarios which can be incorporated into the optimization model.

This model can be further improved using a two-stage stochastic program because an investor tries to use this model for making a contingent decision involving future

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risk. The first stage involves fixing a time period for stage two observation followed by finally taking a decision. The observation part of it can be likened to a 'wait and see' period of observation.

Asset liability management model can also be conceptualized as a method to compute the matching of assets and liabilities to generate a cautious investment portfolio. The purpose of this model is to optimize risk-adjusted returns to the shareholders over a long run.

The asset management model can also be employed to manage liquidity risk. Assets and liabilities can be arranged according to their maturity pattern in a time frame. Applying gap analysis, the differential between maturing assets and maturing liabilities are computed. If the gap is positive, then assets exceed liabilities; if it is negative, infusion of funds would be necessary either through sale of assets or creating new liabilities or a rollover of existing liabilities. This model can also be applied to exchange rate risk management. Financial institutions match their assets and liabilities at a particular exchange rate. Fluctuations in the exchange rate obviously disturb the balance. This risk is corrected by matching the assets and liabilities in the same currency. The risk of foreign exchange borrowings can also be passed on to the lenders through foreign currency loans. The uncovered borrowings can be hedged through forward covers for the entire amount.

(b) Business Risk:

A company's business risk is determined by how it invests its funds i.e., the type of projects which it undertakes, while financial risk is determined by how it finances these investments. A company's competitive position, the industries in which it operates, the company's market share, the rate of growth of the market and the stage of maturity all influence business risk. Business risk relates to volatility of revenues and profits of a particular company due to its market conditions, product mix, input availability, competitive market condition, labour supply etc. The business risk may be due to external factors or internal conditions of a particular business firm. External business risk arises due to change in operating conditions caused by conditions thrust upon the firm which are beyond its control - such as business cycles, Governmental controls etc, Internal business risk is associated with the efficiency with which a firm conducts its operations within the broader environment imposed upon it.

Exchange Risk:

Since the liability of the borrower of the foreign currency financing remains in the currency in which the borrower obtains loan, so at the time of repayment the rupee liability is determined on the basis of the exchange rate prevailing on the date of repayment. The exchange rate fluctuates widely with the passage of time, so the borrower is subject to exposure to exchange rate fluctuations on the outstanding principal of the foreign currency financing. Further if the borrowing is made at a floating rate of interest, there can be substantial variations in the rate of interest with the passage of time, depends on the variations in the LIBOR.

9. (a) "To be effective, any Enterprise Risk Management (ERM) implementations should be integrated with strategy-setting". Do you agree? Give your views bringing out the basic elements of ERM and the reasons why ERM is implemented. 1+2+2=5
(b) Explain about the Project Risk Management. 5

Answer:

9. (a) "To be effective, any Enterprise Risk Management (ERM) implementations should be integrated with strategy-setting". To my mind, this statement is true.

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In today's challenging business environment, opportunities and risks are constantly changing, giving rise to the need for identifying, assessing, managing and monitoring the organization's business opportunities and risks. This, in turn, necessitates establishing the linkage between the opportunities and risk while managing the business. This requirement is addressed by ERM, which redefines the value proposition of risk management by elevating its focus from the 'tactical' to the strategic." ERM is about designing and implementing capabilities for managing the risks that matter. In the light of this, the statement is correct and therefore acceptable.

Basic Elements of ERM:

The following are the basic element of ERM:

- (i) A process, ongoing and flowing through an entity.
- (ii) Effected by people at every level of an organization.
- (iii) Applied in strategy setting.
- (iv) Applied across the enterprise, at every level and unit and includes taking an entry-level view of risk.
- (v) Designed to identify potential events affecting the entity and manage risk within the risk appetite.
- (vi) Able to provide reasonable assurance to an entity's management.
- (vii) Geared to the achievement of objectives in one or more separate but overlapping categories. It is 'a means to an end, not an end in itself.

Need for Implementation of ERM

ERM needs to be implemented for the following reasons:

- (i) Reduce unacceptable performance variability.
- (ii) Align and integrate varying views of risk management.
- (iii) Build confidence of investment community and stakeholders.
- (iv) Enhance corporate governance.
- (v) Successfully respond to a changing business environment.
- (vi) 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) **Project Risk Management:**

Projects are one time processes-unique in nature. Each project will be different and has different gestation periods. By its own nature, a project is based on many assumptions, to be realized at a future and is subjected to environmental changes and changes due to statutory policies. With a gestation period running into a few years, any change or revision in assumptions can transform itself into a big risk. Management of such risks is called as Project Risk Management, which can be difficult and would require special tools and models.

Risks in Project Management are basically:

- (i) Market Related Risks - mainly due to changes in demands.
- (ii) Completion Risks - due to both administrative & technical risks during implementation.

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(iii) Institutional Risks - due to unexpected changes in the conditions and norms laid down by the institutions that have funded the projects.

All the three risks can create certain consequences of events, compounded by unforeseen circumstances. This may lead to 'turbulence', when multiple issues arise, initiating moves and counter-moves and often ending in deadlock and the entire project may collapse.

10. (a) Discuss the needs for implementation of Enterprise Risk Management.

(b) State the objectives of Risk Management.

(c) Discuss the Total Loss Distribution.

4+3+3=10

Answer:

10. (a) Need for Implementation of Enterprise Risk Management(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.

(b) Objectives of Risk Management

Risk management basically has the following objectives:

- Anticipating the uncertainty and the degree of uncertainty of the events not happening the way they are planned.
- Channelizing events to happen the way they are planned.
- Setting right, at the earliest opportunity, deviations from plans, whenever they occur.
- Ensuring that the objective of the planned event is achieved by alternative means, when the means chosen proves wrong, and
- In case the expected event is frustrated, making the damage minimal.

(c) Total Loss Distribution:

An intense stream of research has been conducted over the past few years to address issues raised by the practical implementation of Basel II Advanced Measurement Approaches (AMA) and in particular the Total Loss Distribution Approach (TLDA). Indeed, we believe that most of these issues are now sufficiently clarified to allow for a survey on operational risk quantitative techniques.

The roots of quantitative TLDA come from actuarial techniques as they have been developed by the insurance industry for years. It is of course the most natural idea apart from the fact that actuarial techniques could not be imported directly without any care because of the specificities of operational risks, most notably the reporting bias and the paucity of data.

Probability distributions can be very useful tools for evaluating the expected frequency and/or severity of losses due to identified risks. In risk management, two types of probability distribution are used: empirical and theoretical.

To form an empirical probability distribution, the risk manager actually observes the events that occur.

To create a theoretical probability distribution, a mathematical formula is used. To

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effectively use such distributions, the risk manager must be reasonably confident that the distribution of the firm's losses is similar to the theoretical distribution chosen.

Three theoretical probability distributions that are widely used in risk management are the binomial, normal, and Poisson.