MOCK TEST PAPER

FINAL (NEW) COURSE: GROUP – II

PAPER – 5: STRATEGIC COST MANAGEMENT AND PERFORMANCE EVALUATION

SUGGESTED ANSWERS/HINTS

1. Performance management using the Building Block Model poses three questions based on which the performance measurement system is developed:

What dimensions of performance should the company measure?

Dimensions are the goals that the company wants to achieve based on its overall strategy, those goals that define its success.

How to set the standards (benchmarks) for those measures?

What are the rewards needed to motivate employees to achieve these standards?

Dimensions

Dimensions (goals) include financial and non-financial goals. Dimensions are further categorized as into results and determinants. Results are tracked as (a) financial performance and (b) competitive performance. Determinants are tracked as (a) quality, (b) flexibility, (c) innovation, and (d) resource utilization. Determinants influence results.

Results

(a) Financial Performance: KTR is a closely held partnership with 5 partners. Partners are interested in earning profits that have been benchmarked at an overall return on equity of 25% each year. This can be derived from periodic financial statements that get prepared as part of the accounting function. Partners want to retain the current capital structure. This implies that they do not have any plans to go public or have other external funding with ownership stake. They may take loans from banks for funding their expansion.

Consequently, if they want to expand, the firm has to make sufficient profits that will yield ample cash reserves. Therefore, KTR's financial performance dimensions should also include profitability ratios like gross profit ratio, net profit ratio, operating margin, return of capital employed (if bank loans are taken) etc. Cash profit and changes in cash reserves may also be included as dimensions of performance. These measures should be tracked at the firm's overall level as well at the individual branch/franchisee level.

(b) Competitive Performance: KTR was to be a niche joint in a highly competitive segment. However, to measure how it compares with its peers there is a limitation in terms of availability of information due to the unorganized nature of the fast food industry. All the same, one of the measures that can be helpful are the number of branches / franchisees the firm is able to open.

KTR is also likely to have a competitive edge because it is foraying into providing healthier food choices along with its regular menu. Since this is unique among its segment, it will retain a competitive edge until its peers start replicating the same. Therefore, one other measure for competitive performance could be the spread and uniqueness of KTR's menu as compared to its peers. Information for this could be gathered from published / researched sources like trade magazines as well as informal sources like customer feedback / word of mouth.

Determinants

(a) Quality: Quality drove past performance and it will continue to drive performance even after expansion. For product quality, the management should track if internal quality checks and external certifications are met periodically. Quality control should cover all branches and

franchisees. Non-compliance may require immediate attention of the management. For service quality, periodic training programs can be initiated to educate the staff with people management skills. Therefore, KTR should determine parameters that the management would be interested in ensuring that quality standards are met and how non-compliance should be reviewed.

(b) Innovation: Innovation involves experimenting with the appropriate inputs which make them healthy. At the same time, the healthier option should satisfy the taste and presentation preference of customers. This requires innovative efforts from qualified and skilled chefs. This will give the competitive edge to KTR. Innovation has to be constant and not a onetime exercise. Therefore, management may review the number of new variants that have been introduced in the menu, regularity of these introductions and customer feedback of the same.

(c) Flexibility: Growth in scale of operations combined with a competitive business environment implies that KTR should have some flexibility in its operations. This could mean ability to hire staff quickly, cater to seasonal surges in customer's demand etc.

(d) Resource utilization: Better utilization of resources help business function efficiently. Revamping the order, delivery and payment system would improve the way resources (kitchen, ordering and delivery staff) operate. Lesser errors and delays would increase capacity utilization, freeing up time to cater to more customers. Consequently, pressure on resources decreases. Therefore, some indicators to be tracked can be overtime / idle time of kitchen, ordering and delivery staff, turnaround time in these functions, table occupancy rate, breakage, or wastage of material etc. Again here, the management should chart out the appropriate dimensions that will help them track resource utilization.

Standards

Standards are the benchmarks or targets related to the performance metric that is being tracked under each dimension. To be useful, standards should have the following characteristics:

(a) Ownership: It is important to establish who in the organization structure is responsible for achievement which performance metric. KTR has to consider this very carefully. As explained in the problem, many key management functions like decisions about the menu and its preparation are determined by a core team. Similarly, the centralized core team is handling finance and marketing. However, at the branch level, managers of various operational functions can be held accountable for performance of that specific process. For example, the chief at a particular branch can be held accountable for the quality of food prepared in that branch (Dimension: Quality). Similarly, the head of the order taking staff at a particular branch can be held accountable for the overtime that the staff at putting in at that branch (Dimension: Resource utilization).

(b) Achievability: Benchmarks and targets will be useful only if they are achievable. The managers who have ownership for the achievement of performance metric have to be involved in setting benchmarks or targets. They should be clearly defined, preferably quantifiable. At the same time, they should be in line with the firm's overall strategy. If the target is set very high staff can get de-motivated. If set too low, will not raise the bar for performance. If not in line with the firm's overall strategy, there will be discord or gap between the firm's performance and what it wants to achieve.

(c) Equity: Benchmarks should be equally challenging for all parts of the business. KTR should customize its performance measure for each function like kitchen staff, order and delivery staff, finance staff, advertising staff etc. For example, while turnaround time to meet a customer's order would be relevant metric to the kitchen, ordering and delivery staff, popularity of the advertisement jingle for KTR would be the relevant metric for the advertisement department. The rigor of the target should be uniform across departments. Otherwise the staff would view the benchmark system as being biased towards select functions within the firm.

Rewards

This relates to the reward structure within the firm that includes compensation package, bonus, rewards, awards, facilities provided to employees etc. Proper reward system is required for achievement of standards while maintaining costs at optimum levels. KTR should have a well-defined HR policy for compensation, bonus, promotion and reward. A good system should have the following characteristics:

(a) Motivation: Does the reward system drive the people to achieve targets and standards? A low reward system would not induce staff to work towards the goal. Goal clarity and participation in target/benchmark setting can motivate staff to achieve standards.

While some part of compensation may be fixed, other parts can be made variable. For example, bonus of the advertising staff can be aligned to the sales generated, Chefs can be rewarded bonus based on sales as well quality measures etc. Better job prospects in a growing environment would also be a good motivator. KTR's management should track various metric in this regard. Some of them could be percentage of bonus paid to the overall compensation package categorized staff cadre, attrition rate, internal promotions, cross training programs etc.

(b) Clarity: The reward package should be clearly communicated to the staff. It should be understood by the staff concerned. They should be told what kind of performance will be rewarded and how their performance will be measured. KTR may consider having a dedicated HR team for this purpose.

(c) Controllability: Unlike the traditional understanding, rewards need not be based only on the financial element that the staff can control. There may be other non-financial elements for which rewards can be given. Both aspects however need to be controllable by the staff concerned. For example, the chef can come up with a popular menu. If the pricing of the product, managed by the central core team, is such that it results in a loss to KTR, the chef may not get the much-deserved bonus. This is not a good reward system and might lead to attrition.

KTR can design its performance measurement system along the above lines.

2. (i) Total Contribution Statement

"Total Contribution- for remaining two stages"

Particulars	**Maturity**		**Decline**
Weeks	31 - 50	51 - 70	71 - 110
Number of units Produced and Sold	22,000	22,000	22,000
Selling Price per unit (₹)	450	450	300
Less: Unit Variable Cost (₹)	225	188	225
Unit Contribution (₹)	225	262	75
Total Contribution (₹)	49,50,000	57,64,000	16,50,000

(ii) Pricing Strategy for Product α^3

ATIL is following the skimming price strategy that's why it has planned to launch the product α^3 initially with high price tag.

A skimming strategy may be recommended when a firm has incurred large sums of money on research and development for a new product.

In the problem, ATIL has incurred a huge amount on research and development. Also, it is very difficult to start with a low price and then raise the price. Raising a low price may annoy potential customers.

Price of the product α^3 is decreasing gradually stage by stage. This is happening because ATIL wants to tap the mass market by lowering the price.

(iii) Possible Reasons for the changes in cost during the life cycle of the product 'α^3'

Product life cycle costing involves tracing of costs and revenues of each product over several calendar periods throughout their entire life cycle. Possible reasons for the changes in cost during the life cycle of the product are as follows:

ATIL is expecting reduction in unit cost of the product α^3 over the life of product as a consequence of economies of scale and learning / experience curves.

Learning effect may be the possible reason for reduction in per unit cost if the process is labour intensive. When a new product or process is started, performance of worker is not at its best and learning phenomenon takes place. As the experience is gained, the performance of worker improves, time taken per unit reduces and thus his productivity goes up. The amount of improvement or experience gained is reflected in a decrease in cost.

Till the stage of maturity, ATIL is in the expansion mode. The ATIL may be able to take advantages of quantity discount offered by suppliers or may negotiate the price with suppliers.

Product α^3 has the least variable cost ₹188 in last phase of maturity stage; this is because a product which is in the mature stage may require less marketing support than a product which is in the growth stage so, there is a saving of marketing cost per unit.

Again the cost per unit of the product α^3 jumps to ₹225 in decline stage. As soon as the product reaches its decline stage, the need or demand for the product disappear and quantity discount may not be available. Even ATIL may have to incur heavy marketing expenses for stock clearance.

Workings

Cumulative Sales along with Sales Price and Variable Cost

Weeks	Demand *per week*	Total Sales	Cumulative Sales	Selling Price per unit (₹)	Variable Cost per unit (₹)
1 - 10	220	2,200	2,200	750	375
11 - 20	550	5,500	7,700	600	300
21 - 30	825	8,250	15,950	525	300
31 - 50	1,100	22,000	37,950	450	225
51 - 70	1,100	22,000	59,950	450	188
71 - 80	880	8,800	68,750	300	225
81 - 90	660	6,600	75,350	300	225
91 - 100	440	4,400	79,750	300	225
101 - 110	220	2,200	81,950	300	225

3. (i) For commercial enterprises, generating profits is a very important objective. Likewise, not-for-profit enterprises have certain cultural, social or educational objectives for which they are created. Regardless of the type of organization, it is important to know whether the internal operations meet certain performance benchmarks, that will ensure that the organization achieves its objectives in a better manner. Moreover, even if the organization does not operate for profits,

it is important for it to be "cost effective". Resources (including money) should be used optimally to achieve intended outcomes. For example, HS can use this benchmarking tool to look into the following questions:

(a) Does the organization function in an efficient and cost effective manner?

(b) Does the estate management make best use of the buildings to achieve the objectives of the organization?

(c) Does the estate management function manage upkeep of buildings in terms of repairs and improvements in an effective manner?

(d) Are the tenants satisfied with the service provided by the estate management and the suitability of the accommodation for their needs?

"Value for Money (VFM)" is an assessment made based on the criteria of economy, efficiency and effectiveness.

Economy *involves minimising resource consumption while meeting specified requirements of quality and quantity.* Minimize the cost of resources / required inputs (implies to spend less) while ensuring that the desired quality of service is achieved. For HS, inputs could be purchases made for maintenance and repair work like sanitary fittings, AC, wooden structure for the houses etc., while resources could be the labour employed to carry out these services. HS should aim at purchasing required quality of inputs at the least possible price. Skilled labour needed for this job should be procured at the lowest pay scale possible. Procuring these at lower cost leads to savings for HS. At the same time, HS should ensure that cost cutting / saving does not come at the cost of quality. Lower quality, implies inferior service levels, which ultimately will compromise HS' social commitment to provide quality housing to needy members of its community.

Efficiency involves *maximising the ratio between resources (input) and the output of goods, services or other results.*

The focus of efficiency is on the process of rendering service. The objective of efficient operations is to maximize output using minimum resources. Improved productivity means that resources procured are used in an optimal way (implies spending well).

In the case of HS, one of the resources is the labour employed for repair and maintenance work. Efficiency (productivity) measured would be the relationship between the employees available and the repair work performed by them. If the pool of employees do more repair work than the benchmark set, productivity is higher. This also closely ties up with economy (cost) of operations. If the given pool of employees (resources), who are paid optimum salary (cost), cater to more repair and maintenance work, economy of operations is achieved due to higher productivity of operations. In case these activities are outsourced, efficiency and economy can be achieved by calling for tenders. Select the tender that provides maximum work for least cost.

In addition, HS may explore options for efficiencies from business process improvements, shared services as well as further efficiencies with in assets management.

Effectiveness involves *ensuring that the outcome achieves the desired policy aims and objectives*. Have the objectives been achieved, how does the impact of the actual output / service compare with its intended impact? (implies to spend money wisely to achieve desired objectives). In the case of HS, effectiveness could be assessed based on the following questions

(a) Are the housing needs of the targeted community members met?

(b) Are the tenants satisfied with the accommodation?

(c) Given its social cause, are the staff friendly, courteous and hospitable to the customers?

(d) Do the housing accommodations comply with safety standards and other legal requirements?

Each measure is inter linked with the other. For example, HS has replaced sanitary fittings in the kitchen and bathroom in 45 houses for ₹26,100 each, costing a total of ₹11,74,500. Compared to ES that has spent ₹52,200 on each house for sanitary fitting replacement. For the cost of ₹ 11,74,500 ES could have replaced fittings in only 22 houses (₹11,74,500 / 52,000) as compared to HS' ability to replace fittings in 45 houses. Therefore, HS' decision has been economical, getting more work done for same cost. At the same time, this does not indicate whether the fittings replaced by HS are of similar or better quality as compared to ES. ES could have used better quality fittings that last longer, enhance customer experience, safety etc. The spending by ES could have been more effective than HS because it helps achieve the desired objective of customer satisfaction, safety and lesser running cost for maintenance. Therefore, to achieve economy, HS may have compromised on effectiveness.

Benchmarking is a good method of measuring performance it enables a comparison of the process, costs etc. with those of a close competitor. Services will be expected to use benchmarking information to learn from best practice, change procedures and processes to achieve enhanced methods of working, and reduce unnecessary expenditure.

However, benchmarking of performance against ES is not ideal. The performance of HS can be better measured by adopting *benchmarking against similar charities* whose primary objective is the provision of accommodation to the communities in which they operate.

Thus, HS must have permanent membership of the House Benchmarking Organisations, which helps social housing property-owners to compare the costs of service delivery, resources, and key performance indicators across all areas of the business. For example, the management of HS can enquire about a norm in respect of the repair charges, sanitary charges or wood structure replacement charges etc. of similar non-profit seeking organisations.

Further, benchmarking should be conducted annually to analyse all areas of the business and is used to identify high performing, low cost services. Using the annual benchmarking exercise results, the HS can plan to target those areas that are low performing and high cost.

Overall, HS should have strong commitment to value for money, which needs to be reflected in the business plan and in service-delivery plans. By applying these principles HS would be able to achieve the optimum utilisation of resources, which will in turn lead to extra capacity and allow HS to provide better services.

(ii) **The Building Block Model** proposed by Fitzgerald and Moon, gives six dimensions of performance measurement including service quality and flexibility.

Service Quality

Service quality is the measurement of how well a delivered service conforms to the customer's expectations. As a not for profit organization, HS provides housing services to cater to the needs of lower and middle income groups as well as senior citizens in the local community. Although service is provided at a concessional rate compared to its commercial peer ES, quality of HS' service needs to be judged based on certain parameters that were promised by the organization to its tenants. These could be used as parameters to assess service quality. Some of them could be:

- Behaviour, attitude, proactivity of staff employed by HS.
- Quality of basic amenities provided.
- Availability of on-site service for the residents
- Safety within and around the residential unit

Data for assessment of quality can be collected from feedback of tenants, analysing the number and nature of complaints made by tenants, tenant retention rate/loyalty etc. Feedback form tenants can be taken on specific issues or could be general in nature.

Flexibility

Flexibility is the ability of the organization to adapt to customers' requirements. This can be measured through service delivery time, promptness in responding to customer requests, ability of employees to perform different kinds of work etc. In the case of HS, the following performance measures can be used to assess the flexibility:

- The average waiting time for a tenant for a house to become available. Lower the wait time better the flexibility as it indicates that there are sufficient housing units available for rental accommodation.
- Following change in requirements, ability to meet the tenant's request for another house of a different size. This indicates whether the range of housing units offered is sufficient (flexible) to cater to the tenants' changing demand.
- Waiting time for undertaking repairs of an emergency nature, once notified by a tenant. Lower the waiting time during emergencies indicates the availability of appropriate personnel to carry of the repairs on short notice.

(iii) The management of HS could use the following performance measures.

An organization should aim at achieving results with maximum efficiency at the least possible cost. Efficiency measures the relationship between the input resources utilized and the output service achieved. Few of the measures that HS could use to compare performance with ES are:

The Average Employee Cost *per week per house*

Here, the resource (input) are the employees, which is 15 in case of both HS and ES. The employees at HS cater to 450 houses as compared to 200 houses catered by ES. Therefore, HS is more efficient as compared to ES.

Likewise, cost of resources to HS is the employee cost, for which the pay structure and remuneration policies are different in both the organizations. HS has the ability to hire most of its resource at an annual salary of ₹100,000, which is the least level in the pay structure. Comparatively, ES also hires cheaper labour but at a slightly higher pay level of ₹200,000 annual salary. Therefore, the total cost of labour is higher by ₹14,00,000 (58%) for ES as compared to HS.

To compare the figures on a common factor, the employee cost can be calculated per week per house.

	HS	**ES**
The Average Employee Cost *per week per house* [₹24,00,000^/ (450@ × 52)] and [₹38,00,000^/ (200@ × 52)] ^ Employee cost from the income and expenditure table @ Number of houses (given): HS = 450; ES = 200	₹ 102.56	₹ 365.38

The average employee cost per week per house of ES is ₹365.38 (2.46 times) more than of HS. It can be concluded that HS is both efficient, in terms of being able to cater more houses with same number of employees, as well as cost effective due to the use of cheaper labour.

The Average Day to Day Repair Cost *per week per house*

Here, the resource (input) is measured in terms of the cost spent on repairs to maintain the rental houses. Running repairs are generally do not add much value to the rental houses. Therefore, lesser the repairs, higher the efficiency. From the income and expenditure table, it can be seen that HS has spent ₹23,91,600 as running repair cost for 450 houses versus ES that has spent ₹ 6,38,000 for 200 houses. To compare them on a common factor, the average repair cost per week per house has been calculated.

	HS	ES
The Average Day-to-Day Repair Cost *per week per house* [₹23,91,600^/ (450@ × 52)] and [₹6,38,000^/ (200@ × 52)] ^ Running repair cost from the income and expenditure table @ Number of houses (given): HS = 450; ES = 200	₹ 102.21	₹ 61.35

The average day to day repair cost per week per house for ES is ₹40.86 less than that of HS (-40%). This may be due to the fewer repairs required and the fact that there is no extra cost required for emergency and urgent repairs. The cost of repairs whether emergency, urgent or non-urgent to ES is the same, ₹ 1,000 [₹6,38,000/ (160 + 376 + 102)] whereas the cost of emergency repairs to HS is ₹ 1,400 (₹ 6,72,000/480), urgent ₹ 1,139 (₹ 11,28,000/990) and for non-urgent repairs it is ₹ 1,056 (₹5,91,600/560).

ES's low cost of repairs (which is identical for all types of repairs – emergency, urgent and non-urgent) may have been achieved through entering into a *contractual agreement for repairs*. HS should also think of entering into such contracts in order to save money.

Percentage of Rent Lost

Occupancy of rental houses indicate whether the capacity (in terms of houses rented) is being optimally utilized. Lesser the vacancy better the efficiency in terms of capacity utilization. This represents opportunity cost of not letting out the property.

	HS	ES
Percentage of Rent Lost (= Rent Lost / Gross Rent) [(₹18,17,400/ ₹1,21,16,000] Gross Rent = Rent Earned + Rent Lost = ₹1,02,98,600 + ₹18,17,400 = ₹1,21,16,000	15%	---

ES did not have any unoccupied properties at any time during the year; it has 100% occupancy. This shows that ES's properties are in high demand. On the other hand, HS has lost rent worth ₹ 18,17,400 through un occupied properties; this is about 15% of the gross rent receivable.

The management of HS should identify the reasons why the houses remained unoccupied when the occupancy rate is 100% for an organisation like ES, a peer organisation should be used to benchmark the performance.

4. (a) BPR is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvement in critical contemporary measures of performance, such as cost, quality, service and speed. In other words, BPR is concerned with the result of the process (i.e., with those activities that add value to the process). To implement BPR, firstly, each business process of SB needs to be divided into a series of processes. Then each business process requires to be documented and analysed to find out whether it is essential, whether it provides support to other valuable processes and whether it is adding value. Any process which does not add value or does not provide essential support to the value adding activities must be removed. Those processes that remain require to be re-engineered/re-structured so that can be *as efficient as possible*. For SB, new technology should be introduced to improve these processes. However, SB must ensure that the statutory compliances regarding these processes are not undermined.

SB is facing a hyper-competitive marketplace where customers expect a superior experience. BPR activities would help SB in understanding those processes which SB's customers value the most and remove those that are not valued. Foreign banks are offering diverse range of services such as direct access to executive management, a single point of contact to coordinate all banking needs, appointment banking to save time, free online banking services 24/7, free

unlimited ATM access etc. Clearly these are valuable business processes valued by the customer. SB should incorporate all these facilities in their banking processes to enhance customer satisfaction and service level.

Opening of new accounts in SB is complex processes since it requires multiple forms to be complied with. Through BPR, SB would analyse the whole process and identify the need for only one form that contain all of the necessary customer information. Further, it is also possible to initiate opening of new account through the development of an online application form on SB's website. Online entry would remove the possibility of forms being lost or incorrect, again enhancing customer satisfaction since customers need not to visit SB's branch to open account. There should also be online processing authentications/ validations as to ensure that data fields are correctly filled by customers that would result in error reduction. This would also remove unnecessary staff activities in checking and re-processing forms.

It is likely that BPR may increase costs in short-term as investment in technology. However, this would also reduce substantial levels of manual activities and processes thereby providing speedy services to customers. In long term, this would result in high levels of efficiency, profitability and better levels of customer satisfaction and retention.

(b) There are potential advantages and disadvantages of the involvement of staff in the preparation of the budget.

Potential advantages include:

- Senior staff may agree to accept the targets because they would take ownership of it as their budget.
- Senior staff may have a better understanding of what results can be achieved and at what costs. For example, they may have a better knowledge of individual courses and how they may be delivered more efficiently and cost effectively.
- Senior staff cannot blame unrealistic goals as an excuse for not achieving budget expectations.
- Senior staff would feel that they are being appreciated for the value that their experience brings to the running of the management school.
- Senior staff may get the opportunity to discuss organisational issues, in which an exchange of information and ideas can help to solve problems and agree future actions.

Potential disadvantages include:

- Senior staff may be excellent academically but could lack the practical knowledge required to formulate their budget.
- Senior staff may limit the benefits of participation due to personality traits of participants.
- Senior staff may consume a great deal of time arguing with each other (and with the school director).
- Senior staff may decide among themselves to artificially inflate the proposed budget so that it is easier for them to attain the cost targets they have set.

5. (a) Primary goal of investor-owned firms is shareholder wealth maximization, which translates to stock price maximization. Management consultant's plan is looking good for the PHCL as there is a positive impact on the profitability of the company (refer Cost Benefit Analysis).

Pacific Health Care Ltd.
Statement Showing Cost Benefit Analysis

Particulars	₹
Cost:	
Incremental Cost *due to* Increased Readmission	25,00,000
Benefit:	
Saving in General Variable Cost *due to* Reduction in Patient Days [15,000 Patients × (2.5 Days – 2.0 Days) × ₹500)]	37,50,000
Revenue from Increased Readmission (300 Patients × ₹4,500)	13,50,000
Incremental Benefit	26,00,000

Also PHCL operates in a competitive environment so for its survival, it has to work on plans like above.

But there is also the second side of a coin that cannot also be ignored i.e. humanity values and business ethics. Discharging patients before their full recovery will add discomfort and disruption in their lives which cannot be quantified into money. There could be other severe consequences as well because of this practice. For gaining extra benefits, PHCL cannot play with the life of patients. It would put a question mark on the business ethics of the PHCL.

May be PHCL would able to earn incremental profit due to this practice in short run but It will tarnish the image of the PHCL which would hurt profitability in the long run.

So, before taking any decision on this plan, PHCL should analyze both *quantitative as well as qualitative factors*.

(b) To overcome the ***optimum decision making*** and ***performance evaluation conflicts*** that can occur with ***marginal cost-based transfer pricing*** following methods has been proposed:

Dual Rate Transfer Pricing System

"*With a 'Dual Rate Transfer Pricing System' the 'Receiving Division' is charged with marginal cost of the intermediate product and 'Supplying Division' is credited with full cost per unit plus a profit margin".*

Accordingly Division 'E' should be allowed to record the transactions at *full cost per unit* plus *a profit margin*. On the other hand Division 'G' may be charged only *marginal cost*. Any inter divisional profits can be eliminated by accounting adjustment.

Impact:

- Division 'E' will earn a profit on inter-division transfers.
- Division 'G' can chose the output level at which the marginal cost of the component 'e' is equal to the net marginal revenue of the product 'g'.

Two Part Transfer Pricing System

"The 'Two Part Transfer Pricing System' involves transfers being made at the marginal cost per unit of output of the 'Supplying Division' plus a lump-sum fixed fee charged by the 'Supplying Division' to the 'Receiving Division' for the use of the capacity allocated to the intermediate product."

Accordingly Division 'E' can transfer its products to Division 'G' at *marginal cost per unit* and *a lump-sum fixed fee*.

Impact:

– 'Two Part Transfer Pricing System' will inspire the Division 'G' to choose the optimal output level.

This pricing system also enable the Division 'E' to obtain a profit on inter-division transfer.

6. (a) Analysis of Cost *plus* Pricing Approach

The company has a plan to produce 2,00,000 units and it proposed to adopt **Cost *plus* Pricing** approach with a markup of 25% on full budgeted cost. To achieve this pricing policy, the company has to sell its product at the price calculated below:

Qty.	2,00,000 units
Variable Cost (2,00,000 units × ₹ 32)	64,00,000
Add: Fixed Cost	16,00,000
Total Budgeted Cost	80,00,000
Add: Profit (25% of ₹ 80,00,000)	20,00,000
Revenue (need to earn)	1,00,00,000
Selling Price *per unit* $\left(\frac{₹\,1,00,00,000}{2,00,000\ \text{units}}\right)$	50 p.u.

However, at selling price ₹ 50 per unit, the company can sell 1,40,000 units only, which is 60,000 units less than the budgeted production units.

After analyzing the price-demand pattern in the market (which is price sensitive), to sell all the budgeted units market price needs to be further lowered, which might be lower than the total cost of production.

Statement Showing "Profit at Different Demand & Price Levels"

	I	II	III	IV	Budgeted
Qty. (units)	1,68,000	1,52,000	1,40,000	1,28,000	1,08,000
	₹	₹	₹	₹	₹
Sales	73,92,000	72,96,000	70,00,000	71,68,000	64,80,000
Less: Variable Cost	53,76,000	48,64,000	44,80,000	40,96,000	34,56,000
Total Contribution	20,16,000	24,32,000	25,20,000	30,72,000	30,24,000
Less: Fixed Cost	16,00,000	16,00,000	16,00,000	16,00,000	16,00,000
Profit (₹)	4,16,000	8,32,000	9,20,000	**14,72,000**	14,24,000
Profit (% on total cost)	5.96	12.87	15.13	**25.84%**	28.16%

Determination of the Best Course of Action

(i) Taking the above calculation and analysis into account, the company should produce and sell 1,28,000 units at ₹ 56. At this price company will not only be able to achieve its desired mark up of 25% on the total cost but can earn maximum contribution as compared to other even higher selling price.

(ii) If the company wants to uphold its proposed pricing approach with the budgeted quantity, it should try to reduce its variable cost per unit for example by asking its supplier to provide a quantity discount on the materials purchased.

(b) (i) Statement Showing Sales Margin Mix Variance

System	Standard Margin *per unit* (₹)	Actual Qty. (units)	Revised Actual Quantity (units)	Difference (₹)	Variance (₹)
3,000 W PMPO	₹ 6,250	1,500	1,400	+100	+6,25,000 (F)
5,000 W PMPO	₹ 23,750	600	700	-100	23,75,000 (A)
Total		2,100			17,50,000 (A)

Statement Showing Sales Margin Volume Variance

System	Standard Margin *per unit* (₹)	Actual Qty. (units)	Budgeted Quantity (units)	Difference (₹)	Variance (₹)
3,000 W PMPO	₹ 6,250	1,500	1,500	0	-
5,000 W PMPO	₹ 23,750	600	750	-150	35,62,500 (A)
Total		2,100			35,62,500 (A)

(ii) A Planning Variance simply compares a revised standard (that should or would have been used if planners had known in advance what was going to happen) to the original standard. A planning variance is considered as not to be controllable by management.

The market size is not within the control of the sales manager and therefore variances caused by changes in the market size would be regarded as planning variances.

However, variances caused by changes in the selling prices and consequently the selling price variances and market shares would be within the control of the sales manager and treated as *operating variances*.

The *market size variance* compares the original and revised market sizes. This is unchanged for 3,000 W PMPO Systems so the only variance that occurs relates to the 5,000 W PMPO Systems and is ₹ 59,37,500 (F) [250 systems × ₹ 23,750].

It is vital to make this distinction because as can be seen from the scenario the measurement of the 'K''s performance is incomplete if the revised market size is ignored.

The favourable volume variance of ₹ 23,75,000 referred to in the 'K''s e-mail is made up of two elements, one of which, the market size, is a planning variance which is outside his control. It is this that has caused the overall volume variance to be favourable, and thus 'K' is not responsible for the overall favourable performance.