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: Krispy Meal 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, Krispy Meal'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: Krispy Meal 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.

Krispy Meal 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 Krispy Meal'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, Krispy Meal 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 Krispy Meal. 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 Krispy Meal 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. Krispy Meal 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. Krispy Meal 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 Krispy Meal 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. Krispy Meal 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. Krispy Meal'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. Krispy Meal may consider having a dedicated HR team for this purpose.

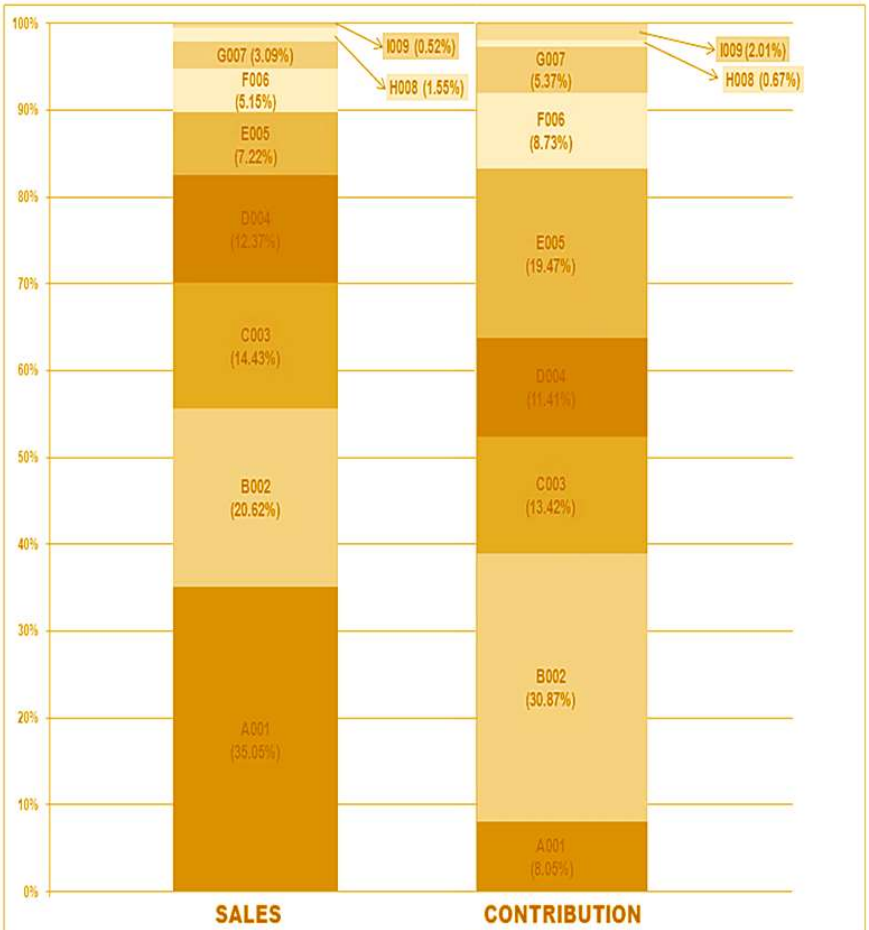
(c) Controllability: Unlike the traditional understanding, rewards need not be based only on the financial element that the staff can control. There may be other non-financial elements for which rewards can be given. Both aspects however need to be controllable by the staff concerned. For example, the 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 Krispy Meal, the chef may not get the much-deserved bonus. This is not a good reward system and might lead to attrition.

2. (i) "Pareto Analysis"

Model	Sales (₹'000)	% of Total Sales	Cumulative Total	Model	Cont. (₹'000)	% of Total Cont.	Cumulative Total %
Pareto Analysis Sales				Pareto Analysis Contribution			
A001	5,100	35.05%	35.05%	B002	690	30.87%	30.87%
B002	3,000	20.62%	55.67%	E005	435	19.47%*	50.34%
C003	2,100	14.43%	70.10%	C003	300	13.42%	63.76%
D004	1,800	12.37%	82.47%	D004	255	11.41%	75.17%
E005	1,050	7.22%	89.69%	F006	195	8.73%*	83.90%
F006	750	5.15%	94.84%	A001	180	8.05%	91.95%
G007	450	3.09%	97.93%	G007	120	5.37%	97.32%
H008	225	1.55%	99.48%	I009	45	2.01%	99.33%
I009	75	0.52%	100.00%	H008	15	0.67%	100.00%
	14,550	100.00%			2,235	100.00%	

(*****) *Rounding - off difference adjusted.*

Diagram Showing "Sales and Contribution"



(ii) Recommendations

Pareto Analysis is a rule that recommends focus on most important aspects of the decision making in order to simplify the process of decision making. The very purpose of this analysis is to direct attention and efforts of management to the product or area where best returns can be achieved by taking appropriate actions.

Pareto Analysis is based on the 80/20 rule which implies that 20% of the products account for 80% of the revenue. But this is not the fixed percentage rule; in general business sense, it means that a few of the products, goods or customers may make up most of the value for the firm.

In present case, five models namely A001, B002, C003, D004 account for 80% of total sales where as 80% of the company's contribution is derived from models B002, E005, C003, D004 and F006.

Models B002 and E005 together account for 50.34% of total contribution but having only 27.84% share in total sales. So, these two models are the key models and should be the top priority of management. Both C003 and D004 are among the models giving 80% of total contribution as well as 80% of total sales so; they can also be clubbed with B002 and E005 as key models. Management of the company should allocate maximum resources to these four models.

Model F006 features among the models giving 80%of total contribution with relatively lower share in total sales. Management should focus on its promotional activities.

Model A001 accounts for 35.05% of total sales with only 8.05% share in total contribution. Company should review its pricing structure to enhance its contribution.

Models G007, H008 and I009 have lower share in both total sales as well as contribution. Company can delegate the pricing decision of these models to the lower levels of management, thus freeing themselves to focus on the pricing decisions for key models.

3. Analysis of Issue

It appears that SBTCL has been badly hit by the weather – high rain in July and August have led to a slump in business. Revenue have seen a fall of 18% over the budgeted figure. Direct Material (most of the fuel) is 21% of the Sales (compared to 12% of budgeted level) because of hike in fuel price. Variable Overheads are almost same. However, interestingly, there is a saving of Rs.1,50,000 in Operating Overheads as compared to the budgeted figure after catering additional Operational Expenses of Rs.22,00,000 (for removal of milky appearance etc.). Furthermore, there is reduction in Marketing & Administration Cost. The ratio of Salary to Sales rose to 40% in 2018 from 36% (as budgeted). This appears to be atypical. Instead, there should be a cut in this ratio due to slump in business.

Award of bonus in case of losses is not justified and managers should be held accountable for their operations. However, they should not be held accountable for the *events beyond their control*. A manager cannot control movements in fuel price, yet he/ she is supposed to have the most information and he/ she is expected to correctly forecast movements in the prices of fuel. Managers shouldn't be penalized for the *uncontrollable events*.

Accordingly, in SBTCL, there should be revision in the budget to account *uncontrollable events*. Refer Table-X.

Revised Budgeted Income Statement (Rs.'000)

Revenue*	94,833
Less:	
Variable Costs-	
Direct Material** (Fuel, Lubricants, and Sundries)	19,879
Direct Labour	33,750
Variable Overheads	6,417
Fixed Costs-	
Operating Overheads (Buses, Garage, Salaries)	20,300
Marketing and Administration	10,700
Profit/ (Loss) before taxes	3,787

Table-X

**10 months revenue; ** at actual price levels*

The Revised Profit Margin has come down to 4% as against the Target Profit Margin of 20%. This clearly indicates that the performance was benchmarked against the higher target. If original budget figure is used to measure the performance, it will punish employees for the reason which are beyond their control.

SBTCL is not too far away from Revised Profit Margin. Therefore, at least some bonus may be considered to be awarded to the employees which may create more *employee loyalty* and may be beneficial for long term.

Further, *continuous monitoring* of Budget Performance (achievement/ failure) in SBTCL is essential to overcome this situation. This helps to identify where *revisions* are required in the budget to account changing conditions, errors, modification to company's plan etc. Monitoring of Budget Performance should be the responsibility of the managers in SBTCL. The essence of the effective monitoring of Budget Performance is that the managers should provide *accurate*, *relevant*, *actionable* information on time to the appropriate management level so that budget can give a realistic target to measure the performance.

It is also important to note that at the time of revising the budget, the primary budget as well as past information should not be ignored as they are the basis for preparing all budgets.

4. (a) (i) N_2N has the opportunity to utilize 10 units of non-moving chemical as input to produce 10 units of a product demanded by one of its customers. The minimum unit price to be charged to the customer would be–

Cost Component	**Cost per unit of product (Rs.)**
Cost of Material (Realizable value = Rs.3,500 / 10 units of chemical)	350
Out of Pocket Expenses	50
Other Material Cost	80
Minimum Unit Price that can be charged	480

Therefore, the minimum unit price that can be charged to the customer, without incurring any loss is Rs.480 per unit of product. As explained below in point (ii), allocated overhead expenses and labor cost are sunk costs that have been ignored while calculating the minimum unit price to be charged.

(ii) Analysis

(a) Cost of Material: Relevant and hence included at realizable value. N_2N has 10 units of non-moving chemical input that has a book value of Rs.2,400, realizable value of Rs.3,500 and replacement cost of Rs.4,200. Realizable value of Rs.3,500 would be the salvage value of the chemical had it been sold by N_2N instead of using it to meet the current order. This represents an opportunity cost for the company and hence included while pricing the product. Book value would represent the cost at which the inventory has been recorded in the books, a sunk cost that has been ignored. Replacement cost of Rs.4,200 would be the current market price to procure 10 units of the input chemical. This would be relevant only when the inventory has to be replenished after use. This chemical is from the non-moving category, that means that it is not used regularly in production process and hence need not be replenished after use. Therefore, replacement cost is also ignored for pricing.

(b) Labour Cost: Not relevant and hence excluded from pricing. It is given in the problem that this order would be met by permanent employees of the company. Permanent employee cost is a fixed cost that N_2N would incur irrespective of whether this order is produced or not. No additional labour is being employed to meet this order. Therefore, this cost is a sunk cost, excluded from pricing.

(c) Allocated Overhead Expenses: These expenses have been incurred at another Cost Centre, typical example would be office and administration costs. Such costs are fixed in nature that would be incurred irrespective of whether this order is produced or not. Therefore, this cost is a sunk cost, excluded from pricing.

(d) Out of Pocket Expenses: These are expenses that are incurred to meet the production requirement of this order. These are additional variable expenses, that need to be included in pricing.

(e) Other Material Costs: These are expenses that are incurred to meet the production requirement of this order. These are additional variable expenses, that need to be included in pricing.

(iii) Advice on Pricing Policy

Under perfect competition conditions, N_2N can have no pricing policy of its own, here sellers are price takers. It cannot increase its price beyond the current market price. The company can only decide on the quantity to sell and continue to produce as long as the marginal cost is recovered. When marginal cost exceeds the selling price, the company starts incurring a loss.

Since N_2N cannot control the selling price individually in the market, it can adopt the *going rate pricing* method. Here it can keep its selling price at the average level charged by the industry. This would yield a fair return to the company. An average selling price would help the company attract a *fair market share* in competitive conditions.

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

Impact:

- Division 'Px' will earn a profit on inter-division transfers.
- Division 'Pz' can chose the output level at which the marginal cost of the component 'X' is equal to the net marginal revenue of the product 'Z'.

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

Impact:

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

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

5. (a) **Workings**

Statement Showing "Contribution / Machine Hour"

	'Bottle'	**'Toy'**
Demand (units)	3,00,000	40,000
Sales (Rs./u)	0.80	30.00
Less: Variable Cost (Rs./u)	0.32	24.00
Less: Specific Fixed Cost (Rs./u)	---	2.50
Contribution (Rs./u)	0.48	3.50
Machine Hours Required per unit	0.025	0.0625
Contribution / Machine Hour	19.20	56.00

<u>Advice on Supply of 3,00,000/ 4,00,000 Bottles</u>

(i) CNZ Ltd. can accept plastic molded toy's order as sufficient number of hrs. i.e. 2,500 hrs. (10,000 hrs.- 3,00,000 bottles × 0.025 hrs.) are available and would be able to generate additional benefit of Rs.3.50 per unit on 40,000 units of toys i.e. Rs.1,40,000.

(ii) If the order for the supply of bottles increases to 4,00,000 bottles, then 2,500 more hrs. will be required to produce the additional bottles. CNZ Ltd. has to decide whether to utilize 2,500 hrs. for existing bottle order or for toy Order.

Machine time is limiting factor. Therefore, contribution per machine hour from both the activities (i.e. bottles and toys) should be calculated to decide whether the order should be accepted. Contribution per hour is more in case of toys (refer workings). Therefore, CNZ Ltd. should utilize the remaining 2,500 hours for manufacturing toys rather than to fulfil the order for supply of additional bottles.

Prioritizing production based on contribution per machine hour would maximize profits. *However, existing order fulfilment is necessary for building long term and sustainable customer relationship.* Developing and maintaining long term and intimate relationships with the profitable customers provides valuable benefits to the company as the relationships between company and customers grow, a customer who is satisfied with the company's products and services, tends to commit the relationship, and buy more over time. *Cost of keeping the existing customers is less expensive than the cost of acquiring new customers.*

Hence, CNZ Ltd. should be taken into consideration long term supplier relation before accepting the toy order based on financial consideration as contribution per hour is more in case of toys. Further, company may also explore outsourcing opportunities for production of toys.

(iii) Minimum number of toys needed to be manufactured to justify the increase in fixed cost of Rs.1,00,000 to make the mould is 25,000 toys {1,00,000/ (Rs.28 - Rs.24}. Thus, as long as company has excess capacity available to manufacture more than 25,000 toys it is cheaper to produce than to buy from subcontractor.

Minimum Expected Excess Capacity hours to justify = $\left(\frac{25{,}000 \text{ toys}}{16 \text{ toys}}\right)$ = 1,562.5 or 1,563 hrs.

(b) **To: SB**

From: DG

Date: 22/06/20XX

Subject: Re: PEL Meeting this afternoon

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

Kind regards

DG

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

Quantitative measures of these factors are as follows:

- *Quality* is expected to improve. The percentage of production achieving design quality standards is expected to increase from 95.5% to 98.5% between 2017 and 2019. In the same period, returns from customers for replacement or rectification should drop from 2% to 0.5% and the cost of after-sales service should drop from Rs.1.3lacs to Rs.1.0lacs.
- *Delivery* efficiency improvement that is expected may be measured in terms of the rise in the percentage of goods achieving the planned delivery date. This percentage rises from 85% in 2017 to 95% in 2019.

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

Quantitative measures of these factors are as follows:

- The average total *cycle time* from customer enquiry to delivery should drop from 5 weeks in 2017 to 4 weeks in 2019.
- *Waste* in the form of idle machine capacity is expected to drop from 9% to 1% between 2017 and 2019. Also, component production scrap is expected to drop from 6.5% in 2017 to 1.5% in 2019.

6 (a) (i) Ever increasing and demanding environmental regulation is forcing companies to change their practices. In many countries, numerous pieces of legislation cover areas such as air quality, climate change, hazardous substances, packaging, waste, and water quality.

The trend is very much in the direction of increased and more stringent legislation. Environment sustainability is not an issue that can be avoided by any organisation.

Organisations need to consider how environmental regulation will impact their operations and the cost of doing business.

By stopping the use of CFC much before the legislation, Wasco Limited gained advantages over its rivals. Wasco's actions were integral to its own strategic success, and instrumental in driving through the subsequent legislation from which the company later benefited.

(ii) Organizations increasingly have to demonstrate that they are managing all of their risks systematically and responsibly. This includes environmental risks- risks that are a result of impacts of the organization on the environment. By assessing the environmental risks associated with their activities, processes, product, and services, organizations can identify their potential legal and business exposure. Non-compliances can cause enormous financial impacts, such as fines, penalties, legal costs, and damages.

Thus, Cool Ltd is exposed to environmental risks.

(iii) Focusing on environmental sustainability will often provide opportunities for reducing costs. For example, reducing carbon impacts often also saves energy costs. Similarly, programmes for reducing wastes improve environmental performance and reduce operating costs.

Reducing environmental impacts can also reduce or eliminate associated tax, levies, and other compliance costs.

Focusing on environmental sustainability thereby making investments in developing clean technologies and more energy-efficient products and processes will not only save the organization money, but could also be patented and/ or sold to other organizations, providing an additional source of income. KOA Limited may have carbon credit for efficiency in reducing energy and sell on the open market, thereby actually generating revenue.

(b) **(i)** Present ROI of each division

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

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

(ii) The manager of division G would be most eager to accept the additional fund of Rs. 8,00,000 because of ROI of the proposed investment of Rs. 15% is more than the present ROI of 13.6% and the acceptance of the proposal would increase the division's ROI.

(iii) The managers of division L and N, both would be reluctant to invest the additional fund of Rs. 8,00,000 because their return on the proposed project that is 16% and 12% respectively for division L and N are lower than their existing ROI of 18% and 16.5%. However, the manager of division N would be least likely to accept the additional investment because the gap of the present ROI and proposed ROI of the project is 4.5% than that of division L of 2%.

(iv) Division L offers the best investment opportunity of 16% for LNG limited.

(v) The managers are forced to choose between their personal best interests and the best interests of the company as a whole. When faced with decisions such as these, many managers choose to benefit themselves at the expense of their company, a condition described as sub optimisation.

(vi) To avoid sub optimisation, the divisional performance measure be based on Residual Income (RI). If RI is used to measure the performance, there is greater probability that managers will be encouraged, when acting in their own best interests, also to act in the best interests of the company. Since, the use of RI does not penalise investment in projects with lower returns than current project returns.

In general, when RI is used as a performance measure, managers are willing to invest in any projects with returns equal to or greater than the required rate of return. However, RI suffers from the disadvantages of being an absolute measure, which means that it is difficult to compare the performance of a division with that of other divisions of a different size.