PAPER – 5: STRATEGIC COST MANAGEMENT AND PERFORMANCE EVALUATION

*Question No.**1** is compulsory.*

Candidates are also required to answer any

***four** questions from the remaining **five** questions.*

Working notes should form part of the respective answers.

Question 1

Rejuve Hotel is an Indian hotel chain of luxury hotels, based in New Delhi. With over 100 hotels, it is one of the largest hotel chain of the Country. It has a franchise agreement to operate most of its hotels as part of "The Luxury Collection of Fruition International". It is the biggest hotel business operator within the domestic and a well-established player in the international hotel business segment. From the past many decades, the hotel has been catering primarily to the business and premium segment travellers.

To create one-of-a-kind style experiences for the domestic and international travellers, the hotel offered exquisite services along with additional segment of services like in-room styling services by a local luxury boutique, provide exclusive hotel photo opportunities, create super personalized hotel amenities, include kid-friendly surprises, in house forex change services.

The hotel is liberal with the room stay timings such as early check-in and late check-out. They also offered option of auto-upgrade from deluxe/joint room to suite class rooms, if available for free. A free shuttle pick-up and drop services were provided for passengers from the domestic/international airport.

Indian Hotel industry has been growing exponentially in the recent years due to growing economy. Consequently, there have been many new entrants in the domestic segment, offering low-cost rates to customers. These hotels have been offering rooms at huge discounts, thereby attracting a sizable chunk of customers away from the Rejuve Hotel. To counter this and maintain its market share, Rejuve Hotels also followed counter strategy.

For a period of six years, rooms for various domestic travellers were offered at low competitive prices. At the same time, low rates were offered only if it was profitable to do so. Therefore, certain cost management measures were undertaken. The hotel. converted itself from "Create One-of-a-Kind Style Experiences" to limited services hotel. ·

Most of the previously offered exclusive free services by Rejuve Hotels were moved to "paid section". Other measures taken were to immediately terminate the free shuttle pick-up and drop services and to offer last-minute deals for rooms at a heavy discount if the hotel was not fully booked for that date. Vacant rooms are "perishable", therefore instead of letting them go empty, the hotel can be, filled at cheaper rates. This yield management measure based ·on capacity utilization was expected to increase market share and also the hotel's revenue. Rooms could be booked online using the internet or through any associate hotel reception maintained by the hotel group at various locations in selected cities.

In order to quickly respond to a competitor's move, the pricing and marketing staff of the individual hotel were given sufficient autonomy to make this price war work. Therefore, in many situations, decisions could be taken even without the prior approval of the top management. Meanwhile adding to the stiff competition, prices due to inflation have been soaring in the last few years. Maintenance of Hotels, staff compensation and other overheads have also been increasing. Given this scenario, after six years of operations, the management at Rejuve Hotels found that they were not able to generate sufficient profits on many of the domestic hotel offers. A price discount by a competitor had to be matched with a similar price discount by Rejuve Hotels and vice versa. Offering last minute deals to fill up hotel to full capacity did not generate additional revenue. The volume of last-minute hotel bookers was low. It was found that most travellers booking at the last minute were anyway "price indifferent". Had the deals not been offered, the traveller would have been willing to pay more money anyway to book the hotel. Therefore, neither did these deals generate extra customers nor any extra revenue.

Rejuve Hotels has always been perceived to cater the premium segment traveller, therefore participating in this price war had been contrary to its image of a luxurious hotel. This left a section of the customers confused about the product offering.

Therefore, the management of Rejuve Hotels decided to discontinue its discount pricing strategy and exit the "low cost" hotel business. The rooms are now being offered at its usual "full service" rates. This strategy is proposed to be followed for both current and prospective projects and operations.

In order to improve tourism within the country, the government has been. formulating policies that are aimed at changing the landscape of the hospitality sector. Hotels are being built in smaller cities and towns that did not have any one till date. Concurrently with the expansion of its luxury hotel chain in the major metropolitan cities, the Rejuve Hotel Group also expanded its business hotels. division in the secondary cities· in India. The Rejuve Hotel Group continued to expand its geographic and market coverage in India. It developed specialized operations (such as wildlife lodges) and consolidated its position in established markets through the upgrading of existing properties and development of new properties.

In a new competitive market move, Rejuve Hotels proposed to develop a model where-in travellers booking rooms at smaller towns are redeemable at other hotels within the group in the same price range and category, subject to availability.

Under this policy, the hotels at the major metro cities will serve as a main hub for travellers touring different cities/towns in a sequence. Rejuve Hotels also proposes to develop few budgeted small rooms with limited amenities in its metropolitan hotels to cater budgeted travellers from small cities. The ultra-luxurious amenities in the hotel will remain paid for such budgeted travellers.

The travellers will have the advantage to relish the ultra-luxurious hotel environment in the metropolitan cities at a very budgeted price. More hotel options within the Rejuve Hotel group will now be available for travellers. For example, a tourist from a smaller city, wanting to travel to another smaller city can take a break at the nearest hub with Rejuve hotels under the same *booking plan. For the tourist, this is a better alternative as compared to staying in the hub at a small hotel with limited facilities. For Rejuve group of hotels, the proposition broadens its customer base. To implement this effect, Rejuve began scouting the market for smaller hotels in small cities that can be operated more economically on the hub-spoke route under its brand.*

Along wise, it discussed role for partnership with airlines, car rentals, city tour operators in order to offer attractive holiday packages to customers. Since most of the other hotels do not have the scale of operations to achieve the "hub-spoke" model or the ability to offer holiday packages, Rejuve Hotels identified this as a unique proposition that it can offer to its customers. The hotel proposed tag line for its advertisement as ***"REJUVENATE at REJUVE ANYWHERE, ANYDAY; ANYTIME".***

Room booking continued to be offered over the internet using various online digital payments services. In the past, customers liked this option due to the convenience it offered. Dedicated customer· service lines available 24x7 to resolve issues is proposed. Pay@Hotel services. were also proposed to ease and facilitate bookings by customers. The free shuttle pick-up and drop services were reinstated for passengers from the domestic/international airport and extended to city railway stations and city bus stands.

The management of Rejuve hotel wants to have a seamless implementation of this project. This could be a game changer for the company that will help it to consolidate its position in the hotel industry. Therefore, a meeting has been called to discuss critical reporting that needs to be in place for ensuring a successful launch.

Required

(i) EVALUATE the strategy adopted by Rejuve Hotels in becoming a "low- cost" hotel with limited services. ***(6 Marks)***

(ii) IDENTIFY the strategy adopted by Rejuve Hotels for the proposed project. ***(4 Marks)***

*(iii) RECOMMEND the company to adopt a mechanism to avoid errors in its strategy.****(5 Marks)***

(iv) SUGGEST a control reporting mechanism for timely corrections in the strategy. ***(5 Marks)***

Answer

(i) Rejuve Hotel is a luxury hotel chain catering to the business and premium segment travellers for the past many decades offering facilities at “full service” rates. However, due to intense competition in the domestic market, it converted from “one-of-a-kind style experiences” to “limited services” hotel. It **adopted a “low-cost advantage” strategy**.

Low-cost advantage or cost leadership was achieved through the following measures:

(a) Becoming a **“limited services”** hotel, most of the previously offered exclusive **free services by Rejuve Hotel were moved to “paid section”**. Hence, for certain services that were previously offered free, guests now had to purchase them by paying extra.

(b) Limited services offered **helped the hotel save costs** on services and staff otherwise offered complimentary under "full service" regime.

(c) **Free services** that were previously offered like free shuttle pick-up and drop services **were discontinued**.

(d) **Online room booking facilitated** so that the extra staff maintained by the hotel; at the reception for reservation only could be reduced.

Cost leadership enabled it to offer "low cost" room rates to the customers that was generated through–

(a) rooms were offered at low competitive rates at huge discounts and

(b) yield management of room booking based on capacity utilization at the hotel.

<u>The "low-cost advantage" strategy did not work due to the following reasons:</u>

(a) **Price war from competitors** reduced the room booking rates to levels that were unviable for Rejuve Hotels.

(b) Variable prices through **last minute deals** to fill up hotel capacity **did not generate additional revenue**. The volume of last minute hotel bookers were low. Most travellers booking at the last minute were **"price indifferent"**. These travellers would have been willing to pay more money anyway to book the hotel. Therefore, neither did these deals generate extra customers nor any extra revenue.

(c) **Cost of operations** including maintenance of hotels, staff compensation and other overheads have been increasing in the recent years.

(d) The transformation to a "limited services" hotel could have **caused confusion** about the product offering in the minds of the premium segment guest travellers, who expect higher service quality. This could have eroded the customer base.

Due to the above reasons, Rejuve Hotel's venture as a "low cost" hotel with limited services became unviable.

(ii) Rejuve Hotels plans to expand its business hotel division in secondary cities in India. This time it has adopted a **"differentiation advantage"** strategy. It is marketing in the following ways as being different from its competitors:

(a) It has **upgraded its existing properties** and **developed new properties**. It also plans to provide **<u>specialized operations (such as wildlife lodges)</u>** which will differentiate it from its limited service hotel competitors.

(b) Ability to offer more connectivity to travellers through its "hub-spoke" model. "REJUVENATE at REJUVE ANYWHERE, ANYDAY, ANYTIME" is the proposed tag line to present its **<u>unique proposition</u>** / concept to potential customers. Other hotels do not have the scale of operations to achieve the **"hub-spoke"** model or the ability to offer holiday packages.

(c) Ability to offer attractive holiday packages by entering into **partnership with** airlines, car rentals and city tour operators.

(d) **Enhancing customer experience by offering convenient services** such as online hotel booking, online digital payment services, Pay@Hotel services etc. They plan to reinstate the free shuttle pickup and drop services for passengers to and from domestic / international airports. This service is planned to be extended to city railway stations and bus stands.

(e) Dedicated customer service line available 24×7 to resolve issues and providing support to customers.

Superior quality of stay, enhanced customer experience, customer responsiveness and innovation will enable Rejuve Hotels consolidate its position in the industry in the long run.

Note- Where a firm intends to produce a product or deliver a service different from those of its competitors, it is running under a **differentiation strategy**. The fundamental objective of differentiation is ***to make the product or service unique*** so that customers avoid alternatives. The ***customers' needs are met fully*** by the product or service offered by the firm i.e., it has a **'unique selling proposition'**. Other products, services and competitors are unable to enter for this particular market segment.

(iii) Management Control Report – Feed-forward Control Report

Management control is required to set performance measure to determine is the desired objectives of the company are being achieved or not. Control is required at every stage before the activity commences, while the activity is being performed and after the activity has been completed. Accordingly, control reports generated could be Feed-forward reports (prior), concurrent reports (during) and feedback reports (after).

When the management of Rejuve Hotels wants to have a reporting system that enables to take preventive measures, it would need to have a "Feed-forward" control. This control will help measure the error before it actually takes places. Preventive measure can then be taken to change the operational variables to achieve the desired result.

Guidelines to implement a "Feed-forward" control are as follows:

(a) **Thorough planning and analysis are required.** In the case of Rejuve Hotels, the proposal should be planned and analyzed at various levels. *The strategy for selection of appropriate properties to develop, "full service" pricing,* ***strategic partnerships****, financing the proposal etc.* need to be taken at a higher level of management. Decisions relating to hotel operations, procurement of supplies, marketing, human resource planning etc. can be done by the management in charge of operations.

(b) **Feed forward mechanism should be kept dynamic.** Rejuve Hotels should keep a close watch on the ***government policies*** and its implementation in the tourism and hospitality sector. Reporting may be done in pre-determined intervals say a *monthly feedforward reporting* can be decided upon. Changes to plans should be made in a timely fashion to make them relevant.

(c) **A model control system should be developed**. *Authority* and *responsibility* for various functions need to be determined and clearly defined while developing this model.

(d) **Careful discrimination must be applied in selecting input variables.** Planning and analysis should be done in an integrated fashion. There should be ***synergy in the thinking*** at an operational level and top management strategic level.

(e) **Data on input variables should be collected regularly.** For example*, changes in prices of supplies, property maintenance costs, staff compensation etc. which form a large share of expenses, have to be tracked continuously.* If the prices are expected to fluctuate widely, hedging options or ***long-term price agreements*** with suppliers can be considered.

(f) **Feed-forward control requires action**. At the time of implementation, the control model developed should be followed in order to establish a systematic course of operations.

(iv) Management Control Report – Feedback Control Report

These are control reports that provide feedback about the operations. It tracks the actual results with the budgeted / forecasted results. These reports in themselves do not cause a change in performance. The management has to take timely action to correct the errors and change its operations, if required.

Guideline to implement this reporting system are as follows:

(a) **Feedback report should disclose both accomplishment and responsibility.** As discussed in the feed forward report, Rejuve Hotels would have already put in place an organizational structure defining individual authority and responsibility. ***Performance should be tracked*** accordingly, so that individual performance can be assessed.

(b) **Feedback reports should be extracted promptly.** The management has to decide the interval at which these reports need to be generated. The interval should be such, that changes required can be assessed and action can be taken in a timely manner. In the previous instance, Rejuve Hotels had given autonomy to the marketing and pricing division to take decisions to meet the competitor's actions. ***It took six years to determine that the project was unviable****. However, a timely reporting mechanism such as a* ***feedback report should have been in place*** to appraise the top management about the decisions taken. This information would have enabled the top management to make an earlier assessment as to the viability of "limited services" hotel.

(c) **Feedback reports should disclose trends and relationships.** Trends could be customer ***travelling preferences***, ***deals offered by competitors*** or other changes such as *properties being developed in various locations by competitors,* ***latest business models*** in the industry etc. Relationships could be *supplier relationships, customer relationships, strategic partner relationships* etc. Information generated from all these areas should be collated in order to provide proper feedback to the management.

(d) **Feedback reports should disclose variations from standards.** These standards could be from *financial budgets* or from non-financial metrics identified as key performance indicators. For example, delay in room check-in time for customers could be a non-financial metric that can be tracked against an expected standard set in the planning stage. The information metric for actual operations should be assessed in the same manner with which the standard was set. For example, an instance of a delay in room check-in procedure considered as one that takes beyond 15 minutes from the time of arrival of the customer at the hotel reception desk. This same standard should be used to assess actual performance. Similar standards shall be set for services like housekeeping, restaurant room service and other services as well.

(e) **Feedback reports should be in a standardized format.** It should be ***easily understood*** and well presented to the management. Facts should be stated *without ambiguity* and in *a standard manner*.

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- *Conceptually correct brief explanations are sufficient for each step.*
- *Alternate points and reasoning are also possible. However, issue must be addressed properly, and answer must respond to the requirement.*

Question 2

(a) *Global Bakery is one of the largest bakery service providers for fresh breads. Among all the variants, the focaccia bread is very popular and is favourite of all its customers and envy of its rivals.*

The firm has set a price of ₹ 629 for baking the focaccia breads. 'Global Bakery' derived this price as follows: raw materials ₹ 40, labour (4 hrs @ ₹ 60 per hr) ₹ 240, variable overheads ₹ 50, fixed overheads (2 hrs @ ₹ 20 per hr) ₹ 40 plus mark-up 70% on total cost.

Global Bakery is known for its quality work and timely delivery; hence, customers are willing to pay this premium price. Firm's employees receive a fixed salary. The hourly rate ₹ 60 is arrived by dividing the total salary by the total number of hours available. Variable overheads depend on the number of breads baked whereas fixed overheads rate is derived at by dividing the total cost of all related expenses by the number of labour hours available. Fixed overheads generally include office rent and administrative salary.

A local hotel approached 'Global Bakery' as the focaccia bread bakers of their hotel are on strike, about the possibility of delivering 120 focaccia breads in coming week and they need the work done on a rush basis. 'Global Bakery' has sufficient quantity of required raw material in stock for special order. It perceives that it could complete 70% of the special order during normal working hours. However, to complete the remaining 30%, some employees will have to work overtime. Overtime hours are paid at premium, which could be time and half the normal hourly rate.

Required

(i) ADVISE the company to determine the price to be quoted for the special order.

(5 Marks)

(ii) COMMENT on the suitability of special order decision to deal with excess supply or excess demand. ***(5 Marks)***

(b) A leading Beauty product company manufactures and sells cream. It sells cream in a container of 200 ml. This container is of one time use. Raw material is procured locally. The raw material is blended with additives and fragrance at the manufacturing plant at specified temperatures to produce cream.

The plant has an automated packing facility. The operator is required to pre-set the quantity and number of 'containers' to be filled in a computerised system. No manual intervention is required thereafter. The cream is filled in 'container' at the first stage of packaging with 200 ml. Caps are fixed on the 'Container' and sealed at the second stage of packaging. The container is weighed at third stage of packaging. After weighing the containers are packed in cartons of 500 containers each.

Any 'Container' having lesser quantity of cream is removed before the 'containers' are packed into the cartons. The 'containers' which are short filled cannot be reused. Once the seal is broken, the 'container' is of no use. There is no process by which the cream in short filled 'container' could be reused. Hence the cream is wasted.

The company is considering a proposal to add a machinery in its packaging unit to avoid losses arising out of quantity issues in packaging. The machinery will be installed after the first stage of packaging. The machinery will measure the volume of cream and will forward the 'container' for capping and sealing only if the quantity in 'container' is correct. In case the 'container' does not have required volume of cream, the 'container' will be topped up with balance cream before the capping and sealing process. By this the company will be able to achieve 0% wastage due to short filling after implementation of new system.

Required

IDENTIFY and EXPLAIN the type of existing control system m the company and also the type of control system proposed. ***(10 Marks)***

Answer

(a) (i) 'Global Bakery' can use the incremental cost numbers for pricing the 'rush order'. The *minimum* price that firm would charge is ₹ 198 per bread (= ₹ 23,760/120). This price is well below normal price of ₹629.

Particulars	**Amount (₹)**
Raw materials (120 × ₹40)	4,800
Labour (120 × 4 × 30% × ₹ 60 × 1.5)	12,960
Variable overheads (120 breads × ₹ 50)	6,000
Incremental cost	23,760

ADVISE- Firms can face situations where they are confronted with the opportunity of offering for a **one- time special order**. In this situation only the *incremental costs* of undertaking the order should be taken into consideration. ***<u>Quote should be made at prices that exceeds incremental costs</u>***. Any excess of revenues over incremental costs will provide a contribution to committed fixed cost which would not otherwise have been gained.

However, in decision making other conditions are equally important. For instance, if this is **a one-time deal** with ***no prospect of repeat business***, then 'Global Bakery' might well charge a ***<u>premium over the normal price</u>***. Long-term implications also matter. The prospect of *"getting a foot in the door"* to quote for future business would *<u>push the price downward</u>*. Therefore, 'Global Bakery' can price based on both the short-run benefits from accepting the order and the long-run consequences.

(ii) **COMMENT-** Such special order definitely gives 'Global Bakery' opportunity to earn more profits, however, other aspects also need to be analysed. There is excess of ***raw material***, if the current special order does not use up available stock, the firm could store the raw material for later use. It is most likely that 'Global Bakery' ***fixed overhead costs*** will not change due to the special order which mainly consists of rent and administrative salaries. If 70% of the special order could be completed during normal working hours, then the firm clearly has some excess capacity in terms of ***labour hours***. However, for the remaining 30% of the special order, labour will have to work overtime and will be paid 1.5 times.

This clearly indicates that different resources in the 'Global Bakery' have differing capacity levels; a decision may impose constraints on particular resource. It is necessary to consider the opportunity cost of each resource when computing the total cost of a special order.

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- *The calculations of **incremental cost** can be done either on 'per unit' basis or 'total' basis.*

(b) Control is a management function of establishing benchmarks and comparing actual performance against the benchmarks and taking corrective actions. Control is required at all levels of organisation to ensure that the organisation achieves its intended objective. There are two types of control systems - Feedback Control and Feed-forward Control.

Feedback Control

Feedback Control is a control activity that takes place after a process is complete. It is also known as ***post action control***. If any problem is identified after a process is complete, a corrective action is taken to rectify the problem. Feedback control provides information ***only after the process is complete*** and sometimes a significant time is lost to take corrective action. Feedback-based systems have the advantage of being simple and easy to implement.

Beauty Product Company currently has a "feedback control" mechanism in place.

The actual volume of the cream is measured at the end of the packaging process i.e. third stage. The current control process is that any 'container' which is short filled is not packed in the carton. This ensures that a lower quantity of cream is not supplied into the market. The current control system, however, leads to losses as identification of short-filled 'container' at the end of process is not useful to the production process. ***In case, there is a huge variation in the final packaging, the packaging system can be reviewed*** to ensure that such problems do not incur in the future.

Feed-forward Control

Feed-forward Control is also referred to as a ***preventive control***. The rationale behind feed-forward control is to foresee potential problems and take corrective action to ensure that the final output is as expected. Feed-forward controls are desirable because they allow management to prevent problems rather than having to cure them later. Feed-forward control are ***costly to implement*** as it requires additional investment and resources. These are ***designed to detect deviation some standard or goal to allow correction to be made before a particular sequence of actions is completed.***

The proposed system in Beauty Product Company is a Feed-forward control.

In this case, ***any short filling is identified in the packaging process itself and corrective action is taken to ensure that the final packed 'container' has proper quantity of cream.*** The new process is beneficial to the company as the wastage arising out of the packaging process can be avoided.

The savings must be compared with the cost required to modify the packaging process before finalising on whether the new system should be implemented or not.

Question 3

A new startup venture ABC Ltd. has successfully entered into their first contract with an offshore pharmaceutical company to supply one of the high demand generic medicines. Expected demand for the medicine will be 98,000 units annually. The plant holds the maximum capacity to 25,200 units per quarter, but it can additionally produce 14,000 units per quarter in overtime.

Total fixed overheads are expected to be ₹ 16,80,000 for all the quarters. Each unit produced in overtime would incur an additional cost equivalent to 32% of the expected variable cost per unit of that quarter.

Expected sales and variable cost per unit for all quarters are given as under:

Quarter	*Q1*	*Q2*	*Q3*	*Q4*
Sales (units)	*13,300*	*23,800*	*25,900*	*35,000*
Variable cost per unit (₹)	*36*	*36*	*39*	*42*

The production manager has to decide about the production plan.

The choices are:

***Plan-I:** Produce at a constant rate of 24,500 units per quarter. Inventory holding costs will be ₹ 7.80 per unit of average inventory per quarter.*

***Plan-2:** Use a Just-in-Time (JIT) system.*

Assume that there is no balance of opening inventory.

Required

(a) CALCULATE the incremental production cost and the savings in inventory holding cost by JIT production system. ***(6 Marks)***

(b) ADVISE the company on the choice of the plan. ***(3 Marks)***

(c) STATE, any four pros and cons of the JIT Inventory Management. ***(4 Marks)***

(d) STATE Why Kanban and machine cells are critical elements for the JIT Inventory System. ***(3 Marks)***

(e) STATE the difference between Just-in-Time Inventory Vs Economic Order Quantity (EOQ)? ***(2 Marks)***

(f) STATE any four areas in which JIT purchasing may reduce cost significantly to bring the cost efficiency. ***(2 Marks)***

Answer

(a) Statement Showing 'Inventory Holding Cost' under Plan 1

Particulars	**Q 1**	**Q 2**	**Q 3**	**Q 4**
Opening Inventory **(A)**	---	11,200	11,900	10,500
Add: Production	24,500	24,500	24,500	24,500
Less: Demand/ Sales	13,300	23,800	25,900	35,000
Closing Inventory (B)	**11,200**	**11,900**	**10,500**	**---**
Average Inventory $\left(\frac{A+B}{2}\right)$	5,600	11,550	11,200	5,250
Inventory Holding Cost @ ₹ 7.80	**43,680**	**90,090**	**87,360**	**40,950**

Inventory Holding Cost *for the four periods* = ₹ 2,62,080

Statement Showing 'Additional Cost-Overtime' under Plan 2 (JIT System)

Particulars	**Q 1**	**Q 2**	**Q 3**	**Q 4**
Demand/ Sales	13,300	23,800	25,900	35,000
Production in Normal Time	13,300	23,800	25,200	25,200
Production in Over Time (A)	**---**	**---**	**700**	**9,800**
Variable Cost *per unit*	36.00	36.00	39.00	42.00
Additional Cost – Overtime *per unit* (B) (@ 32% of Variable Cost)	11.52	11.52	12.48	13.44
Additional Cost – Overtime (A) × (B)	**---**	**---**	**8,736**	**1,31,712**

Total Additional Payment (Overtime) = ₹ 1,40,448

Statement Showing 'Additional Variable Cost*' under Plan 2 (JIT System)

Particulars	**Q 1**	**Q 2**	**Q 3**	**Q 4**	**Total**
Production (Plan 1)	24,500	24,500	24,500	24,500	98,000
Variable Cost (A)	8,82,000	8,82,000	9,55,500	10,29,000	**37,48,500**
Production (Plan 2, JIT)	13,300	23,800	25,900	35,000	98,000
Variable Cost (B)	4,78,800	8,56,800	10,10,100	14,70,000	**38,15,700**
Total				**(B) – (A)**	**67,200**

* *Excluding overtime cost*

Incremental Production Cost in JIT System = ₹1,40,448 + ₹ 67,200

= **₹ 2,07,648**

Therefore, Saving in JIT System (Net) = ₹ 2,62,080 – ₹2,07,648

= **₹ 54,432**

(b) ADVISE

Though ABC Ltd is saving ₹ 54,432 by implementing its production system to Just-in-time but it has to consider *other factors* as well before taking any final call which are as follows:

(1) ABC Ltd. has to ensure that it receives material from its suppliers on the exact date and exact time when it is needed. Hence, ***credibility and reliability of the vendor/(s)*** must be thoroughly checked.

(2) ABC Ltd. must install a system, which may be as simplistic as a fax machine or as advanced as ***an electronic data interchange system*** or linked computer systems, that tells suppliers exactly how much of which material are to be sent to the company.

(3) ***Material supplied*** *should be free of any defects* and *must match exactly the production requirements* of ABC Ltd. Visits to supplier's site will help staff to examine the supplier's production process and resolve any quality control issues.

(4) Production of medicines should be aimed at achieving *"Zero Defects"*.

(5) ABC Ltd should also keep in mind the efficiency of its ***work force***. ABC Ltd must ensure that labours capable of performing a variety of operations at effective and efficient manner. The workforce must be completely retrained and *focused on a wide range of activities*.

(6) ***Demand stability*** is an important prerequisite for JIT production planning. Hence ABC Ltd should *constantly monitor whether the actual demand for the quarter is on the lines* expected while it did its production planning. If there are variations it should accordingly match the resources to scale up or scale down required resources.

(7) The key benefit of JIT production system is the ability of the company to respond to customer demand faster. Hence, ABC Ltd. should undertake periodic *preventive maintenance* to ensure that ***least disruption to the production process***. Elimination of defects as quickly as possible is very critical.

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- *Conceptually correct brief explanations are sufficient.*

(c) Pros and Cons of JIT Inventory Management

Pros of JIT inventory management system:

(1) The focus of JIT system is its continuous focus on ***eliminating waste*** from a system like waste of assets, excessive inventory, waste of time, waste of material etc. This helps reduce product costs and improves cost efficiencies.

(2) JIT ***reduces overhead costs***. JIT focused on a very streamlined production process, hence material handling costs, facilities and quality inspection decline under this system. Reduced inventory results in reduction of space required for warehouse facility. Hence, the warehouse overheads relating to cost of staff, equipment, fixed assets, rent etc. are reduced.

(3) JIT creates an urgency to ***eliminate defects as quickly as possible***. Tight link between stages in production line and minimum inventory level at each stage forces the need to eliminate any defects. Defects in one stage can hamper the other stages of production.

(4) Reducing set up time makes production in smaller batches economical and reduces inventory levels. Hence the company can ***respond to customer demand faster***.

(5) Under JIT workers are hired and trained to become multi skilled so that they are capable of performing a variety of operations including repair and maintenance tasks. This ***reduces labour idle time***.

(6) Carefully selected suppliers capable of ***delivering high quality materials in a timely manner*** directly at the shop floor reduces material receipt time.

(7) A company is not required to purchase huge amounts of stock to meet its production needs. Hence ***working capital investment reduces***.

Cons of JIT inventory system:

(1) Under JIT inventory system the company does not carry any buffer inventory. Hence the ***risk of running out of stock is high***. Incorrect demand forecasting or changes in economic and business environment can lead to variations in customer demand. The company has to have resources to meet these variations very quickly if it implements JIT inventory system, otherwise it will result in stock out situations and loss of business.

(2) ***Dependence on suppliers is high***. Any disruptions in the supply chain can affect the company's ability to meet the customers' demand quickly. Under JIT this can result in heavy loss of business. Hence supplier credibility, reliability should be thoroughly checked. Communication and synchronization of information up and down the supply chain is critical is ensure timely delivery of resources for JIT system.

(3) ***More planning is required*** under the JIT inventory system. An efficient and effective reporting system should be in place to give information about current sales trends, variances, problems in production and procurement etc. Resources must be kept flexible to be able to meet changes and disruption in the business.

(d) Under JIT inventory system workflow between machines should be smooth and streamlined. In many companies there is a large difference in between the operating speeds of different machines. Hence work in progress piles up in front of the slowest machine. Under normal production process*, it has been observed that defective parts produced by an upstream machine may not be discovered until the next downstream operator starts working on it*. The downstream operator may have to work through some work in progress that was piled up before the machine before this error is detected. Hence there is a time lag in the flow of materials between the two machines. In the meantime, the upstream machines may have created more defective parts, all of which must then be reworked or scrapped after the error is discovered.

Excessive work in progress is a waste that needs to be eliminated under JIT inventory system. This problem can be addressed through the use of Kanban cards and machine cells.

(1) **Kanban cards work under a "pull system"**. They are initiated at the end of the production process, pulling work authorizations through the production system. Under this system, a ***downstream machine sends a notification to each machine that feeds it parts***, authorizing the production of just enough components to fulfil the production requirement. This production requirement in turn is being authorized by the next machine downstream. Hence work authorizations are pulled through the

production process such that it meets the needs exactly at the end of the production process. Since production is based only on Kanban card authorizations, this ***eliminates build-up of work in progress inventory in the production system***. Hence Kanban cards are critical in JIT inventory system.

(2) **Machines cells refer to a cluster of machines handled by a single operator**. It is also called a working cell. The individual machines operator takes each output part from machine to machine within the cell. Hence this eliminates any work in progress piled up between machines. Also, the ***operator can immediately identify defective output*** from any of these machines. This eliminates any waste which is the objective of a JIT inventory system.

Machine cells are also beneficial since their configuration is typically of smaller machines that are simpler to operate as compared to large, automated machinery they replace. The smaller machines enable the production facility to be reconfigured to produce different products. Large expenses for repositioning and aligning the equipment would have otherwise been incurred which are not required under the machine cell set up. This ***builds flexibility in resources*** which is critical for JIT Inventory system.

Both Kanban and machine cells should be used together. They help the company achieve low product defect rates and reduced investments in work in progress.

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- *Conceptually correct brief explanations are sufficient.*

(e) **JIT Inventory System** is one whose objective is to produce or procure products or components as they are required by the customer or for use, rather than to stock. This is a pull system that responds to demand. Therefore, no inventory is held under the JIT inventory system. The company benefits from savings in inventory holding costs and any related overheads.

Economic Order Quantity (EOQ) is an ideal order size of components that a company should procure from suppliers to meet customers' demand. The objective is to have an optimal order quantity to minimize costs relating to ordering, receiving, and holding inventory. This optimal order quantity need not match the trends in customer demand. Hence, companies may hold inventory as the order size may result in excess procurement as compared to current demands.

Therefore, under JIT inventory system inventory holding cost is saved but ordering cost is ignored. In EOQ, the ordering cost is optimized while the company incurs inventory holding cost.

(f) The areas, where JIT purchasing expected to reduce cost significantly are:

Interest cost of working capital– JIT purchasing will reduce the level of raw materials, which cause a reduction in the amount blocked as working capital; hence interest cost (either actual or opportunity) will reduce too.

Storage cost– As we know JIT purchasing reduce the level of raw material stored, hence storage cost is expected to reduce.

Raw material cost– Companies wherein products are based on new innovations and updated features are introduced in a short span of time to keep their market captured ratio intact. This makes their product design highly volatile and creates high probability of raw material wastage once the new/updated feature is introduced in the design. JIT is the right choice to minimize the wastage of raw materials.

Labour and overhead cost– Since JIT purchasing reduced the inventory level of raw material, hence sorting (first S out of 5S) become easy and motions (as per motion study) also reduced, which reduce labour and overhead cost as well.

Question 4

(a) Supreme Automation Limited (SAL) is a leading AI based home automation-based manufacturing firm. SAL started its 5 years back when it was the only manufacturer automation-based systems. SAL manufactures components themselves, irrespective of fact that these business around of such home all assembly components can be acquired from market at a cheaper rate. Major component of total costs in manufacturing of such automation systems is variable in nature. Company was performing well, earning reasonably and enjoyed a large market share up-till two years ago majorly due to the first mover advantage. However, with rough macro-economic conditions, an increase in rival competition and more new entrants coming into the market, the resultant market share and thereby, profitability has started shrinking. If no major steps are immediately taken, then company may run into red in a year to come.

The CEO of SAL attended a workshop where he learnt about the lean management techniques of Cost Management. He asked Mr. X the Chief Management Accountant to report on underlying reasons behind the company's current performance with available set of possible solutions. Mr. X immediately convened, a meeting with top ranked officers to address the issues.

The Marketing department confirmed that it is difficult to maintain the same level of sales in upcoming years because the price of SAL automation systems is much higher than price offered by its competitors in the market with similar Quality and features.

The Customer Relations department conveyed that the popularity of their product is declining. They quoted that they receive lot of complaints from buyers in e-mails .and tele-calls due to manufacturing defects, which arise in the product within a month period of purchase & frequency of such calls and emails have increased in recent years.

They also mentioned that in some cases, customer reported that assembled part did not belong to model they purchased, and some customers say, assembly is not as per the specifications provided in the product datasheet.

In addition, the maintenance department affirms that the repair issues in case of recently sold products have increased drastically.

The Operations department testifies that firstly large percentage of workers employed with the company are unskilled; secondly, large number of raw materials in each category are dumped by store at the production floor; that's too well prior to requirement. These two reasons cause worker catastrophe in differentiating among parts which appear similar. They also mentioned the entire business process, especially production process is quite old and contains certain activities which are purely unnecessary. To its defence, the purchase department argued about the economics of discount involved behind purchase of large quantities of raw material and also mentioned about possibility of buying too less quantities may lead to stock-out situations.

Required

PREPARE a report to advise the CEO pointing out the factors influencing the current performance and policies of the company and also with available set of possible solutions.

(5 Marks)

(b) *TSK Limited is a mobile manufacturing company. The company using budgets for control which are prepared on traditional basis. The new CEO of the company wants to change the budgeting system from traditional budgeting to Beyond Budgeting in the company on experimental basis.*

Therefore, as the management accountant of the company you have been assigned to explore the possibilities of· introducing Beyond Budgeting system in the company.

You are required to:

EXPLAIN reasons for taking approval of change the budgeting system from Traditional to Beyond Budgeting on following points:

- *The advantages and benefits available in Beyond Budgeting.* ***(3 Marks)***
- *The suitability of Beyond Budgeting to the company.* ***(2 Marks)***

OR

HRY Limited is a leading company in the kitchenware industry. Due to competition in the market, company is continuously making R&D to develop new products. Product "Aiken" is currently being developed and is about to be launched in the market. The company has made very heavy expenditure to develop this product. This is a highly innovative product which the company believes that it will change the market and consumer behavior. Production and promotional costs in the launching year are likely to be very high. The CEO of the company has decided to use a market skimming approach for pricing this product during its introduction stage.

You are required to:

ANALYZE the reasons for going with market skimming approach of pricing by the CEO of HRY Limited.

(c) ABC Ltd. is a manufacturer of motorbikes. It has two divisions, Assembly division 'A' and manufacturing division 'P'. Division 'P' manufactures the part which may be used by division 'A' as well as outside customers. Division 'A' gets its entire requirement for the part from division 'P'. The Division 'P' operates at full capacity, with no inventory at the beginning and end of the year. As per company policy, demand from Division 'A' has priority over external customers. The data of Division 'P' during 2021-22 is as under:

Production Capacity	*1,50,000 Units*
Sales price to external customers	*₹ 6,000 per unit*
Variable cost of production per unit	*₹ 4,125*
Transfer price to Division 'A'	*Any opportunity cost in the form of lost sales.*
Total Sales including transfer to division 'A'	*₹ 81crores*
Sales made to the external customers	*75,000 Units.*

This year, there was an additional demand from external customers for 27,000 components. However, since Division 'P' operated at full capacity, this demand was not catered to.

Required

(i) ANALYSE the Sales in terms of ₹ and units made by Division 'P' to both external and internal customers. ***(3 Marks)***

(ii) RECOMMEND the transfer pricing range that would promote goal congruence between divisions A and P. ***(2 Marks)***

(iii) *DISCUSS the effect of changes in external demand on the transfer price for the company, assuming the current policy continues.* ***(2 Marks)***

(iv) *DISCUSS the advantages, disadvantages and behavioral Consequences of Transfer Pricing at Variable Cost method.* ***(3 Marks)***

Answer

(a) Report

To,

The Office of CEO,

Supreme Automation Limited (SAL)

Dated – 10th Nov 2022

Report on factor influencing the current performance, policies and available set of solution thereto.

Current Performance

a. Financial evaluation suggests that sale at SAL is shrinking and that turn in declining bottom line i.e., profit.

b. Non-financial performance evaluation measures are sustainable action-based indicators such as Triple Bottom Line (TBL; suggested by Elkington in 1994), which consider People and Planet apart from Profit while evaluating performance of entity. Since there is no negative effect on environment and neutral from social aspects, hence business is **bearable**, despite causing low profit. SAL if able to maintain/enhance the profit then it can enter into **sustainable** zone.

Note- Requisite amount of data is not available in given case, to apply other non-financial performance indicators-based model, such as Balance Scorecard (by Robert Kaplan and David Norton), Performance Pyramid (by Lynch and Cross), Building Block Model (by FitzGerald and Moon) and Performance Prism (by Andy Neely and Chris Adams)

Current policies at SAL (underlying reasons behind current poor performance) and solution thereto.

a. **Non-competitive pricing policy–** Marketing Department said price of SAL automation system is much higher than price offered by all the competitors in market, despite the fact it is similar to competitor's product in term of quality and features.

Target Costing (as Cost Management Technique) is solution here. Since market condition are stiff and bargaining power of customer are high due to multiple competitors, and these competitors selling the product at price lesser than price offered by SAL. Hence, price offered by such competitor/rivals should be considered as 'Target

Price' and after reducing 'Target Profit' from same 'Target Cost' can be identified. Production, operations facilities along with product need to be reengineered to achieve such Target Cost.

b. **100% indigenous - in house manufacturing of all assembly components -** Irrespective of fact that these components can be acquired from market at cheaper rate, **SAL is manufacturing all assembly components themselves.**

   Solution here is to take **'Make or Buy'** decision. Only those assembly items need to be made in house whose variable cost of manufacturing cost is less then market price.

c. **Passive value chain - Popularity of product is declining among customer** (decline in sales) and moreover customers are cursing SAL for **manufacturing defects**.

   Defects arise in product within month period of purchase. Further some of cases customer reported that assembled part is not belonging to model they purchased, and some customers say assembly is not as per specification provided. Hence, quality of product as well as processes (such product pass through) is critical concern.

   One of way to look at **'Quality'** is conformance to need of customer, to ensure same Total Productivity Management/ Total Quality Management supported by Six Sigma need to be applied as part of Lean System Management.

   Total Quality Management is management of entire process, including planning process; in order to improve process by total participation, keeping focus on customer. **PRAISE** analysis can be used in order to achieve improve quality.

   Using **DMAIC** (Define, Measure, Analyse, Improve and Control) methodology of **Six Sigma**, existing business process can be improved to ensure customer satisfaction, reducing cycle time and reduction in waste also.

d. **Employing unskilled workforce –** Policy of hiring unskilled workforce is also a reason for poor performance and quality issues.

   Each worker is needed to provide with *requisite training* and learning curve need to be ensured.

   Though **Kaizen** (change for small improvement) workers involvement (participation) into business process (BPR) need to be ensured.

e. **Purchasing in bulk –** SAL is not only purchasing in large volume, but store department also dumped the material at production floor, much prior to their actual need. This may be root cause of one of complaint by customer that assembled part is not belong to model they purchased.

   Possible solution is to apply **JIT (purchase and production)**. JIT can be implemented as part of lean system. JIT is **pull system of production**, with **single piece flow** after considering **takt time**. In JIT, production facility needs to be integrated with vendor system for signal (Kanban) based automatic supply which depends upon demand-based consumption. Under JIT system of inventory storage cost is at lowest level due to direct issue of material to production department as and when required and resultantly less/no material lying over in store or production floor.

Note - Takt time is the maximum time to meet the demands of the customer, this will help to decide the speed of/at manufacturing facility. Heijunka can be applied in order to reduce variation between takt times over the production.

Cost benefit analysis of 'reduction in storage cost along with opportunity cost saved' and 'increase in ordering cost, purchase cost along with stock-out cost' need to be made.

f. Stick to old **established businesses processes –** Another reason for poor performance at SAL is decision to continue with **old established businesses processes**, especially production processes and contains **certain activities which are purely unnecessary**.

Solution to same is **Process Innovation** and **Business Process Re-engineering (BPR)** that can be applied as part of lean manufacturing. Re-engineering is rethinking and radical design of business process in order to achieve improvement. It will help the SAL to keep them at par with changing technology. It is worth to note here that SAL is operating in domain which is highly dynamic hence technology up-gradation, advancement and breakthrough are inevitable.

Value Analysis needs to be applied in order to ensure maximum value to customer by eliminating activities which are not value generating, this will control cost also, that's too strategically.

Further details can be tabled on requisition basis.

Closure of Report

(For Management Accounting Division)

Supreme Automation Limited

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- *Conceptually correct brief explanations are sufficient.*

(b) (i) Advantages and Benefits of Beyond Budgeting (BB)

BB identifies its two main advantages.

- It is a more *adaptive process* than traditional budgeting.

- It is a *decentralised process*, unlike traditional budgeting where leaders plan and control organisations centrally.

Benefits of the 'Beyond Budgeting' Model

- Beyond budgeting helps managers to work in coordination to beat the competition. Internal rivalry between managers is reduced as target shifts to competitors.
- Helps in motivating individuals by defining clear responsibilities and challenges.
- It eliminates some behavioural issues by making rewards team-based.
- Proper delegation of authority to operational managers who are close to the concerned action and can react quickly.
- Operational managers do not restrict themselves to budget limits and focus on achieving key ratios.
- It establishes customer-orientated teams.
- It creates information systems which provide fast and open information throughout the organization.

(ii) Suitability of Beyond Budgeting to the Company

TSK Ltd. is a mobile manufacturing company and presently adopting Traditional Costing system. The mobile industry is one of the fastest growing industries. With the rise of technology, more people are using mobile devices to buy, sell, shop, and share their experiences with friends etc. The brands are gearing up for intense competition. So, **the industry goes through *rapid changes*** in its business environment. TSK Ltd. can definitely use Beyond Budgeting **to improve the control system and beat the competition**.

Beyond Budgeting lies an agile, holistic approach based on self-organisation. This will also help the managers to work in close coordination with each other with motivation which in turn will beat the competition.

OR

- **Market Skimming Pricing** involves charging high prices when a product is first launched and spending heavily on advertising and sales promotion to create customer awareness and build a market for the product.
- The aim of market skimming is to gain high profits early in the product's life, allowing the costs of developing the product to be recovered.
- Demand for the product is likely to be inelastic in the earlier stages till the product is established in the market.
- HRY Limited ***incurred very heavy expenditure*** to develop product "Aiken". Therefore, Skimming Price is suitable for "Aiken".

- Further, it is given to be a *highly innovative product that* ***will change market and customer behaviour***. Due to its innovative feature, the customers would not mind paying a premium for the unique product offering. Demand would be inelastic. A policy of market skimming appears to be most appropriate in this case.

(c) (i) ANALYSIS of sales by Division P to both external and internal customers

The annual capacity and actual production of Division P is 1,50,000 units per year. It is given the Division P operates at full capacity, with no inventory at the beginning and end of the year. Zero inventory implies that annual sales was also 1,50,000 units per year.

Sales to external customers was 75,000 units at ₹ 6,000 per unit. Therefore, external sales amounts to ₹ 45 crores (75,000 units × ₹6,000 per unit). Therefore, internal sales can be derived to be 75,000 units for the year (annual sales 1,50,000 units less external sales 75,000 units). For the year, value of sales made to Division A is ₹ 36 crore (Division P's total sales of ₹ 81 crore *less* external sales of ₹ 45 crores).

Had there been no extra demand, opportunity cost for Division P would have been nil. Therefore, transfer price would only be the variable cost of ₹ 4,125 per unit of component/ part, However, given in the problem, that there was excess demand for 27,000 units of components from external customers, that could not be met since Division P had to give priority to internal demand. Had these sales been made to external customers Division P would have earned ₹ 1,875 per unit contribution (Sale price ₹ 6,000 per unit less variable cost ₹ 4,125 per unit). This lost contribution of ₹ 1,875 per unit is the opportunity cost per unit for Division P. Due to company's policy of giving priority to internal demand, Division P lost a profit (or contribution) of ₹ 5.0625 crores during the year (27,000 units × contribution of ₹ 1,875 per unit).

Therefore, internal sales comprise of two parts:

- **48,000 units of components transferred at variable cost of ₹ 4,125. This amounts to ₹ 19.80 crores.**
- **27,000 units of components transferred factoring any opportunity cost = variable cost per unit + contribution per unit = external sale price per unit = ₹ 6,000 per unit. This amounts to ₹ 16.20 crores. (27,000 units at ₹ 6,000 per unit)**

So, internal sales = ₹ 19.80 crores + ₹ 16.20 crores = ₹ 36 crores.

Summarizing

External sales are 75,000 units amounting to ₹45 crores annual sales value. Internal sales are 75,000 units amounting to ₹36 crores annual sales value. Transfer price for 48,000 units is at variable cost of ₹4,125 per unit while for 27,000 units is at external sales price of ₹6,000 per unit.

(ii) RECOMMEND- Transfer price range between Division A and P to promote goal congruence

Division A procures its entire demand of 75,000 units from Division P. Out of this, 27,000 units at market price of ₹ 6,000 per unit while 48,000 units are procured at a lower rate of ₹ 4,125 per unit. Had Division A procured 48,000 units from the market, the additional cost of procurement would be ₹ 9 crores {(External price of ₹ 6,000 per unit less internal transfer price at variable cost of ₹ 4,125 per unit) × 48,000 units}. Only Division A currently enjoys this benefit of lower procurement cost. Financials of Division P show no profit from such internal transfers. This may skew the performance assessment of the divisions, if it is based primarily on financial metrics of each division. In order, promote goal congruence, some portion of this benefit can be shared with Division P.

Division P will at the minimum want to recover its variable cost of ₹ 4,125 per unit, while Division A will be ready to pay only up to external market price of ₹ 6,000 per unit. Therefore, transfer price range can be set between ₹ 4,125 - ₹ 6,000 per unit. Division A enjoys lower procurement rate while Division P financial reflect some benefit of transferring components internally to Division A.

(iii) DISCUSSION - Impact of External Demand on Transfer Price

- As per the company's transfer pricing policy, Division P gives priority to demand from Division A. The division has a production capacity of 1,50,000 units annually. **If there is no external market for Division P's components**, then transfer price for the entire internal transfer would be the ***variable cost of ₹ 4,125 per unit plus portion of the fixed cost (if any)***. This is the minimum cost that Division P would like to recover from Division A.
- When there is an external market, transfer price would depend on whether Division P had to incur any opportunity in the form of lost sales. **When total demand (internal and external) is within production capacity** of 1,50,000 units, the entire demand can be met. There would be no lost sales for Division P, no opportunity cost. Therefore, transfer price for the entire internal transfer would be the ***variable cost of ₹ 4,125 per unit***. This is the minimum cost that Division P would like to recover from Division A.
- When there is an external market, such that **total demand (internal and external) is more than production capacity of 1,50,000 units**, due to priority given to internal transfer, some portion of the external demand might not be met. This would be lost sales for Division P, opportunity cost would be the contribution lost from such sales at ₹1,875 per unit. This opportunity cost would be passed onto Division A. As explained in part (ii) above, transfer price range will be from ₹ 4,125 - ₹ 6,000 per unit. *More lost sales for Division P would keep the average transfer price higher towards ₹ 6,000 per unit. Lesser lost sales for Division P would keep the average transfer price towards the lower bound of ₹ 4,125 per unit.* Therefore, the proportion of external demand that could not

be catered to, would determine the average transfer price*.* ***Higher the demand from external customers would drive up the average transfer price within the company.***

(iv) Advantages, Disadvantages and Behavioral consequences of transfer pricing at Variable Cost method

Transfer price is → recorded at variable (marginal) cost required to produce one additional unit.

Advantage

Useful when the supplying division has excess capacity. The method ensures that the supplying division recoups the cost of internal transfer, while the purchasing division enjoys the benefit of a lower price compared to the market.

Disadvantage

No fixed cost or mark-up is allowed to be charged to the purchasing division. Each unit of internal sale will hence result in a loss at approximately fixed cost per unit.

Behavioural Consequences

In such a setup, profit evaluation is centralized at the entity level. Therefore, the *supplying division may have little incentive* to find measures for making cost efficient. *Non-recovery of fixed costs would demotivate the supplying division*. It may *oppose certain decisions like capacity expansion or further infusion of investment, that lead to higher fixed costs*.

- *Conceptually correct brief explanations are sufficient.*

Question 5

(a) *Aeron Electrical Solutions (AES) is a renowned firm for manufacturing a wide range of electrical appliances for professional and domestic use. The Scriver division of Aeron Electrical solutions is engaged in the manufacturing of motorized screw driving machines capable of handling high-end commercial loads. They are particularly very popular in automation plants where the tasks are pre-defined and accuracy is the primary concern. The Scriver division is presently manufacturing only three models namely SD-100, SD-200 and SD-500 based on the increasing order of incorporated features and complexities.*

During the manufacturing process, each screw driving machine needs to pass through various level of steps, before it gets ready. One of the manufacturing steps involved manual intervention wherein the programming of the processing chip for automation is done post installation and tested before passing to the next stage. This process is termed as Processor Manual Programming for Automation (PMPA). The production capacity of Scriver division is constrained by PMPA.

The basic information pertaining to top-line and prime cost is as follows:

(Amount in ₹)

Particulars	**SD-100**	**SD-200**	**SD-500**
Sale price per unit	168	240	540
Material cost per unit	86.4	124.8	240
Labour cost per unit	36	63	90

All the process and division at AES are operating for a single shift of 8 hours in a day. Conversion cost per hour (including labour cost) is ₹6,720. The standard out-put for PMPA during a day is the processing of either 960 units of SD-100 or 672 units of SD-200, or 384 units of SD-500.

AES is capable of sale more than, what they are presently capable to produce in all range of models.

The CEO of AES recently attended a science exhibition, Robo-tech 2022; where he saw a Robot developed by Micro Robotics Limited, capable to assembly including installation and programming of processing chip to any sort of device.

***You are required to** advise the company as management accountant on following aspects:*

(i) On a random day if 576 units, 168 units and 144 units of SD-100, SD-200, and SD-500 respectively are produced and sold. CALCULATE at what efficiency level current constraint (bottleneck) is operational. INTERPRET the same. COMPUTE profit earned during such day. ***(3 Marks)***

(ii) Considering the ranking based upon throughput performance ratio, FIND production of which model is more beneficial for the firm? ***(3 Marks)***

(iii) APPLY Goldratt' s five steps to remove the bottleneck at Scriver Division. ***(4 Marks)***

(b) The TVA Multiplex Pvt Ltd. (TMPL) is a movie theatre chain in India with its headquarter located in Mumbai. Each centre has a cinema with a minimum of 8 screens equipped with IMAX & 4DX technologies, and mainstream auditoriums. It is the biggest chain of Multiplexes showing latest released movies across the country. The business of cinema is extremely competitive in all regions. Each centre operates autonomously and managers are able to offer best services in terms of customer experience and cleanliness.

TMPL's mission statement is "to inspire and enhance customer experience by using latest technologies and experience". To establish long term relationship of trust and commitment with clients, TMPL wants to provide their client highest level of satisfaction with emphasis on

- *Best in class Audio and Video Services*
- *Professionalism, Comfort and Hygiene*

- *Client's Feedback*

Company has developed a website where it creates blogs, post high quality content related to newly released movies. Website is also connected to social media to reach customers. If a customer searches TMPL's services on search engine, it automatically redirects to the place of nearest TMPL cinema for customers comfort and ease. TMPL's majority of tickets are booked through online channel.

Results for one of the centres, "VT Cinemas", are given below. The column headed "Centre's" shows the average figures for all TMPL cinemas:

Particulars	***VT Cinemas Apr'22***	***Centre's Apr'22***
Revenue (₹)	*45,63,000*	*54,33,450*
Gross profit (₹)	*24,25,200*	*25,68,870*
Number of senior Managers	*45*	*55*
Number of junior staff	*30*	*28*
Number of website hits	*7,505*	*9,630*
Total number of services booked online and completed	*4,958*	*6,135*
Number of services taken from repeat customers	*755*	*802*
Total time spent on completing maintenance tasks (hours)	*12,060*	*12,940*
Number of new combo packages	*3*	*2*
Customer percentage in terms of feedback forms showing score of 9 or 10	*88%*	*79%*

Notes:

(i) Managers are categorized as 'senior' if they have been qualified for more than five years.

(ii) Junior staff includes both trainees and staff who have been qualified for less than five years.

(iii) The VT Cinemas launched three new combo packs during the year:

- *free food coupon of worth ₹ 450 for bookings over and above ₹ 1,000.*
- *a Premium Recliner seat costing only ₹ 260, instead of the usual ₹ 520, for 5 days advanced bookings.*
- *a Popcorn meal charged at t 100, which usually costs ₹ 300, for all customers booking for minimum of 6 tickets.*

These three new combo packs produced revenues of ₹ 3,96,000; ₹ 3,48,000 and ₹ 3,24,000 respectively. Two comparable new combo packs developed by other centre's produced revenues of ₹ 2,64,000 and ₹ 2,52,000.

(iv) Customers to rate the particular centre from 1 to 10 in an online feedback form with 10 being the best.

Required

The Chief Executive Officer (CEO) of TMPL has recently attended a webinar and heard about Building Block Model of Performance Management. The CEO is interested to know how the dimensions block could be applied at TVA Multiplex Pvt Ltd.

(i) ANALYSE VT Cinema's performance relative to the other Centres. ***(8 Marks)***

(ii) EXPLAIN how the Standards and Rewards block support the Dimensions block in case of Building Block Model. ***(2 Marks)***

Answer

(a) (i) Efficiency level can be measured with help of Efficiency Ratio, which is one among the control ratios.

Efficiency ratio indicates the degree of efficiency attained in production. It is expressed in term of standard hours for actual production as a percentage of the actual hours spent in producing that work.

$$\frac{\text{Standard hours for actual production*100}}{\text{Actual hours worked}}$$

= (9.8/8) × 100 = **122.5%**

Working Note – Standard hour required for actual production.

Product	Actual output (Units) (a)	Standard Daily Output (Units) (b)	Standard Hourly Output (Units) (c) (b)/8	Standard Hour Required (a)/(c)
SD-100	576	960	120	4.8
SD-200	168	672	84	2
SD-500	144	384	48	3
Standard Time Required (in hours)				**9.8**

Interpretation – **122.5%** signifies that efficiency (usage) of exploiting bottle-neck activity is 22.5% better than the standard use. PMPA (Processor Manual Programming for Automation) is producing out-put which require 9.8 hours, in 8 hours.

Profit earned during the day

Particulars	Amount in ₹
Revenue [(576×168) + (168×240) + (144×540)]	2,14,848.00
Less: Material Cost [(576×86.4) + (168×124.8) + (144×240)]	1,05,292.80
Less: Conversion Cost (including labour cost) [(6720×8hrs)]	53,760.00
Profit	**55,795.20**

(ii) Statement of ranking, based upon throughput performance ratio (using throughput contribution)

Particulars		SD-100	SD-200	SD-500
Sale price per units	(a)	168	240	540
Material cost per unit	(b)	86.4	124.8	240
Throughput contribution per unit	(c) = (a) – (b)	81.6	115.2	300
Maximum possible production	(d)	960	672	384
Maximum possible throughput contribution	(e) = (c)×(d)	78,336	77,414.4	1,15,200
Conversion cost (including labour cost) (6,720×8hrs)	(f)	53,760	53,760	53,760
Throughput performance ratio	(e)/ (f)	1.46	1.44	2.14
Ranking		II	III	I

Considering the throughput performance ratio (or TA ratio) and ranking above most beneficial model to produce is SD-500 followed by SD-100 and SD-200.

$$\textbf{TA Ratio} = \frac{\text{Throughput contribution}}{\text{Conversion cost}}$$

Throughput accounting developed by **Galloway and Waldron** which use the term factory cost and completely relay upon the **Goldratt's theory of constraints** which use the term operating expenses, but the meaning of factory cost and operating expenses used at both places are identical.

Theory of constraints consider short-run time horizons and assume other current operating cost to be fixed costs.

Higher the throughput performance ratio (or TA ratio) is better and beneficial.

All the products/models which have throughput performance ratio (or TA ratio) more than one may be produced/continued to produce, depending upon constraint function.

(iii) Application of Goldratt's five steps to remove the bottleneck at Scriver division

Goldratt's theory of constraints describes the following mentioned five steps process of identifying and taking steps to remove the bottlenecks that restrict output.

1. **Identifying the System Bottlenecks –** At Scriver division of Aeron Electrical Solutions, *Processor Manual Programming for Automation (PMPA)* is bottleneck.
2. **Exploit the Bottlenecks –** Bottleneck activities' capacity must be fully utilised. Although the efficiency of bottleneck activity is already 122.5% but further attention on the possibility to enhance the flow of products from bottleneck activity is needful.
3. **Non-bottleneck activities are subordinate –** Bottleneck activity should setup the pace for non-bottleneck activities. Scriver division shall plan its production keeping PMPA at the centre point, because even if the efficiency of other activities which are non-bottleneck enhanced beyond current level; the output can be maximum possible by PMPA.
4. **Elevate the bottleneck –** Eliminate the bottleneck by enhancing the capacity and efficiency. *Major change (business reengineering) or continuous minor change (kaizen)* may do. In the case of Scriver division, the introduction of the robot may be a way to elevate the bottleneck. It is specified in fact of case that CEO recently attended the Robo-tech 2022, where at he saw robot developed by Micro Robotics Limited, capable to assembly including installation of processing chip to any sort of device.

   Note – There will always be one bottleneck in the system, if such bottleneck is eliminated then a new constraint emerges as a bottleneck. Hence this process continues. Ultimately improvement is a never-ending continues process.
5. **Repeat the process –** Apply step 1 to new bottleneck activity which emerges at Scriver division and repeat the process.

(b) (i) ANALYSIS: Under Building Block Model (By Fitzgerald and Moon) there are six dimensions apart from standards and rewards. Dimensions are better to be known as CSFs and hence suitable measures must be linked to each dimension to analyse the performance. So, dimensions are the goals to measure performance and subcategories into Results and Determinants Framework. The results are lagging indicators, whereas determinants are conceptualised as leading indicators. The six dimensions are analysed below–

Competitiveness: Competitiveness can be measured through conversion rate i.e., rate of seats confirmed and number of hits at website

	VT Cinema	TMPL Average
Website hits converted sale of tickets (in percentage)	**66.06%** (4,958/ 7,505) × 100	**63.71%** (6,135/ 9,630) × 100

This ratio shows VT Cinema is more attractive compared to its peer, which is good from performance perspective because it is specified that business of cinema is highly competitive in all the regions. **VT Cinema able to convert 66.06% of website hits into confirmed tickets against 63.71% as average of others.**

Financial Performance: Financial Performance can be measured through Gross Profit Ratio. It indicates the percentage of revenue which exceeds the cost of goods sold.

	VT Cinema	TMPL Average
Gross profit ratio (in percentage)	**53.15%** (24,25,200/ 45,63,000) ×100	**47.28%** (25,68,870/ 54,33,450) ×100

VT Cinema performed better as it has gross profit of 53.15% comparing with 47.28% of others. The higher gross profit in case of VT Cinema may be **either due to new combo packs or less number of senior managers** (as compared to junior staff, 1.5 times in case of VT cinema vis-à-vis 2 times in case of others; because it is for sure that senior manager salary is higher than junior staff.

Quality of Service: 'Inspire and Enhance the Customer Experience' is mission of TMPL hence quality is a key aspect. Customer will return back only if quality of service is acceptable.

	VT Cinema	TMPL Average
Repeat customers (in percentage)	**15.23%** (755/ 4,958) × 100	**13.07%** (802/ 6,135) × 100
Customer percentage giving 9 or 10 score.	88%	79%

Since in case of VT cinema the number of repeat customers as percentage to total number of bookings (seats sold) is higher by 2.16%, as VT cinema has repeat customer 15.23% of its total customer against 13.07% of others, hence quality of services is believed to be higher in case of VT Cinema as compared to others.

Despite less number of senior manager as ratio to junior staff in case of VT cinema, the quality is expectedly better, this **may be due too enthusiastic workforce** that develop the relation with customer; hence customer came back to VT cinema. Customers of VT cinema are satisfied is evident from better customer percentage ratio who give feedback score of 9/10.

Flexibility: Flexibility is capability to adapt the change. To judge flexibility a question can be shall be answered - How quickly business able to deliver, what is asked for by customer? Time spent in maintenance task apart from percentage of customer who give score of 9 or 10 can be analysed as measure of flexibility.

	VT Cinema	TMPL Average
Time spent on maintenance task (in hours)	**12,060**	**12,940**
Customer percentage giving 9 or 10 score.	88%	79%

VT cinema took lesser time in maintenance (presuming same space and features in every other cinema also) and have a greater number of percentage of customer who award feedback Score of either 9 or 10 than average of other cinemas hence flexibility is believed to be higher in case of VT cinema.

Alternatively

	VT Cinema	TMPL Average
Time spent on maintenance per booking (hrs.) [i.e., based on total number of tickets booked online and utilised]	**2.43** (12,060/ 4,958)	**2.11** (12,940/ 6,135)

The comparison shows that VT Cinema takes longer time to complete maintenance task than the TMPL average, which is not really good, and is probably because of they have slightly less experienced staff on the whole.

Resource Utilization

In service entity the most precious resource is human; hence it is the human that make any service organisation a great success. So, these indicators measure how the employees is being utilized to create revenue.

	VT Cinema	TMPL Average
Revenue per employee (both manager and staff)	**60,840** (45,63,000/75)	**65,463** (54,33,450/83)

The revenue per employee is lower in case of VT Cinema (60,840) as compared to average (65,463) of other cinemas by 4,623, hence performance is poor, but there is valid reason for poor performance i.e., **inexperienced/less experience staff**. The ratio of junior staff to senior manager is higher in case of VT Cinema as compared to others.

Innovation

Innovation can be measured in term of new combo pack launched and revenue earn through same.

	VT Cinema	TMPL Average
Number of New Combo offers	3	2

Revenue generated from new packs (in percentage to total revenue)	**23.41%** (10,68,000^/ 45,63,000) × 100	**9.50%** (5,16,000^^/ 54,33,450) × 100

^ *(3,96,000 + 3,48,000 + 3,24,000); ^^(2,64,000 and 2,52,000)*

VT Cinema launched 3 new combo pack for it customer as compared to 2 by others, resultantly it able to earn 23.41% of revenue from new service packs as compared to 9.50% in case of others. The performance in terms of innovation is a really good performance.

Hence, over all VT Cinema has outperformed the rest of cinemas.

☞

- *Conceptually correct brief explanations are sufficient for each step.*
- *It has been stated that "total number of services booked online and completed". The same has been considered as number of "**seats** booked online and availed/ utilized". Similarly, "number of services taken from repeat customers" has been considered as "number of **seats** booked by repeat customers".*

(ii) The **standards** block fixes the target for the performance indicators chosen for each of the dimensions. The targets must meet three criteria – they must be achievable, fair and encourage employees to take ownership. The performance of the organization could suffer if the targets set do not meet these criteria.

The **rewards** block makes sure that employees are motivated to attain the standards. It also examines the properties of good reward schemes which are that they should be clear, motivating and based on controllable factors.

If standards and rewards are set appropriately, the staff will be engaged and motivated and it is then more likely that the goals, i.e., **dimensions**, of the organisation will be achieved.

Question 6

(a) *During the second peak wave of Covid-19 m April 2021 in the country, many patients were deprived of oxygen due to its non-sufficient availability at the hospitals. A private company ABC Limited offers the government to manage the delivery and ensuring the availability of liquid oxygen at all hospitals of locale within the expected time limit.*

ABC Limited plans to manage 1,68,750 metric tons of liquid oxygen at the rate of ₹ 6.00 per metric ton. The company estimates that variable cost (all resources) will be equal to ₹ 1.50 per metric ton and that fixed costs (Cryogenic Oxygen tanker rent, driver wages, fuel and maintenance charges) will be equal to ₹ 1,04,400 per month.

In April 2021, ABC Limited managed 2,02,500 metric ton liquid oxygen and received ₹ 10, 12,500 as total revenue. However, ABC Limited paid ₹ 3,24,000 on resources (including urgent purchase of PPE kits and other safety equipment). In addition, ABC Limited paid

₹ 1,10,000 for Cryogenic Oxygen tanker rent, fuel and maintenance charges under fixed costs. This past April was unusually high with infections and more than expected hospitals needed oxygen urgently. Due to the time constraint and urgency, ABC Limited resorted to use extra Cryogenic Oxygen tankers than expected which were partially filled with liquid oxygen. As a result, ABC limited has to incur extra expenses for Cryogenic Oxygen tanker rent, fuel and additional driver's wages.

Required

Prepare a budget reconciliation report along with suitable ANALYSIS. ***(10 Marks)***

(b) *Yummy Foods Limited (YFL) is known to be the leading restaurant in India offering best in quality foods to its customers at very reasonable prices. YFL has made its credit pioneering effort and service for over one decade in development of domestic and international cuisines with its decade old unique recipes & hygiene. One of its Signature dishes is produced by mixing and cooking with three main ingredients: A1, A2 and A3. It uses a standard costing system to monitor its costs. The standard material cost for 120 kg of the Signature dish is as follows:*

Ingredients	Standard Qty. (Kg)	Cost per kg. (₹)	Cost per 120 kg of "Signature Dish" (₹)
A1	48	4	192
A2	72	5	360
A3	23	3.5	80.5
	143		632.5

Notes:

A1, A2 and A3 are organic & region-specific products. Their quality and price change significantly every year. Standard prices are determined at the average market price over the last three years YFL has a purchasing manager responsible for purchasing and pricing. The standard mix is decided by the Managing Partner having 15 years rich experience in food recipes. The last time this was done at time of launching the signature dish was six years back. The standard mix has not been changed since.

Mixing and cooking process are subject to some evaporation losses.

In current month 5,520 kg of "Signature dish" was produced, using the following ingredients. ·

Ingredients	Actual Qty. (₹)	Cost per Kg.	Total Cost of "Signature Dish" (₹)
A1	2,528	3.8	9,606.40
A2	2,891	6	17,346.00
A3	947	4.1	3,882.70
	6,366		30,835.10

At every month end, the production manager receives a statement from the Managing Partner. This statement contains material price and usage variances for the month and no other feedback on the efficiency of the processes is provided,

Required

EVALUATE the performance measurement system in YFL. ***(10 Marks)***

Answer

(a) The following table shows ABC's budget profit and actual profit for the month of April 2021:

Particulars	Budgeted Profit	Actual Profit
Liquid Oxygen	1,68,750 mt.	2,02,500 mt.
Revenue (₹)	10,12,500	10,12,500
Less: Variable Costs	2,53,125	3,24,000
Contribution Margin (₹)	7,59,375	6,88,500
Less: Fixed Costs	1,04,400	1,10,000
Profit (₹)	**6,54,975**	**5,78,500**

ANALYSIS

ABC's standard selling delivery rate is ₹ 6.00 per metric ton (mt.) and its standard variable cost (all resources) is ₹ 1.50 per mt. Therefore, ABC's budgeted revenue = 1,68,750 mt. × ₹ 6.00 = ₹10,12,500 and its budgeted variable costs = 1,68,750 mt. × ₹ 1.50 = ₹ 2,53,125. From the table, we can identify that ABC's actual profit for April 2021 was ₹ 5,78,500 lower than its budgeted profit of ₹ 6,54,975. Therefore, ABC's **total profit variance** is ₹ 76,475 (A).

ABC's **sales contribution volume variance** equals to the difference between its standard contribution and budgeted contribution (or standard contribution for actual quantity over budgeted quantity). Each unit (metric ton) is budgeted to contribute ₹ 4.50 toward profit; since ABC delivered 33,750 mt. more than budgeted, the increase in volume should have contributed ₹1,51,875 = 33,750 mt. × ₹4.50 to actual profit. Therefore, ABC's sales contribution volume variance is ₹**1,51,875 (F)**.

Similarly, ABC's **sales price variance** equals to the effect of change in price on actual quantity. The selling rate decreased by ₹ 1, from a standard rate of ₹ 6 per mt. to an actual rate of ₹5 per mt. on actually delivery of 2,02,500 mt. Therefore, ABC's sales price variance is ₹ **2,02,500 (A)**.

ABC's overall **variable cost variance** equals to the difference between its standard variable costs and its actual variable costs, or ₹3,03,750 – ₹3,24,000 = ₹ **20,250 (A).** But there is not adequate data to segregate ABC's variable cost variance into price/ rate and quantity elements. To compute these variances, we would require the amount of resources

ABC budgets to use per **unit (qty delivered)** and the actual & budgeted rate of each resource (i.e., an adverse variable cost variance can arise as ABC used more resources per mt. delivered and/or it paid more than budgeted for the resources used). ***While the issue appears to suggest that ABC's adverse variable cost variance arose due to spending more on resources (PPE kits and other safety equipment) than planned, it is not sure that the entire ₹ 20,250 variance is attributable to this. In fact, it is likely that the quantity variance was greater than ₹ 20,250 (A) and that ABC had a favorable rate variance to offset this.***

ABC's **fixed cost expenditure variance** equals the difference between budgeted and actual fixed costs, or ₹ 1,04,400 – ₹ 1,10,000 = **₹ 5,600 (A).**

We can now prepare the following budget reconciliation report:

Item	Amount (₹)
Budgeted Profit	6,54,975
Sales Contribution Volume Variance	1,51,875 (F)
Sales Price Variance	2,02,500 (A)
Variable Cost Variance	20,250 (A)
Fixed Cost Expenditure Variance	5,600 (A)
Actual Profit	5,78,500

- ***Budget Reconciliation Report*** *can also be prepared in an alternative manner i.e., based on 'standard absorption costing' system.*

(b) Price Variance

Input	Actual Qty. (Kg)	Std. Cost (₹)	Actual Cost (₹)	Difference (₹)	Variance (₹)
A_1	2,528	4.0	3.8	0.20 (F)	505.60 (F)
A_2	2,891	5.0	6.0	1.00 (A)	2,891.00 (A)
A_3	947	3.5	4.1	0.60 (A)	568.20 (A)
	6,366				2,953.60 (A)

Usage Variance

Input	Standard Qty. (Kg)	Actual Qty. (Kg)	Difference (Kg)	Std. Cost (₹)	Variance (₹)
A_1	2,208	2,528	320 (A)	4.0	1,280.00 (A)
A_2	3,312	2,891	421 (F)	5.0	2,105.00 (F)

A_3	1,058	947	111 (F)	3.5	388.50 (F)
	6,578	6,366	212 (F)		1,213.50 (F)

Mix Variance

Input	Rev. Actual Qty. (Kg)	Actual Qty. (Kg)	Difference (Kg)	Std. Cost (₹)	Variance (₹)
A_1	2,136.84	2,528	391.16 (A)	4	1,564.64 (A)
A_2	3,205.26	2,891	314.26 (F)	5	1,571.30 (F)
A_3	1,023.90	947	76.90 (F)	3.5	269.15 (F)
	6,366.00	6,366	NIL		275.81 (F)

Yield Variance / Sub-usage Variance

Input	Standard Qty. (Kg)	Rev. Actual Qty. (Kg)	Difference (Kg)	Std. Cost (₹)	Variance (₹)
A_1	2,208	2,136.84	71.16 (F)	4	284.64 (F)
A_2	3,312	3,205.26	106.74 (F)	5	533.70 (F)
A_3	1,058	1,023.90	34.1 (F)	3.5	119.35 (F)
	6,578	6,366.00	212 (F)		937.69 (F)

OR

Yield Variance = Std. Material cost per Kg of output (Actual Yield - Standard Yield)

= ₹ 632.5/120 kg (5,520 - 5,342.098) = **₹ 937.69 (F)**

Standard Yield = [120 kg x 6,366 kg] / 143 kg = 5,342.098 kg

EVALUATION of Performance Measurement System

The statement reported, ₹2,953.60 adverse material price variance. The responsibility for controlling the materials price variance is usually the purchasing manager's. Undoubtedly, in current scenario, the price of materials is largely beyond his or her control; however, ***the price variance can be influenced by such factors as quality, quantity discounts, distance of supplier's location, and so on. These factors are often under the control of the purchase manager***. The production manager is responsible for material usage and cannot be held responsible for the material price variance.

Since total usage variance reported, ₹ 1,213.50 favourable, production manager could assume good performance. However, if usage variance is considered in more detail, through the mix and yield calculations, it can be observed that ***variance was driven by a change in the mix and by using a mix of ingredients which was different from standard,*** it has resulted in a saving of ₹ 275.81; Similarly, it has led to a favourable yield.

It is worthwhile to note that changing the mix could impact the product quality and sales as well, however, no information has been given about this.

Prices and quality of three ingredients are changing significantly every year. ***Using ex ante prices and usage standards can implicit an outdated view of variances***. Failing to separate variances caused by uncontrollable factors and planning errors from variances caused by controllable factors can be demoralizing for the managers.

In addition, ***managers are not involved in setting the standard mix*** and the same has not been changed for six years despite continuous changes in the quality and prices of the ingredients. This can also mislead the managers i.e., to carryout control activities which are based on the outdated standards.

Furthermore, a true image is missing in relation to managers' ***performance as statement does not include any feedback or comments on the variances***. Even no follow up is being taken on the same.

Overall, it appears that YFL is **not having comprehensive performance measurement system**, and this could adversely impact the firm in long run.