PAPER – 5: STRATEGIC COST MANAGEMENT AND PERFORMANCE EVALUATION

××× CASE STUDY×××

Competitive Advantage

1. BA is the second largest airline in the Country "X". Aviation industry in the Country "X" is growing fast. In 2011, 45 million people travelled to/ from/ or within the Country "X". By 2020 that doubled to 100 million. This number is expected to treble to 300 million by 2030. Also, by 2025, Country "X" is expected to be the third largest air transport market in the world, behind the US and China.

Government is trying to meet the significant growth potential of aviation Industry. However, it will create challenges also for the airline industry and its industry partners.

Government also wants to ensure that broader business and policy environment should not place hurdles which inhibit growth and reduce the level of benefits that aviation can deliver to the nation. The industry, its supply chain partners, and the government and policy makers have a clear mandate to work in collaboration towards the common goal of ensuring that aviation's economic and social benefits are fulfilled.

Despite of operating in World's fastest growing market BA struggles for passengers. Also, BA is facing following problems:

- Aviation Turbine Fuel (ATF) prices constitute about 40% of operational costs in Country "X" and are taxed higher here than anywhere else in the World. The Central government charges 14% duty on ATF. While the state government pile on their own local tax that can go as high as 29%.
- The currency depreciation is hitting Airline harder. About 25% to 30% of their costs, excluding ATF, are dollar denominated, from aircraft lease rents, maintenance costs to ground handling and parking charges abroad etc.
- With the entry of Low Budget Carriers, full-service carrier like BA that have higher overhead costs have been forced to offer discount to passengers looking for great bargain.
- Continuous improvements in tourism infrastructure, tourism policies, human resources development, airport infrastructure density are among the areas that could further enhance Country "X"'s competitiveness. Ease of doing business over the last five years has risen.

- The intense competition among domestic airlines carriers, the need to capture a slice of the ever-expanding market and passenger price sensitivity makes the airlines difficult to raise ticket prices.

Together, these factors have now plunged Country "X"'s aviation industry to its most precarious phase in the last three years or so.

BA is facing huge competition as a "year of sharp U-turns" for "X"'s aviation industry from record profit in Financial Year 2019-20 to mega losses, resulting in direct need of recapitalisation. BA has been appealing to the government for a decade for a reduction in taxes on fuel, but all in vain. ATF is 35-40% more expensive in Country "X" than in the rest of the world, because of relatively high tax rates.

Required

ADVISE the strategy that BA should follow in order to gain superior performance and competitive advantage over its competitors

×××QUESTIONS×××

Supply Chain Management

2. An apparel manufacturing company has a factory in Ahmedabad, making denim clothing for customers of all ages. It sells its clothing from its factory outlet store located within the city. Until 6 months back, the company had a business model wherein the products manufactured at its factory would be sent to its factory outlet store. Customers would visit the store and choose apparel suiting their tastes. Production was based on prediction of customer demand. This "made to stock" model has been placed for many years.

Few months back, the store manager noticed many customers exiting without making any purchases. Tracking this and after obtaining feedback from customers over sometime, it was found that many products were unacceptable to the customers' tastes - either the shade or design of denim was not what they wanted or that the apparel was not of the correct fit for them. The management then decided to provide customers a choice of either choosing from their standard apparel range that has already been made ("made to stock" model) or to offer them a "made to order" option.

The company now displays its range of denim material at the factory outlet. Customers can go through the samples and choose the material of their choice. Company certified tailors would then take measurements based on the customers' preferences. A detailed order customized to the customers' needs would then be drawn up. The factory has set up a separate tailoring division that would stich the apparel specifically for these "made to order" sales. For this new machines and production line resources have been put in place.

Customized products are manufactured and be made available to the customer within 3 working days' time from the date of placing the order. The customer comes to the store and picks up the apparel ordered. For delays beyond this timeline, the customer gets to

pay 5% less on the order value. This is done to attract and maintain customers, who would otherwise choose to purchase apparel offered by rival competitors. Therefore, speed of delivery of the customized product is critical for the company. This is the main selling point for the company to operate the "made to order" business model.

If further modifications are needed due to errors on part of the company (quality / finishing issues), the apparel would need to be modified / re-stitched once again. The company will bear the cost of modification or replacement of garment.

This new "made-to-order" has been in place for the past 6 months. At the stage of project proposal, the management found it a lucrative option for the company because:

(i) Customers are willing to pay a higher price to have customized clothing as compared to the standard fitting.

(ii) It would attract more customers to the store

(iii) If the model works well, the dependence on the "made to stock" model can reduce. Savings in inventory stock, obsolescence and warehousing costs will benefit the company's bottom-line.

Customers have been very enthusiastic in availing this customization facility offered by the company. Sales have increased manifold in the last few months. Therefore, the management is interested to understand the metrics related to their "made to order" business mode to assess its success and risks. Some of the non-financial metrics are:

Metric	Month					
	1	2	3	4	5	6
Orders needing modification on account of errors in order taking or manufacturing process (% of sales orders made under "made to order" model)	15%	12%	10%	8%	5%	4%
Orders delivered beyond the 3 working days timeline (% of sales orders made under "made to order" model)	5%	4%	3%	6%	7%	5%
Production downtime (hours)	44	88	22	141	132	123
Labor idle time due to unavailability of material (hours)	25	22	17	13	24	22
Ratio of "made to order" to total sales from the factory outlet (Ratio of sales value)	16%	22%	25%	32%	34%	38%
Repeat orders by customers availing this facility (% of customers giving repeat order / total customers availing "made to order" facility)	4%	21%	33%	54%	60%	63%

Required

ANALYZE the non-financial measures of quality of the division over the six-month period. Focus on the production performance, delivery cycle performance and customer satisfaction.

Value Chain Analysis

3. **X** is a leading toy manufacturing firm. Having commenced its commercial operations in the year 1990, the firm has a state-of-the-art manufacturing facility in India. It sells toys through retail outlets and the firm's website. X has been pioneering the concepts of quality and safety in toys and has been instrumental in raising the quality standards of toys in the Indian Market.

X's mission is to influence parents to spend on toys that enable every child to grow with quality toys that contributes to his/ her wholesome development.

X procures the materials from a number of different suppliers. All of the purchased material are dispatched to its warehouse located at its factory and are held there unless they are moved to production. After production is completed, finished toys are moved to X's retail outlets by its own vehicles. Each week, the vehicles follow the same time schedule regardless of the weight they are carrying. Finished toys that are sold through the X's website are dispatched to its distribution centre.

X has recently got the contract to manufacture a new toy that is 'Ty-Z', a mini cartoon based on a character from a famous international animated film. X has not been given any target price, hence is free to set the selling price of 'Ty-Z', however, must pay a royalty of 10% of the selling price to the film director. X is also planning to sell 'Ty-Z' through its retail outlets.

X has decided to follow a target costing technique for 'Ty-Z'. Marketing manager has determined the selling price to be around ₹1,750 per 'Ty-Z'. X needs a margin of 26% of the selling price of 'Ty-Z'.

For the estimated costs per 'Ty-Z' refer Annexure.

Required

DISCUSS three primary activities of value chain through which X can minimise gap if any.

Annexure

Estimated Costs per 'Ty-Z'

	₹
Material C	150.50
Material D	122.50
Other Material	see note below
Labour (0.4 hours at ₹1,050 per hour)	420.00
'Ty-Z'- specific production overhead cost	132.30
'Ty-Z'- specific selling and distribution cost	166.60
Note- Each 'Ty-Z' requires 0.70 kg of 'other materials'. These 'other materials' are procured from a supplier at a cost of ₹280 per kg and around 5% of all purchased materials are found to be downgraded.	

Theory of Constraints

4. ZED produces two types of products Z and D at its manufacturing plant. Both the products are produced using the same materials, machinery, and skilled labour. Machine hours available for the year is 4,000 hours.

Information relating to products are as follows:

Particulars	Z	D
Selling Price *per unit*	₹16,000	₹4,000
Material Costs *per unit*	₹7,000	₹1,200
Machine Hours *per unit*	1.6 hrs.	0.8 hrs.
Maximum Annual Demand	2,000 units	1,600 units
Online Booking (already accepted for)	400 units	1,200 units

Due to poor productivity levels, late order and declining profits over recent years, the CEO has suggested the introduction of throughput accounting in the company.

The total of all factory costs is ₹1,42,60,000, excluding material.

Required

(i) Using throughput accounting, PREPARE statement to determine the optimum production mix and maximum profit for the next year.

(ii) CALCULATE the amount of profit lost due to acceptance of online booking of the products.

(iii) RECOMMEND the options to be followed in order to avoid any loss of profit.

(iv) LIST various ways through which price customization could be done.

(v) Given that products Z and D are respectively in 'maturity stage' and 'introduction stage' of their life cycle. STATE the most appropriate pricing policy that could be followed by the ZED for Z and D as per their life cycle.

Ethical and Non-Financial Considerations

5. ABC Limited specializes in the manufacture of chemical intermediaries in a very competitive business environment. ABC is a public listed company, with majority of its shareholders being institutional investors like mutual funds, banks and insurance companies.

It is located in a water scarce zone in Tamil Nadu. There are restrictions on the tapping and usage of groundwater under the relevant laws. Penal provisions of the law will apply in case of violations. The production process requires water and the amount of water that the company can draw is limited to 19,000 kilo-litres (1 Kilo-litre is 1,000 litres). Purchase of water is not an option as availability is highly erratic and exorbitant on cost.

The company manufactures two types of chemicals "A" and "B" and these are sold in kilograms. The company is in the process of making the business plan for the year 2021.

Based on the actual operating data for 2020 and taking into consideration the inflation and possible price increases that it can obtain from the market, the following product costing details have been arrived at:

Product	A	B
Capacity Volume kg. (not inter-changeable)	8,25,000	9,30,000
Selling Price per kg.	₹2,000	₹1,000
Variable Cost per kg.	₹1,500	₹650
Water (litre/ kg.)	12.5	10

Under the relevant income tax laws prevalent, companies with a turnover of ₹250 Cr. (Crores) or less are taxed at a lower rate of 25% as against the normal 30%. The company intends to keep its sales for 2021 equal to ₹250 Cr. or slightly lesser to avail this concessional income tax benefit.

With capacity constraints, the company has calculated that it would be still beneficial for the company to stick to ₹250 Cr. as only a marginal increase in turnover is possible over ₹250 Cr.; after a higher tax @30%, the PAT would be still lower than the PAT arrived at after doing just ₹250 Cr. and availing the lower income tax rate.

CFO asked management consultant to work out the volumes in kg. of products "A" and "B" which would give an optimal (maximum) contribution given the constraints on capacity, water usage and turnover to avail the concessional income tax benefit.

Consultant work out with the following product mix using Linear Programming. She also proposes another mix which does not meet the constraint on water usage where the company could end up drawing excess water than permitted by 113 kilo-litres but would result in an increase of ₹30 lacs in contribution. She says that it is easily possible to do this by managing reporting to the water authorities.

Product		Optimal	Suggested
A (Volume in kg.)		8,00,000	7,85,000
B (Volume in kg.)		9,00,000	9,30,000
Contribution in ₹Cr.		71.5	71.8
	Constraints		
Sales	<= 250 Cr.	250	250
Volume of "A" in kg.	<= 8,25,000	8,00,000	7,85,000
Volume of "B" in kg.	<= 9,30,000	9,00,000	9,30,000
Water usage (in KL)	<= 19,000	19,000	19,113

Required

The CFO is not satisfied with the calculations. He wants you (Sr. Finance Manager) to come up with a proper DISCUSSION.

Direct Product Profitability (DPP)

6. Quebec Ornamental Company (OOC) has been a name to count on for quality and service. It has been designing wide range of ornamental products for more than two decades using the highest-quality standard. Such quality is achieved through years of experience and the integrity that is maintained by its employees. They are known for their perfection. WIK approached OOC to make inquiry of two products. The two products are indoor fountain known as 'O-1' and a large gnome known as 'O-2' for garden. Mr. X, the management accountant of OOC, has estimated the variable costs per unit of 'O-1' and 'O-2' as being ₹622.50 and ₹103.75 respectively. He estimated his calculations based on the following information:

(1) Products Data

	O-1	O-2	Other Products
Production/ Sales (units)	10,000	20,000	80,000
Total Direct Material Costs	₹22,50,000	₹7,50,000	₹60,00,000
Total Direct Labour Cost	₹15,00,000	₹5,00,000	₹60,00,000

(2) Total variable overheads for OOC are ₹1,20,00,000 out of which 30% belong to the procurement, warehousing and use of direct materials. While all other variable overheads are related to direct labour

(3) OOC presently allocate variable overheads into products units using percentage of total direct material cost and total direct labour cost.

(4) WIK is willing to purchase 'O-1' at ₹740 per unit and 'O-2' at ₹151 per unit.

(5) OOC will not accept any work yielding an estimated contribution to sales ratio less than 28%.

The directors of OOC are considering switching to an activity-based costing system and recently appointed a management consultants firm to undertake an in-depth review of existing operations. As result of that review, the consultants concluded that estimated relevant cost drivers for material and labour related overhead costs attributable to 'O-1' and 'O-2' are as follows:

	O-1	O-2	Other Products
Direct Material Related Overheads: (The volume of raw materials held to facilitate production of each product is the cost driver.)			
Material Ratio *per product unit*	5	8	5
Direct Labour related overheads: (The number of labour operations performed is the cost driver.)			
Labour Operations *per product unit*	7	6	5

Required

(i) Give a financial ANALYSIS of the decision strategy which OOC may implement about the manufacture of each product using the unit cost information available.

(ii) DISCUSS whether activity-based management should be adopted in companies like OOC.

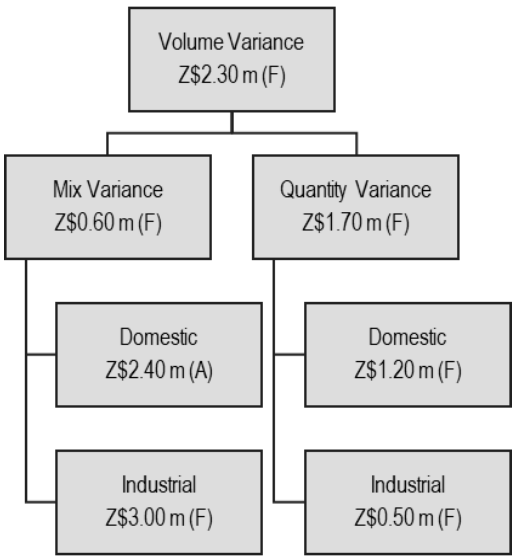
Standard Costing

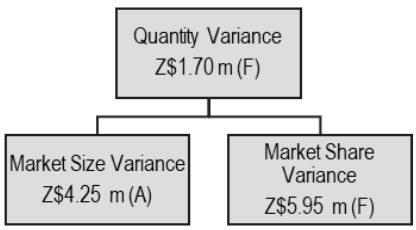
7. ZM Inc. is a family run business based in Country Z. It is a manufacturer of two types of flooring rolls, one for industrial usage and the other for domestic residential use, throughout mainland of Country Z. The company started with the production of residential domestic flooring. It is now an established player in this market. In the recent years, the company pioneered into making flooring rolls for industrial usage. The management has the following information about the budgeted and actual data for 2020-

Particulars	Static Budget			Actual Result		
	Industrial	Domestic	Total	Industrial	Domestic	Total
Unit Sales in Rolls ('000)	200	600	800	270	570	840
Contribution Margin (Z$ in millions)	10.00	24.00	34.00	12.825	15.390	28.215

In late 2019, a marketing research estimated market volume for industrial and domestic flooring at 8 m Rolls. Actual market volume for 2020 was 7 m Rolls. Actual sales trend of ZM Inc. is indicative of the sales trends for individual products in the future years, it is likely that they might continue to sell a similar sales trajectory.

A newly appointed accountant has computed following variances from the above data:





'm' refers to million; assume figures in this chart are correct.

Required

Assuming yourself as a performance management expert of ZM, the CEO has asked you to:

(i) ANALYSE the variances computed by the accountant;

(ii) ADVISE strategic inputs on 'two types of flooring rolls' to help out her in strategic decision making.

Non- Financial Performance Measures

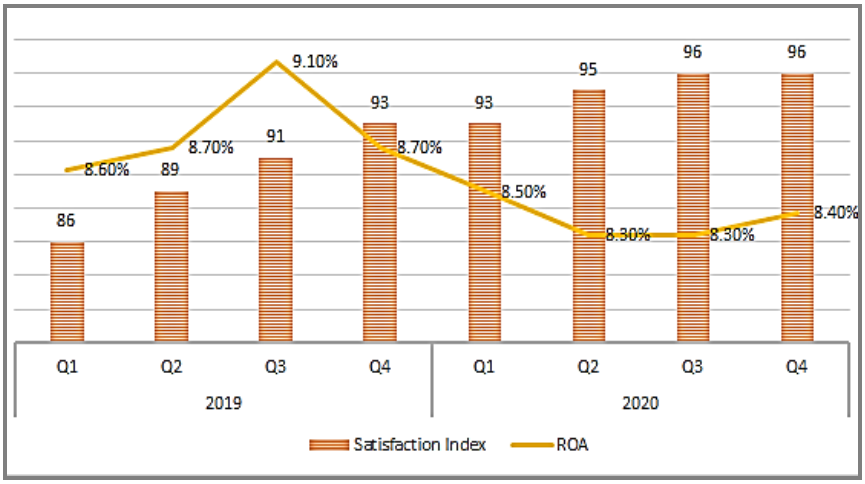
8. Kristin LLP sells wide range of household products. The firm has recently received few negative feedbacks about the product and customer services. CEO is not happy with this. As per the opinion of CEO –

"Nowadays when social media play such an important role in making decisions, its crucial to keep an eye on the quality of customer service you provide. If you don't care about customers' satisfaction, don't expect them to care about your services or products. When customer share their story, they're not just sharing their problems. They are actually teaching you how to make your product, service, and business better."

There has been considerable discussion at the corporate level as to improve 'Customer Satisfaction'. Convinced with this logic, firm has invested heavily in customer satisfaction and adopted the following plan of action–

- providing helpline 24/7 in order to develop personal relationship with customer;
- redesign its online platform in order to make it more customer friendly;
- rewarding loyal customers by giving them experience, they would not forget for life; and
- ease the return and refund policy, offering no questions- asked guarantee is a smart move over competitors.

The CEO was initially delighted to see that their efforts pay off in the form of higher customer satisfaction score index, however he is anxious to see the corresponding financial results.



Required

Does the seeming lack of improvement in financial performance with customer satisfaction, Kristen LLP should stop investing a superior customer experience? DISCUSS.

Performance Measurement in Not for Profit Sector

9. Olderhelp India is a leading charity working with and for the disadvantaged elderly for over 5 decades. Olderhelp advocates for their needs for universal pension, quality healthcare, action against elder abuse and many more. Olderhelp collects donations and funds and utilises them for the welfare of elders. The governing body of Olderhelp has setup four performance objectives for the three months to 30 Sep 2020:

- to achieve a level of donation of ₹30,00,000
- to keep advertisement cost not more than 3% of donation
- to keep welfare cost more than 85% of donation
- to achieve 90% of respite care requested from the community

Actual results were as follows:

	July	Aug	Sep
Donation (₹)	7,00,000	13,00,000	11,00,000
Advertisement Costs (₹)	17,500	52,000	33,000
Elder's welfare cost (₹)	5,74,000	10,92,000	979,000
Respite care requests (days)	1,120	1,140	1,200
Respite care provided (days)	896	1,003	1,104

The aim is to serve elder needs in a holistic manner, enabling them to live active, dignified and healthier lives.

Requirement

PREPARE a statement to assist the manager in evaluation performance against objectives and COMMENT on the performance.

Competitive Advantage

10. The following are the income statements of two firms in the same industry.

	Firm WD (₹)	Firm WG (₹)
Revenues	20,00,000	40,00,000
Less: Variable costs	9,00,000	24,00,000
Contribution margin	11,00,000	16,00,000
Less: Fixed costs	7,00,000	12,00,000
Profit before taxes	4,00,000	4,00,000

Required

IDENTIFY the strategy (cost leadership vs. differentiation) followed by two firms. JUSTIFY your classification.

SUGGESTED ANSWERS/HINTS

1. In consideration to Michael Porter's theory about creating a superior performance and competitive advantage, a firm's overall competitive advantage derives from the difference between the *value it offers to customer* and its *cost of creating that customer value*. In order to survive and prosper in industry, firm must meet two criteria– they *must supply what customers want* to buy and they *must survive competition*.

To attain superior performance and attain competitive advantage, firm must have *distinctive competencies*. Distinctive competencies can take any of the following two forms:

Relative low-Cost advantage– under which customers gain when a firm's total costs undercut those of its average competitor.

An offering or differentiation advantage– If customer perceive a product or service as superior, they become more willing to pay a premium price relative to the price they will have to pay for competing offerings.

Low Cost Advantage (Cost Leadership)

BA can enjoy relative cost advantage if its total costs are lower than those of its competitors. This relative cost advantage enables a business to do one of the following:

– Charge a lower price than its competitors for its services to gain market share and still maintain current profitability; or

– Match with the price of competing services and increase its profitability.

Cost reductions in BA can be achieved through yield management with variable pricing depending on capacity utilization with careful monitoring; application of computer and communication technology in cost effective way i.e. selling seats via the internet rather than through travel agents; trimming overhead costs by using lower cost out-of-town airports, no printed tickets, seat allocations, or free meals and drinks; efficient operations i.e. fast turnaround times for aircraft to improve utilization; and no exceptions policies to reduce the cost of handling exceptions (e.g. no flexibility for passengers who arrive late). Cost economies can also be realized from large scale operations. However, it is important to note that as soon as more firms strive to become the cost leader, rivalry become so fierce that the consequences for the profitability in the industry are disastrous.

Differentiation Advantage

It occurs when customers perceive that a business services offering is of higher quality, involves fewer risks and/or outperform services offered by competitors. In other words, customers perceive the service offered by a business to be superior. For example, differentiation may include a firm's ability to deliver services, and other factors that provide unique customer value. BA is a multinational passenger airline. It can adopt a differentiation approach by offering passengers a higher-quality experience than many of its rivals. This allows it to charge a premium for its flights compared to many other airlines.

A differentiation advantage can be achieved by offering enhanced features such as prime landing slots can be obtained at major airports around the world; using superior and advance technology; well-maintained, clean, and comfortable aircraft; training in customer care and the recruitment of high-quality staff; providing complementary

services such as in-flight entertainment, high-quality food, and drink. Customer value can also be increased by *subjective features* such as brand image, advertising based on quality of service provided. However, differentiator cannot ignore its cost position. If costs are too high the premium price are nullified.

On successfully differentiated its offering, management of BA may exploit the advantage in one of two ways viz., either increase price until it just offsets the cost of improvement in customer benefits, thus *maintaining* current market share; or price below the "full premium" level to *build* market share.

Alternatively, BA may focus on geographical region and short point to point flights to reduce costs. Michael Porter enlightens focus as attaining low cost or product differentiation for a *particular* buyer group, segment of product line, or geographic market rather than for the industry as a whole. The focuser can attain competitive advantage within a niche, because large firms are either not attracted to niche or have ignored the potential. The narrow focus in itself though is not adequate for a competitive advantage. The firms need to optimize the strategy on two variants: cost focus and differentiation focus. One risk of a 'focus strategy' is that broadly targeted competitors devastate the segment once it becomes economically attractive.

In addition, the currency depreciation is hitting Airlines harder and international overhead costs have risen, the BA should attempt to increase the number of internal domestic flights. Moreover, ATF cost can also be lowered by investment in fuel saving modern Airbuses, however, the reduction in operating costs may outweigh the capital equipment costs.

To gain competitive advantage BA may also assess Value Shop Model. Value Shop generates value by organizing resources (e.g. people, knowledge, and skills) and deploying them to solve specific problems, for example, delivering airline services to the passengers or delivering a solution to the business problem. Shops are organized around making executing decisions- identifying and assessing problems or opportunities, developing alternative solutions or approaches, choosing one, executing it and evaluating results.

In this way, the above discussed strategies may be more appropriate for helping BA in achieving superior performance and competitive advantage over its competitors.

Concept in Practice

Southwest Airlines (SA) targeted on a geographic region and short point-to- point flights to reduce costs. Even though it offered no-frills service (no-frills or no frills service is one for which the non-essential features like food, entertainment, printing of boarding pass etc. have been removed to keep the price low) and was based in secondary airports, SA improved quality relative to the *limited set of competing alternatives* by offering direct flights rather than connecting flights requiring changing planes at large hub airports. The SA also offered better on-time performance and friendly amenities.

2. Analysis of the operating data of the "made to order" at the business store revealed the following:

Production Performance:

(i) Modifications to orders: This company has to bear the cost of modification / replacement of the garment incurred on account of error in its order taking or manufacturing process. Therefore, orders needing such modification should be kept at the minimum. Such instances were higher than 10% in the first three months. With experience, either in the order taking process or manufacturing process, these errors have reduced substantially in the later months. The managers of the order taking and manufacturing departments need to understand and constantly keep track of these errors in order to keep them at a bare minimum. Management may want to set a benchmark, financially in terms of the cost of modification and non-financially in terms of the acceptable threshold for such instances. Monthly tracking of this metric will help detection of errors earlier.

(ii) Production downtime: Production downtime normally occurs either due to break down of machinery or plant maintenance. It is unproductive time, reducing the machine's capacity. It must be kept minimum. Downtime hours have been steadily increasing in the past 3 months, the overall monthly average being 91.67 hours. The production manager has to analyze and take corrective action at the earliest. Urgency of the issue can be compounded by the fact that sales orders under the "make to order" model have been increasing steadily over the last few months. In the latest month, 38% of the overall sales was from this model. Therefore, the production capacity should be utilized optimally to ensure ability to meet delivery deadlines.

(iii) Labor Idle time: Labor Idle time due to unavailability of material is another unproductive waste of resource. The procurement department can address unavailability of material. On an average 20.5 hours of labor time is idle due to unavailability of the appropriate material. Appropriate steps with suppliers can lead to agreements to ensure seamless supply of material when required. This will enable the company to meet delivery deadlines given to customers.

Delivery Cycle Performance:

(i) On-time delivery: The orders need to be delivered to the store within 3 working days of placing order. The customer picks up the order from the store. Speed of delivery is critical to the company. Any delay beyond this timeline, the customer benefits by a 5% reduced price on the order as compensation for delay. Prompt delivery is also the company's selling point to attract customers, who would otherwise patronize its rivals. On an average 5% of the orders are not delivered within time. Therefore, average delivery success rate is only 95%. The management has to take steps that this is kept to the minimum in order not to stem loss of revenue as also to build brand loyalty with the customer base.

Customer Satisfaction:

(i) Repeat orders by customers: Prompt, quality delivery of the customized order would ensure that customers return in future with further orders. Statistics shows that repeat orders have steadily increased, which is a very positive signal to the management. Initially, only 4% of the customers under this model placed repeat orders. This increased substantially. Now almost 63% of the customers who purchase under this model come back with more orders!

(ii) Sales mix: Popularity among customers for customized services is further validated by the steady increase in the ratio of such sales to the overall sales of the company from the factory outlet. Now, this model generates an average of 28% of the total sales from the outlet, with a likely projection of having a higher share in the overall sales mix. Therefore, the "make to order" model can be termed a success.

Workings

Metric	Month						Monthly Average
	1	2	3	4	5	6	
Production performance							
Orders needing modification on account of errors in order taking or manufacturing process (% of sales orders made under "made to order" model)	15%	12%	10%	8%	5%	4%	9%
Production downtime (hours)	44	88	22	141	132	123	91.67
Labor idle time due to unavailability of material (hours)	25	22	17	13	24	22	20.50
Delivery cycle time							
Orders delivered beyond the 3 working days timeline (% of sales orders made under "made to order" model)	5%	4%	3%	6%	7%	5%	5%
Customer satisfaction							
Repeat orders by customers availing this facility (% of customers giving repeat order / total customers availing "made to order" facility)	4%	21%	33%	54%	60%	63%	39.17%
Ratio of "made to order" to total sales from the factory outlet (Ratio of sales value)	16%	22%	25%	32%	34%	38%	28%

3. In case of X, there is a **cost gap of Rs. 78.22**. Where a gap exists between the *current estimated cost levels* and the *target cost*, it is essential that this gap be closed. Cost gap

can be removed by ***reducing the cost over all the Value Chain*** through the development of the spirit co-operation and understanding among all members of organizations associated with the product from suppliers, producers, customers, agents and service providers.

In Xs Value Chain, three primary activities are:-

Inbound logistics

These are activities concerned with receiving, storing and distributing the inputs (raw material) to the production process. The *relationship with supplier* is a key component in this process. Currently, X procures materials from multiple suppliers and stores these materials in its store. **Shifting to a just-in-time (JIT) system technique** in procurement of materials could possibly save substantial storage costs provided the JIT supplier must agree to take the responsibility for the good quality of materials supplied. This will also become a source of savings because downgraded items will be removed. However, X might have to pay additional payout to a supplier for JIT purchasing to work.

Outbound logistics

These activities involve collecting, storing and distributing the products to the customers. At X, scheduled transportation of toys to retail outlets is outbound logistics activity. Potentially, the scheduled transportation of toys to retail outlets every week is not an efficient way. Such deliveries do not consider whether toy is required at retail outlets or not, hence X may possibly deliver toys to retail outlets those do not need toys and suffer unnecessary transportation costs.

X should plan to **implement EDI system** that will help it to improve warehousing and logistics by automatically tracking inbound shipments as well as outbound products. Adopting EDI, X can not only improve processes but also streamline inventory management across many channels. However, it will require setup time and a learning curve to implement the same.

Marketing and sales

Marketing and sales provide the means by which the customers are made aware of the product. At X, the sales of toys via its retail outlets and website are marketing and sales activities.

X is planning to sell 'Ty-Z' via retailers. If X **sales 'Ty-Z' through its website** rather than through retail outlet, significant cost could easily be avoided. Simultaneously, X will be able to expose itself to **attract international customers** to buy 'Ty-Z' as product is based on character from a famous international animated film.

Overall, X may create a *cost advantage* by **reconfiguring** the Value Chain. Reconfiguration means structural changes such a new production process, new distribution channels or a different sales approach as discussed above.

Workings

Statement Showing Computation of Cost GAP

	₹
Sales Price	1,750.00
Less: Royalty @10%	175.00
Less: Profit @26%	455.00
Target Cost 'Ty-Z'	**1,120.00**
Material C	150.50
Material D	122.50
Labour (0.40 hours at ₹1,050 per hour)	420.00
Other Material (0.70 kg × ₹280 per kg) / 0.95	206.32
Production Overheads Cost	132.30
Distribution and Sales Cost	166.60
Estimated Cost 'Ty-Z'	**1,198.22**
Cost Gap	**78.22**

4. (i) Statement Showing Machine Hours

Product	Maximum Demand	Machine Hours/ Unit	Total Machine Hours
Z	2,000 units	1.6	3,200
D	1,600 units	0.8	1,280
Total machine hours required to meet maximum demand			4,480
Machine hours available			4,000
Shortage of machine hours			480

'Machine hours' is the bottleneck activity.

Statement of Ranking

Particulars	Z	D
Selling Price *per unit*	₹16,000	₹4,000
Less: Material Costs *per unit*	₹7,000	₹1,200
Throughput *per unit*	₹9,000	₹2,800
Machine Hour Required *per unit*	1.6	0.8

Throughput Return *per hour*	₹9,000/1.6 = ₹5,625	₹2,800/0.8 = ₹3,500
Throughput Accounting (TA) Ratio (throughput return per hour/ cost per factory hour)	5,625/3,565 =1.58	3,500/3,565 =0.98
Ranking	I	II

Cost per factory hour = ₹1,42,60,000/ 4,000 hrs. = ₹3,565

Optimum Production Plan

Product	No of units	Machine hr. per unit	Total Machine hrs.	T/P per hr. ₹	Total T/P ₹
Z (online orders)	400	1.6	640	5,625	36,00,000
D (online orders)	1,200	0.8	960	3,500	33,60,000
Z	2,400/1.6 =1,500	1.6	2,400 (b/f)	5,625	1,35,00,000
Total					2,04,60,000
Less: Total Factory Costs					1,42,60,000
Profit					62,00,000

(ii) Had there been no online booking first product Z should be produced = 2,000 units using 3,200 machine hours (2,000 × 1.6). Because of online booking already accepted for 1,200 units of product D, unfulfilled demand of product Z = 2,000 - 1,900 = 100 units.

Machine Hrs. Required for 100 units of Z (100 × 1.6)	160 hrs.
Throughput Lost for Product Z (160 hrs. × 5,625)	₹9,00,000
Throughput Return Earned for Product D (160 hrs. × 3,500)	₹5,60,000
Throughput lost	₹3,40,000

(iii) Recommendation

Option-1

Throughput accounting ratio is the throughput return earned in an hour divided by the factory cost (labour and overheads) incurred by the factory in one hour. Factory cost is generally fixed in nature. *A ratio above 1 signifies that the throughput return is greater than the factory cost and therefore the product is profitable.* Product Z has a throughput accounting ratio of 1.58 while Product D has a throughput accounting ratio of 0.98, this indicates that hourly return from Product A can cover the hourly factory cost,, it is profitable. Product D does not yield enough hourly

return to cover the hourly factory cost, it is not profitable. Therefore, ZED should consider ways of ***improving throughput accounting ratio of Product D (i.e. above 1.0)***. TA ratio could be improved by:

- Increasing the selling price of the Product D but the demand may fall.
- Reducing the material cost per unit as well as operating costs. However, there may be quality issues.
- Improving efficiency e.g. increase number of units that are made in each bottleneck hour.
- Raising up bottleneck so that more hours are available of bottleneck resource.

Option-2

ZED has to ***prioritize production of Product Z*** since it is more profitable than Product D. As per the throughput accounting ratio, Product D does not yield sufficient return per hour to cover the hourly overhead cost therefore, gets second priority over Product Z.

Since machine hours are the bottleneck, if production for entire 4,000 hours is focused on Product Z, return yielded would be sufficient to cover the factory overheads. However, Product Z has a maximum demand of 2,000 units, that requires 3,200 machine hours (2,000 units × 1.6 hours per unit of production). Remaining 800 machine hours can be devoted to Product D, during which 1,000 units can be produced (800 machine hours / 0.8 hours per unit). Maximum demand for Product D is 1,600 units. Therefore, the balance demand of 600 units of Product D will remain unsatisfied.

However, to meet unsatisfied demand of Product D, ZED may consider the ***option of sub-contracting either a part of whole of the production of Product D***. This way it can meet the entire demand for Product D for 1,600 units. If it subcontracts the entire production of Product D, it can also scale down its in-house capacity. Sub-contracting decision requires suitable cost benefit analysis. Moreover, the risk associated with outsourcing like unsatisfactory quality and service or failure of supplier cannot be ignored.

Overall, to enhance profitability or avoid any type of loss of profit, ZED may consider the options recommended above with a *long term perspective*.

(iv) Pricing of a product is sometimes customized keeping taste, preference, and perceived value of a customer into consideration. Price customization is done in the following ways:

- *Based on product line:* When products are customized as per the customer's requirements, pricing can be adapted based on the customer's specifications.

Standard products can have a base price, to which the company can top-up charges to any additional customization.

- *Based on customer's past behavior:* Customers with good payment record have established their credit-worthiness. To sustain business, they may be extended additional discounts as compared to other customers.
- *Based on demographics:* Different pricing strategies may be adopted based on age or social status. For example, railway fare discounts for senior citizens or concessional price tickets for military personnel.
- *Based on time differential:* Different price for different time periods. If a customer extends a long-term contract, an additional discount may be extended since business is contracted for a longer period of time. Example, discounted price for data usage provided by a broadband service provider if subscription paid for six months or more.

Apart from the above accounting principles, other macro economic and legal factors should also be given importance while chalking out a pricing strategy.

(v) The life-cycle of a product has 4 stages namely Introductory stage, Growth stage, Maturity stage and Decline stage.

Product Z is given to be in the maturity stage. This third stage of product life cycle is characterized by an established market for the product. After rapid growth in sale volume in the previous stages, growth of sales for the product will saturate. Competition would be high due to large number of rivals in the market, this may lead to decreasing market share. Unit selling price may remain constant since the market is well established. Occasional offers may be used to tempt customers, otherwise this stage will mark consolidation of the market.

Product D is in the introduction stage, the first stage of product life cycle. Penetration pricing is adopted to charge a low price in the initial stage for penetrating the market as quickly as possible. For a new product this low price strategy will popularize the product. Once the market is established, the price may be increased. Penetration pricing will be suitable when:

(i) Demand for the product is elastic, more demand when prices are low.

(ii) Large scale production of the product yields economies of scale.

(iii) Threat of competition requires prices to be set low. It serves as an entry barrier to prospective competitors as well.

However, if Product D is a highly innovative product, it may adopt Skimming price policy. The product with unique features will differentiate it from other products leading to a revolutionary impact on market and customer behavior. Customers may

not mind paying a premium for the unique product offering. Focus may be on promoting the product to gain market share. Skimming price policy may work when:

(i) There seem to be no competitors providing similar products.

(ii) Demand is inelastic.

Over time, competitors can reverse engineer and offer similar products. Therefore, the price may be lowered in the long run to retain market share.

5. Primary goal of investor –owned firms is shareholder wealth maximisation, which translates to stock price maximisation. Management Consultant's plan is looking good for the ABC as there is a positive impact on the profitability (₹30 lacs) of the company. Also, ABC operates in a competitive environment so for its survival, it has to work on plans like above.

There is second side of coin that cannot also be ignored i.e. **business ethics**. It is easily possible to manage drawing of excess water, but it is not an ethical practice as the company has *responsibilities towards* use of natural resources like water and protecting the environment.

Besides, a whistle-blower complaint to the water authorities can land the company into trouble in terms of penalties, *a financial impact* and also such penalties are disallowed for income tax purposes. It is possible that such a violation may be reported in the media causing *disrepute to the name* of the company. It can also make *investors* in the share market stay away from the company as it has ethical governance issues. The company will face challenges in obtaining other *government approvals* when it will plan expansion as this violation may have to be reported on the applications seeking approvals.

Overall

May be ABC would able to earn profit due to this plan in *short run* but it will tarnish the image of the ABC which would hurt profitability in *long run*. Therefore, before taking any decision on this plan, ABC should analyse both qualitative and qualitative factors.

6. (i) Analysis

The product costs per unit along with the respective contribution per unit may be calculated either by employing an ABC approach or alternatively by using the existing basis for the allocation of variable overhead cost.

The current scenario of product costing suggests that 'O-2' should be produced as per the request of WIK because the contribution to sales ratio is 31.29%. However, the current scenario of product costing also suggests that OOC should not undertake production of 'O-1' at a selling price of ₹740 per unit since the estimated contribution to sales ratio is 15.88% is lower than the desired contribution to sales ratio of 28%.

Activity based costing approach ensures greater accuracy by using multiple cost drivers and determines areas generating the greatest profit or loss. Table [(d)] shows how much the contribution to sales (%) for each product changes when the overhead allocation method changes to ABC. As shown in Table, contribution to sales ratio on 'O-1' increased to 31.87% from 15.88% while contribution to sales ratio on 'O-2' reduced from 31.87% to - 29.23%.

Thus, OOC should opt to produce 'O-1' for WIK as contribution to sales ratio is 31.87 which is higher than the desired one.

(ii) The term Activity based management (ABM) is used to describe the cost management application of ABC. The use of ABC as a costing tool to manage costs at activity level is known as Activity Based Cost Management (ABM). ABM is a discipline that focuses on the efficient and effective management of activities as the route to continuously improving the value received by customers and to improve strategic and operational decisions in an organisation. Kaplan and Cooper divide ABM into Operational and Strategic.

Operational ABM covers the actions that increase efficiency, lower cost (i.e. reduce the cost driver rate of activities) and lead to higher revenue through better resources utilisation- in short, the action required to do things right. In other words, it is all about *'doing things right'*, using ABC information to improve efficiency. It also helps in identifying and improving value added activities and removing non-value added activities as to reduce cost without distorting product value.

Strategic ABM is about *'doing the right things'*. It uses ABC information to determine which products is to be manufactured and which activities is to be used. OOC can also use this for customer profitability analysis, identifying that which customers are the most profitable and focusing on them more.

A risk with ABM is that some activities have an implicit value are not reflected in a financial value added to any product. For example, a good and pleasant working environment can attract and retain the best human resources, but might not be identified as value added activities in operational ABM.

ABM provides managers an understanding of costs and helps teams to make certain decisions that benefit the whole organizations and not just their own activities.

Therefore, some companies like OOC may adopt ABM to improve their operations and obtain useful activity information.

Workings

(a) Direct Material Cost per unit

	O-1	O-2
Total Costs (₹)	22,50,000	750,000
Production units	10,000	20,000
Cost per unit (₹)	225.00	37.50

(b) Direct Labour Cost per unit

	O-1	O-2
Total Costs (₹)	15,00,000	5,00,000
Production units	10,000	20,000
Cost per unit (₹)	150.00	25.00

(c) Variable Overheads

Material Related

Overhead Cost = 30% × ₹120,00,000 = ₹36,00,000

Total Volume Factor

Particulars	Units	Required per unit	Total Volume
O-1	10,000	5	50,000
O-2	20,000	8	1,60,000
Other	80,000	5	4.00,000
Total Volume Factor			6,10,000

Overhead *per unit of volume* = ₹36,00,000/ 6,10,000 = ₹5.90.

Therefore, Overhead Cost *per product unit* will be as follows:

O-1	5	₹5.90	29.50
O-2	8	₹5.90	47.20

Labour Related

Overhead Cost = 70% × ₹120,00,000 = ₹84,00,000

Total Operations Factor

Particulars	Units	Required per unit	Total Volume
O-1	10,000	7	70,000

O-2	20,000	6	1,20,000
Other	80,000	5	4,00,000
Total Operations Factor			5,90,000

Overhead *per operation* = ₹84,00,000/ 5,90,000 = ₹14.24.

Therefore, Overhead Cost *per product unit* will be as follows:

O-1	7	₹14.24	99.68
O-2	6	₹14.24	85.44

(d) Product Information (by unit) is as follows:

Particulars	**O-1**		**O-2**	
	Current Scenario	**ABC Basis**	**Current Scenario**	**ABC Basis**
Selling Price …(A)	740.00	740.00	151.00	151.00
Direct Material Cost	225.00	225.00	37.50	37.50
Direct Labour Cost	150.00	150.00	25.00	25.00
Variable Overhead Cost:				
Material Related	90.00	29.50	15.00	47.20
Labour Related	157.50	99.68	26.25	85.44
Total Variable Cost …(B)	622.50	504.18	103.75	195.14
Contribution …(A) - (B)	117.50	235.82	47.25	(44.14)
Contribution to Sales (%)	15.88	31.87	31.29	(29.23)

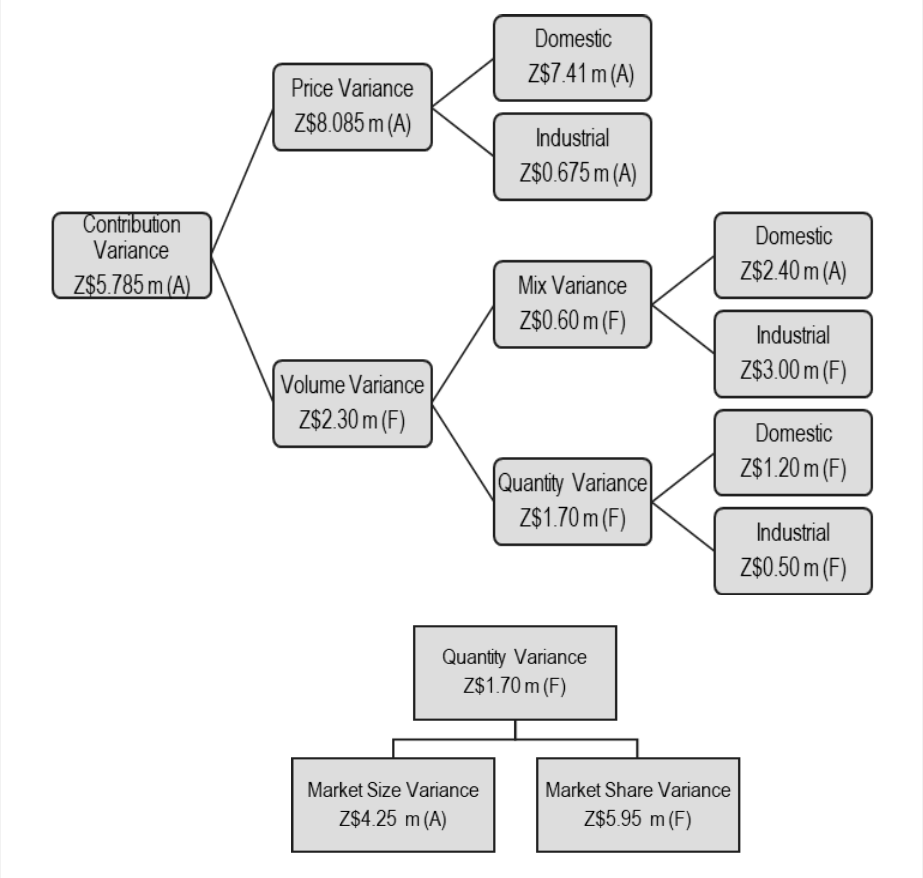
☞

Total Variable Overheads are 120L. Out of which 30% i.e. 36L relates to material and 70% i.e. 84L relates to Labour. Now allocate variable overheads into product units using % of total direct material cost and total direct labour cost.

VO Material Related	40% of Material Cost
	₹{36L/ (22.5L + 7.5L + 60L)}
VO Labour Related	105% of Labour Cost
	₹{84L/ (15L + 5L + 60L)}
	O-1 & O-2
VO Material Related	₹90 = 40% of ₹225;
	₹15 = 40% of ₹37.5
VO Labour Related	₹157.5 = 105% of ₹150;
	₹26.25 = 105% of ₹25

7. (i) Analysis of Variances

It can be seen that total unit sales increased by 40,000 rolls resulted in a favorable volume variance. Therefore, a potential increase of Z$2.3 m in contribution margin was achieved as a result of change in sales volume compared with budgeted volume. The volume variance is further divided into a mix and quantity variance. In the case of ZM, mix variance came out to be Z$0.60 m favorable and the quantity variance came out to be favorable Z$1.70 m. Favorable mix variance Z$0.60 m indicates that the sales mix shifts toward the industrial flooring rolls i.e. high contribution product. ZM sold 40,000 more rolls than were budgeted, resulting in Z$1.70 m favorable quantity variance. Therefore, it is necessary to identify the reasons behind the increase in sales. The reasons may be competitor's distribution issues, better customer services, or growth in overall market. Further insight into reasons of quantity variance can be gain by analyzing market share and size variances. ZM gain 2 market share percentage points from 10% budgeted share to the actual share of 12%. The Z$5.95 m favorable market share variance may be the effect of the decline in *contribution margin rate*. The impact of changing market size on contribution margin can be traced through market size variance. Market size variance is Z$4.25 m adverse as actual market size decreased 12.5% compared to budgeted market size. Further, it appears that accountant has missed to compute the *price variance* which is a substantial part of the analysis. If we look closely at the data given, the price variance for domestic as well as industrial roll can be computed without difficulty. The price variance for domestic flooring rolls as well as industrial flooring rolls is unfavorable; this indicates that the both varieties were sold a lower margin than standard. This throughout analysis shows a negative impact of Z$ 5.785 m on contribution margin for which price variance is the main contributor. Revised structures after the computation of price variance are as under:



Workings

Contribution Price Variance

Product	Actual Qty. (units'000)	Actual Contribution per unit (Z$)	Standard Contribution per unit (Z$)	Difference (Z$)	Variance (Z$)
Domestic	570	27.00	40.00	-13.00	7.41 m (A)
Industrial	270	47.50	50.00	-2.50	0.675 m (A)
Total	840				8.085 m (A)

(ii) Strategic Inputs

The actual sale of industrial flooring rolls is 35% higher than projections. However, actual contribution margin of Z$47.5 is *marginally lower* than standard contribution margin of Z$50 per unit. This indicates that ZM may have *cut its selling price to*

maintain or gain market share. Therefore, industrial flooring rolls are in the **Growth Phase** of product life cycle. Due to increase in demand, there is a possibility of higher sales and profits to be made in future years.

Similarly, the actual sale of domestic flooring roll is 5% lower than the expectations. However, actual contribution margin is Z$27 per roll i.e. 32.5% lower than the standard contribution margin. This indicates that ZM may have sold these at *substantially reduced price* to maintain the sales volume. Therefore, the domestic residential flooring rolls might be in the **Decline Stage** of product life cycle.

The market size for flooring rolls has reduced from an expectation of 80 lacs rolls to 70 lacs rolls. Therefore, the market size has shrunk significantly by 12.5% for the year 2019. This is a *threat to profitability* of business. The management has to understand the reasons behind this shrinkage. For example, dwindling demand maybe on account of cheaper substitutes available for flooring rolls. The management has to take cognizance of this threat to business. A positive for ZM is that its actual market share for flooring rolls was higher than expected at 12%. An increase in market share would have a beneficial impact on the company's profitability. Also, despite the shrinkage in market size, demand for industrial flooring rolls seems to be on the rise. This could be an *opportunity* for the management to consider.

As explained above, the industrial flooring rolls seem to be in the Growth Stage of product life cycle, while the domestic residential rolls are in the Decline Stage. Industrial flooring rolls have a higher contribution margin per roll as compared to domestic residential rolls. Accordingly, ZM may consider *phasing out domestic flooring rolls* and *concentrate on industrial flooring rolls*. In view of shrinking market conditions, it would be more profitable to phase out the weaker product and concentrate on the fast moving and profitable product. At the same time, since domestic flooring roll still has *significant demand*, the strategy to phase out this product may have to be done in a *phased* and *well-planned manner*. In view of the shrinking market size, ZM should not end up losing its market share due to phasing out domestic flooring rolls.

For Your Conceptual Understanding

"Budgeted Vs Actual Figures"

Product	Budgeted Qty. Rolls ('000)	Standard Cont. *per Roll* (Z$)	Budgeted Cont. (Z$' in millions)	Actual Qty. Rolls ('000)	Actual Cont. *per Roll* (Z$)	Actual Cont. (Z$ 'in millions)	Revised Actual Qty. ('000)
Dom.	600	40	24.00	570	27	15.390	630 (840×75%)
Ind.	200	50	10.00	270	47.5	12.825	210 (840×25%)
	800		34.00	840		28.215	840

Contribution Mix Variance

Product	Standard Contribution per unit (Z$)	Actual Qty. (units'000)	Revised Actual Quantity (units'000)	Difference ('000)	Variance (Z$)
Domestic	40	570	630	-60	2.40 m (A)
Industrial	50	270	210	+60	3.00 m (F)
Total		840			0.60 m (F)

Contribution Quantity Variance

Product	Standard Contribution per unit (Z$)	Revised Actual Quantity (units'000)	Budgeted Quantity (units'000)	Difference ('000)	Variance (Z$)
Domestic	40	630	600	+30	1.20 m (F)
Industrial	50	210	200	+10	0.50 m (F)
Total		840			1.70 m (F)

Market Size Variance

= Budgeted Market Share % × (Actual Industry Sales Quantity *in units* – Budgeted Industry Sales Quantity *in units*) × (Average Budgeted Contribution *per unit*)

= 10% × (70,00,000 Rolls – 80,00,000 Rolls) × Z$ 42.50

= Z$ 4.25 m (A)

Market Share Variance

= (Actual Market Share % – Budgeted Market Share %) × (Actual Industry Sales Quantity *in units*) × (Average Budgeted Contribution *per unit*)

= (12% – 10 %) × 70,00,000 Rolls × Z$ 42.50

= Z$ 5.95 m (F)

8. In this case we can see that there are two considerable sides of the question one is customer satisfaction and another one is profitability. By adopting the proposed plans firm manage to get higher customer satisfaction score card and it is expected that with high customer satisfaction, the firm's financial result will improve i.e. increase ROA. However, increasing the customer satisfaction is costly. Plans which are used to increase customer satisfaction will increase the cost of the firm. This additional cost will weaken the firm's ROA by lowing profit and increasing the asset base. The optimum level of customer satisfaction is where the incremental benefits are equal to incremental costs of increasing satisfaction.

While observing the pattern of data, the customer satisfaction has increased from 86 points to 91 points in first three quarters of 2019. At this level, the additional benefits seem to more significant than the additional cost. However, in subsequent quarters, additional cost has increased more rapidly than the additional benefits. Therefore, there is decrease in ROA as we move forward on the index. However, toward the end of 2020, we see a marginal increase in ROA. This is due to the ***lead-lag relation*** between satisfaction and ROA. Increased satisfaction might take some more time, some more quarters to result in higher ROA and the relation might not be linear. However, toward the end of 2020, the customer satisfaction score stabilizes at current levels (93-96 points).

Overall, Kristin should not stop investing in superior customer experience, the lack of apparent pattern in customer satisfaction and profitability could stem from several causes as discussed above. Instead, firm should take decision considering current satisfaction levels, the cost to increased satisfaction, and perception of the increased benefit. Moreover, the firm should also consider the current sales, otherwise it might lose its share to competitor if they do nothing!

9. Statement Showing Performance

	July	Aug	Sep
Advertisement cost as a percentage of donation	2.5%	4%	3%
Target percentage of Advertisement cost of donation	3%	3%	3%
Welfare cost as a percentage of donation	82%	84%	89%
Target percentage of welfare cost as a percentage of donation	85%	85%	85%
Respite care provided	80%	87.98%	92%
Target percentage of respite care	90%	90%	90%

Comment

Total donation received ₹31,00,000 (=₹7,00,000+₹13,00,000+₹11,00,000) have exceeded the target ₹30,00,000. Though there is no fix trend of receiving fund while it is noticeable that there were special fundraising activities in Aug which generated highest receipt.

Advertisement costs have been within the target of 3% in July and Sep but exceeded the target in Aug, more information is needed to establish why this occurred.

For the month of July and Aug the welfare cost are less than the target, while for the month of September Olderhelp have exceeded the target of expenditure of cost.

The improvement in the respite care provided by Olderhelp has been steady and for the month of september the target has exceeded.

10. Higher contribution margin ratio exhibited by firm WD indicates that firm WD is following a ***differentiation strategy*** while firm WG appears to be more focused on cost leadership. This is also substantiated by higher fixed costs i.e. R&D, innovation etc. for each sale ₹ in firm WD.

Innovation allows a firm to command premium prices and earn more contribution per sales ₹. However, innovation is expensive.

	Firm WD	Firm WG
Contribution margin/ Sales	0.55	0.40
Fixed costs/ Sales	0.35	0.30
Profit margin/ Sales	0.20	0.10