

Chapter 7 – Performance Measurement & Evaluation

Case Study 2 – Building Block Model

Bhalla & Singh LLP (BS LLP) is an accounting firm in form of limited liability partnership with 20+ branches across India, in all major cities. BS LLP offers to its customer services in accountancy, assurance, tax consultancy, business advisory services. Since the country is passing through economic slowdown, hence large numbers of business are entering into either internal/ external reconstruction; resultantly advisory services are in huge demands. The industry of accounting practices in India is mature, despite some of statues enforced recently.

As part of performance analysis, at BS LLP; partners for each service domain collectively meet with top officers, on monthly basis. Following performance related data (belong to latest financial year) was considered in one of recent conducted partner meeting.

Particulars for BS LLP	Accounting	Audits	Tax Consultancy	Business Advisory
Revenue (In Crores)	690	846	145	34
Growth of revenue over previous year	2%	9%	3%	18%
Net profit ratio	5%	4.3%	6.7%	9.8%
Revenue (In Crores) of Accounting Industry as whole	2,518	5,430	1,652	286

Remuneration Structure at BS LLP

- Partners are getting fixed contractual payment apart from share in profit.
- Non – Partners are getting fixed salary apart from variable pay depending upon rating from their immediate boss and peers.

Client Relation Officer who is working parallel to marketing team, first time participated in monthly performance evaluation meeting and presented following data which contain rating from clients of BS LLP. It is decided that these rating will also be added in performance matrix/ table stated above–

Particulars for BS LLP	Accounting	Audits	Tax Consultancy	Business Advisory
Customer Ratings (higher the better)	3.6	3.2	3.1	4.5

Required

You are newly appointed management consultant with experience in non-finance performance evaluation techniques. During discussion at lunch table, managing partner (Mr. Singh) explain the above process of performance analysis to you. You quoted about your past experience of implementing non-financial performance evaluation techniques, including Performance Prism, Balance Scorecard and Building Block. Building block sounds interesting to Mr. Singh, he asks you to:

- LIST essential components of any performance management system.
- DESCRIBE Building Block Model of performance management.
- EVALUATE the BS LLPs' existing performance management system from perspective of 3 essential aspects of Building Block Model.
- ADVISE the main improvements that introduction of a Building Block approach can bring to BS LLPs' performance management system.

Solution

i. Essential Components of Performance Management System

Performance management system which is considered as a key aspect of management accounting and must contain following components–

- Establishing functional and divisional organisation's structure along with determination the level of decentralization.
- Establish responsibility centres and identify the person responsible for performance of each such centre.
- Establishing the system to identify KPI against which performance will be measure and establishing the yardsticks.
- Review system in order to compare the actual against standards and required corrective action.

(ii) Building Block Model

Building Block model of performance management is developed by Fitzgerald and Moon as a framework to improve performance measurement in service businesses.

The model suggests that performance systems should be based on three concepts: dimensions, standards, and rewards.

Dimensions (these are critical success factor) - There are six areas upon which company needs to focus in order to improve its performance. The model also suggests that the dimensions can be divided into two sets–

Results – Competitiveness & Financial Performance.

Determinants – Quality of Service, Flexibility, Resource Utilization and Innovation.

Note – Improvement in results can be ensured by improving performance in determinants.

Standards (these are key performance indicator) - Second aspects of Building Block Model are to establishing the standards or determining the yardstick level. Model also suggests the three properties which must be possessed by performance measure, these properties are–

- Ownership,
- Achievability and
- Fairness.

Rewards - In order to encourage the workforce, so that they can achieve the standards established; model also suggests three properties which every reward should possess. These properties are–

- Clarity,
- Controllability and
- Motivation.

(iii) Evaluation of Existing Performance Management System

The existing performance management system at BS LLP doesn't focus upon determinants specified by Building Block Model. Prima facie it is apparent from the performance matrix used by partners in

their monthly meeting that performance is evaluated based upon financial performance only. Let's evaluate existing performance management system further–

Dimensions

The existing performance management system at BS LLP is allowing to consider the results in reference to: (i) Financial performance - it measures net profit margin and change/ increase in revenue over previous year and (ii) Competitive performance – revenue of BS LLP can be compared with industry revenue (segment wise) to calculate market share.

The matrix used by existing performance management system doesn't contain any major information from which performance level of determinants can be measured. But recently at BS LLP customer rating is used, which can be taken as KPI for quality of service.

Standards

Presently it seems BS LLP is measuring segment wise performance against performance of industry (based upon revenue) apart from measuring net profit and growth.

Ownership - Since organisation structure is not clearly defined in the case above, hence ownership for each of dimension stated above can't be identified in existing performance management system.

Achievability & Fairness – In order to ensure achievability of standard established and fairness of same, presently it seems BS LLP is measuring segment wise performance against performance of industry (based upon revenue), whereas measure net profit and growth against standard established internally.

Reward System

Although non-partners at BS LLP are getting variable component of their remuneration/ rewards based upon their rating by immediate boss and peer, but the criteria of rating are not clearly defined and weight is also not mentioned for boss rating and rating by peer. If such criteria are not ration may cause de-motivation among staff.

Whereas partners are getting fixed remuneration apart from share in profit earned. Here in given case it is not clear whether profit of respective division or entity as whole, BS LLP. It is obvious that, if partners are getting reward based upon measure, which they can't control they may be de-motivated. This may also not improve the performance of bad performing division, because they are also getting reasonable amount as share in profit due better performance by other departments.

(iv) Advise to Improve the Performance Management System

First and foremost, improvement will be consideration of all the dimensions of performance as per building block ensuring that all the critical success factors for performance should be measured. This will help BS LLP considering the importance of flexibility, resource utilization and innovation.

Flexibility is important from the prospective from delivery of service, the manner and timing and of delivery.

Since staff is the key resource at BS LLP, hence essential it is to ensure optimum and effective resource utilization. In order to measure the productivity of the staff, hour charged as percentage of total available hour/ total hour paid can be computed. This ratio will also signify the peak and off period.

Although the scope of innovation is not much available in accounting firms, but still use of IT tools can improve the utility for client. Moreover, innovation can be seen as offering new range and category of services.

Further, while identifying the parameter for evaluating performance; the Building Block model will help to set the standards against which performance is needed to be measured. Such standard should be achievable and fair, which should encourage the motivation among staff. Such standard may be financial and non-financial. Building Block Model will not only set the fair standard, but also help in establishing the mechanism that how such standard should be established.

Building Block will also help in reviewing the rewards system, in order to motivate both Non-Partner Staff and Partners at SB LLP. Reward should be based upon those criteria for which worker is responsible or has control, so partner at SB LLP must get the share in divisional profitability and non-partner worker must get the variable based upon their productivity (which can be measure either by self-appraisal or 360o degree).

Case Study 5 – Non-Financial Performance Indicators

Marcus Neo-Fashion Limited (MNFL) is leading brand in fashion world. Company is dealing in both fabric and readymade garments. Since the company was established long ago, hence has well established SOPs. Management at MNFL is highly concerned with performance and productivity.

In order to determine and appraise the performance, MNFL conducts fortnightly meeting of heads of different responsibility centres apart from quarterly master meeting. In master meeting each of such departmental head need to present report for his department on following aspects–

Performance Matrix Dashboard at MNFL

Criteria	Indicators
I	Average Capital Employed in department with detailed information of source and nature (working or permanent capital)
II	Revenue and Earnings
III	Output (in terms of no of units and per employee productivity)
IV	Existing Clients and New Customer added with data on market share

In one of recent such master meetings, which was chaired by CEO, newly appointed VP-HR quoted ‘Intellectual capital is as critical as financial capital in order to ensure smoothening, success and sustainability of any business’ hence employee where so ever lagged in technical skills, it is essential and important to work on his skills in order to enhance the productivity. VP-HR said at MNFL ratio of skilled, semi-skilled and unskilled worker are 1:2:6, which needs to be worked at. He also insists to roll-out new wage policy which should support ‘Performance Related Pay’. He said, ‘I don’t know much about enterprise performance, but I strongly believe that performance indicators must include performance of employees in term of their skill and knowledge’.

Immediately VP-Finance said existing performance matrix is essentially focused EV/ EBIT and returns on capital hence sufficient from prospective of performance appraisal. Hence there is no major need to consider impact and effect of human capital. He also added that entities revenue is growing @ of 14% and earning is growing at 12% which 4% on higher side then industry. He said present rate of ROI is 11.5% which is better than industry average of 9%; and Market Cap is also doing well.

VP-Finance countered by VP-Planning & Operations, according to him 'skilled labour will be added advantage in order to develop 'zed' culture i.e., zero accidents, zero defects, zero delays, zero inventory, zero breakdowns, zero changeovers, zero waste'. He also said skilled labour can also add value by incorporating innovations. He quoted presently average defect rate is 1.5% of total production.

On this VP-Marketing add 'skilled employee means better process and better processes leads to competent value chain which can serve highly customised product; hence preconceived quality (conformance to customers' need) leads to strong brand equity.

Chief Information officer support VP-Marketing and VP-HR by quoting the position of brand can be improved by product development. Newly developed product will meet and set, latest style statement in market; eventually help MNFL to acquire new customers within existing marketing without incurring much on advertisement or sales and promotion. Skilled labour can easily bring innovation to the product.

Required

Post conclusion of meeting, CEO requested you (Management Accountant) to–

- i. DESCRIBE performance management indicators.
- ii. DISCUSS need of non-financial performance indicators at MNFL.
- iii. TABULATE role of non-financial performance indicators considering the indicator or measures suggested by VP-HR and Chief Information officer.
- iv. Briefly EXPLAIN different models of non-financial performance indicators that MNFL can apply.

Solution

(i) Performance Management Indicators

Performance Management System plays a key role in developing strategy; it is require measuring the current performance and establishing standard. For performance measurement, certain indicator can be established & such indicator may be–

- Financial Performance Indicator e.g., ROI, EPS and EBITDA
- Non-Financial Performance Indicator e.g., Balance Scorecard Performance indicator having objectives of
 - Evaluating the achievements of organisation objective
 - Compensate manager

(ii) Need of non-financial performance indicators

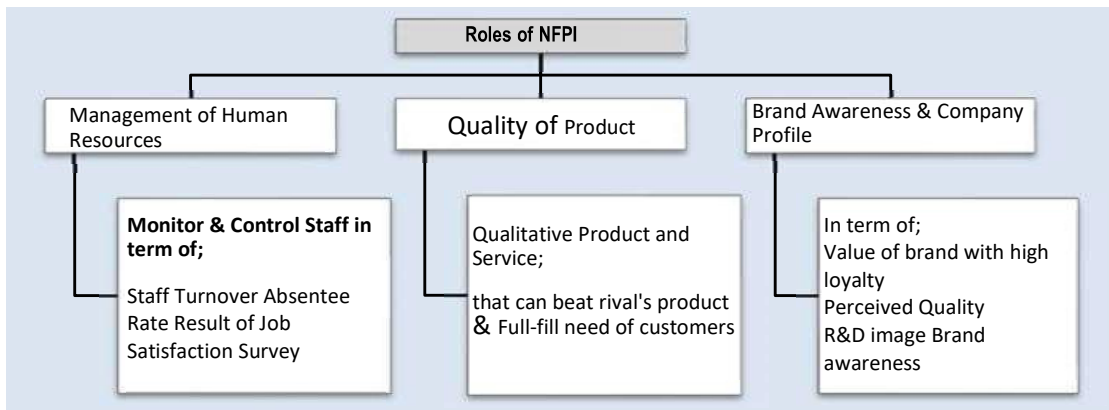
Since financial performance indicators are profit oriented only, but strategy needs to be sustainable apart from profitable. Hence in order to overcome the inadequacy and unjustifiable nature of financial performance indicators, non-financial performance indicator need also to be used. Hence opinion framed by VP-Finance is not tenable that revenue and earnings growth of 14% and 12% respectively, apart from ROI is 11.5% is sufficient to evaluate performance.

Non-Financial Performance Indicators are sustainable action-based indicators. For example, employee training/ health & safety will increase the profit & let them feel empowered, hence NFPIs are equally important to consider. Similarly putting effort in research and development to yield innovative product will result in high brand image & high intellectual property rights.

(iii) Role of Non-Financial Performance Indicator (NFPI)

As already stated, Non-Financial Performance Indicator consider non-monetary aspects of performance such as–

- Skill, Attrition and Job Satisfaction of Human Resource
- Quality of Product
- Brand Equity



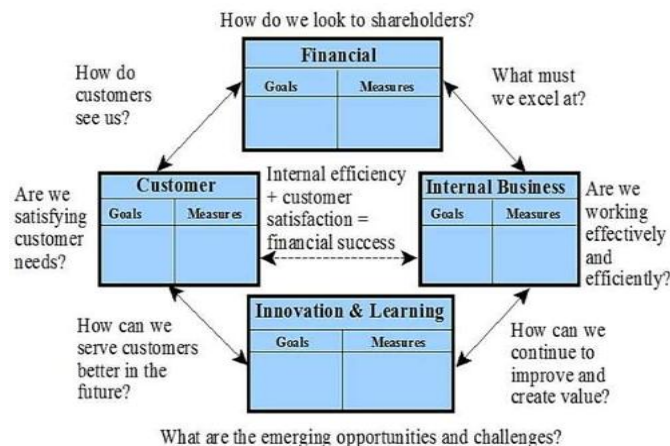
(iv) Different Models of Non-Financial Performance Indicators that MNFL can apply

Top bosses at MNFL wish to consider non-financial indicators apart from financial indicators, hence following models of non-financial performance indicators can be applied–

Balanced Scorecard (By Robert Kaplan and David Norton in 1990)

Balanced Scorecard can equip, MNFL with a management system (which is more than just measurement system) that is better, in terms of ensuring availability of information to business manager to make better decision and evaluation thereof, by establishing goals and measures in regard to four perspectives–

- Innovation, Learning and Growth Perspective – Suggested by VP – HR
- Internal Business Process Perspective – Suggested by VP – Operation and Planning
- Customer Prospective - Suggested by VP – Marketing and Chief Information Officer
- Financial Perspective – Already under consideration



Innovation, Learning & Growth Perspective

- Employee training & corporate culture attitudes in order to ensure individual and corporate improvement.
- People are main resources in an organisation because they are only repository of knowledge.
- It constitutes essential foundation for success of any knowledge worker organisation (learning and growth).
- Learning is something more than training. Purpose is to improve ratio of skilled, semi-skilled and unskilled worker (1:2:6); not by hiring but by inculcating learning into exiting workforce.

Internal Business Process Perspective

- This perspective refers to internal business process.
- This perspective allows the manager to know how well their business is running.
- This perspective needs to be carefully designed/ explained by those who know these processes most intimately.

Customer Perspective

- Recent management philosophy has shown on increasing realisation of the importance of customer focus.
- Customer Satisfaction is very important for any business, because if customer is not satisfied, then will find other supplier to fulfil their need.
- Customer base should be categorised and analysed.

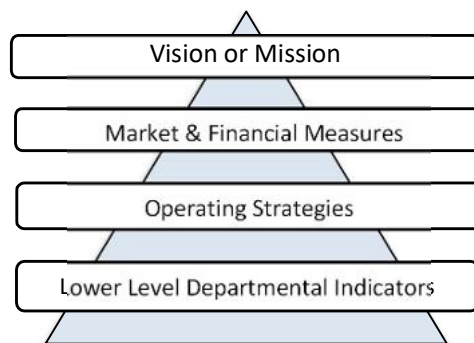
Financial Prospective

- Kaplan and Norton don't disregard the traditional needs of financial data.
- Ensuring availability of accurate financial data on timely bases is one among the priority of management – process of storing and retrieving financial information should be centralised and automated.
- There may be needed to include additional financial data such as risk assessment and cost aspects.

Expected benefit to MNFL of implementation of balance scorecard includes holistic approach, overall agenda, objectivity, management by objective, feedback and learning and system approach.

Performance Pyramid (By Lynch & Cross)

Performance Pyramid which contains hierarchy of financial and non-financial performance measures, can help MNFL in considering customer and market as part of performance indicators apart from financial aspects. There are the 4 level of pyramid.



Level 1

Corporate Vision and Mission defines how organisation will achieve long term success & competitive advantage.

Level 2

In order to achievement of Corporate Vision and Mission the focus is on–

- Market Related Measures
- Financial Measures

Level 3

Operating Strategies become guiding force to achieve strategic objective, which includes Customer Satisfaction, Increased Flexibility and High Productivity.

Level 4

Status of level 3 driving forces can be monitored using the lower-level departmental indicators such as Quality, Delivery, Cycle time and Waste etc.

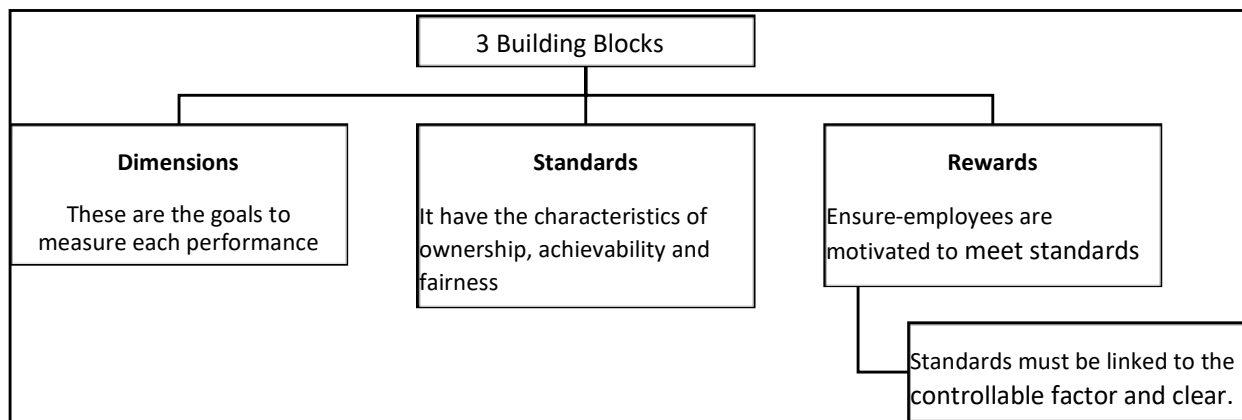
Note – There is drawback of pyramid that it does tend to concentrate largely on shareholder & customer.

Building Block Model (By Fitzgerald and Moon)

Building Block Model an approach to performance measurement in business services. There are three blocks Dimensions, Standards and Rewards.

- Dimensions are Critical Success Factors (CSFs)
- Standards are Key Performance Indicators (KPIs) and
- Reward is essential in order to keep workforce energetic and motivated – hence should be performance related.

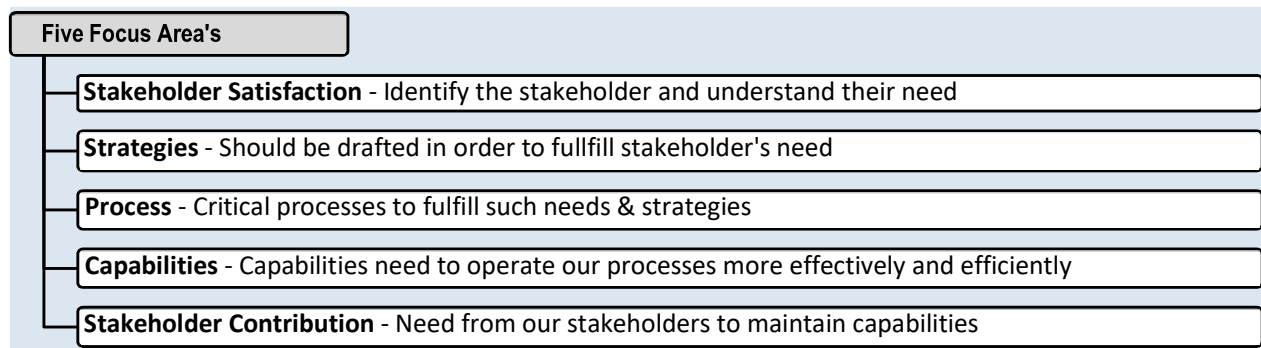
MNFL can use the Building block model to identify the CSFs and then determine the KPIs. These both CSFs and KPI will become the part of performance matrix at MNFL.



Performance Prism (By Andy Neely and Chris Adams)

There is limitation of balance scorecard that is only two set of stakeholders, which are shareholder and customer. MNFL can overcome that limitation of balance scorecard by using Performance Prism model.

Performance Prism framework can help the top bosses at MNFL to consider wide range of stakeholders including activities, communities, consumers, employees, legislators, regulators and suppliers with five focus areas.



Case Study 9 – Building Block Model

Mrs. Kates is a retired dedicated mom taking care of her family and doing every bit to give the best of the upbringing to raise her son. Back in Mrs. Kates graduation days, career in accounting business and economics used to grow but there is a drastic change since those times. It was then not so troublesome task to clear the graduation and get an alluring job. One could easily leap in and land up to a nice little 9 to 5 job as what we say. Life was easy as no one was busy. Records were all in the real physical books which were disappearing in modern times with the advent of internet and it is the Mac generation. Eyes were less strained and brain at placidity. No emails to check and no formalities to make. No exaggerations of staying late in office to get rewards and promotions. Moreover, people were easy to deal with, they had patience to listen till end and would react after giving a deep thought.

Days changed, months passed and went thereby a couple of decades when Mrs. Kates had a full-grown son, Mr. Dude needing to be admitted to a college in this rapidly changing and booming era. She wanted Dude to be in a college that had “history of good academics”, focusing on all round development of student, also meeting the needs of being flexible for a busy student life. She was low on her budget and therefore wanted someone or if the college itself could help her in financing the college education of her son. She was born and brought up in a small town called Dohapur and lived there all along her life. She was lucky to go on a 5 days tour outside of her country, visiting metropolitan cities of United States like New York and California. She was taken aback by the speed and transcendancy of the states she visited. She wanted her son to learn some aspects of that life so that he could adjust with the fast pace and stride with passing time. Therefore, Kates started looking for education opportunities in her nearby city called Vilaspur which was just couple of miles away. There were two eminent colleges in the city each providing accounting, economics and taxation courses. Dude had little interest in economics, so Kates did not force him to jump in.

Dayawan College of Commerce (DCC) and Hridayam Commerce Institute (HCI) stood in direct competition to each other and met most of the characteristics expected of by Kates. She was excited

to know about them and that they had a well renovated huge college campus where student outside of the city could stay and accomplish their education goals. The city was expensive and so were the colleges. Now she started pondering about the educational cost and began to seek sources that could lend her son educational assistance. To the much of her try she came to know from her close friends, that DCC took in students with weak financial standing but with strong academics. Actually, the college was named after the founder Dayawan Desai who was a great social activist of his time and during the last few years of his life he vouched to build a great co-ed college in his city for lower middle-class students who get left behind only because of their economic condition. The efforts from his history and the legacy created successful businessmen and women, tax consultants and economic scholars. HCI College on the other hand was also down to earth and did not bias among lower and higher class. They charged relatively low fees compared to DCC was popular among youth and gave great professionals who after their graduation from the college pursued further studies.

From last few years, many students were complaining about the rapidly increasing tuition rates, to which they went on a student strike demanding rate cut. Colleges had been very specific in relation to quality and touted that teaching fees and academic development cost had been increasing enormously which had to be substantiated by increase in costs of books and tuition. Failing all attempts, many students decided to switch to a mix of part time lectures and part time job through which college cost can be met and the burden on their families can be balanced. They required college to plan the class schedules innovatively so that students' studies do not get hampered and at the same time they can continue their jobs. Both of the colleges were trying to come up with online courses and distance learning materials to assist their students in the event their student failed to attend any lectures. In addition, HCI is also planning on hiring additional freelancers to work with students during evening time to groom their skills and assist them do well in their studies.

The reward system of the colleges is not clear and there is less information on how teachers are being motivated to serve the students to the best of their interest. However, college image and brand totally depend on the efforts of the teachers/professors. The total revenue generated in the city from college business is around Rs 500 lakh. The revenue generated by DCC in the most recent year is Rs 180 lakh and by HCI is Rs 110 lakh.

Dude developed a solidarity among his class friends and decided to go to DCC as this was the college where his other friends were wanting to go. However, Kates was concerned that Dude could spoil his career if he concentrated on picking things other than his studies. She wanted someone to guide her based on facts and figures of both the colleges so that an informed decision could be reached. She had modest savings from her job and wanted to spur her son to value those and understand the sheer importance of her precious student life which once gone will never be back. To harness all the information she had, and relying on your omnipotent knowledge, Kates went to you and provided you with facts (Annexure) about the two colleges.

In a nerve-racking voice, she remarked would you need any other information for your research to be extensive and serving my purpose? She continued, it was her serendipity to have gone through many troubles and find such detailed information and that she will try to gather more if she could. You in a calming and consoling voice said her that information was more than needed and it was really appreciative of her to pull in so much detail. It was all her love and care for her son that transpired on to the papers. She went by thanking you for considering her case and agreeing to help her son, Dude to make an informed choice.

Now you began contemplating of what could be done and exactly which models to be employed to get the job done and render a research driven analytical advice. After a day of pondering, you

recollected of having learned the Fitzgerald and Moon's "Building Block Model" and started to gather all the facts she provided. Now you gave a thought, that basically there are two questions to be answered for her enquires to be resolved.

Required

- i. Could 'building block model' be applied to her case and if yes EXPLAIN the model in brief?
- ii. EVALUATE the performance of the two prominent colleges.

Annexure

DCC and HCI facts and figures for the most recent year 2019

	Dayawan College of Commerce (DCC)		Hridyam Commerce Institute (HCI)	
	Budgeted	Actual	Budgeted	Actual
Number of enquiries for admission				
Accounting	5,000	4,000	4,200	4,000
Taxation	4,000	3,800	4,100	3,900
Total	9,000	7,800	8,300	7,900
Students turning up for application				
Accounting	3,500	3,000	3,500	3,800
Taxation	3,200	3,000	3,850	3,800
Total	6,700	6,000	7,350	7,600
Percentage increase in revenue		10%		7.90%
Net profit		50,00,000		27,00,000
Number of lecturers				
Accounting		14		11
Taxation		12		8
Total		26		19
Number of teachings days in a year		250		250
Number of days lecturers received		240		230
Students passing		5,700		7,500
Students getting jobs		5,100		7,000

Solution

- i. Fitzgerald and Moon's building block model commonly known as building block model is a performance management theory model developed by Fitzgerald and Moon. This model has been built on the premise that service industries could employ this model to evaluate their already in place performance standards and make hence forth improvements or could start from scratch building performance measurement criteria using this model. Since both colleges are engaged in rendering educational services to students, they very well fall within the ambit of service industries.

This model is named as building block since it has been built on three blocks which are namely:

Dimensions

Think “Dimensions” as both financial and non-financial goals of any organization since both these goals serve as the factors critical for its long run success. Dimension commonly means attributes to be measured and here we measure two financial attributes and four non-financial attributes of any organization which can be enumerated below:

	Dimensions
Financial (Results)	Competitive performance
	Financial performance
Non financial (Determinants)	Quality
	Flexibility
	Resource Utilization
	Innovation

Standards

Think standards as targets that are to be achieved based on which performance attributes as listed will be measured. For the standards to be aggregable and acceptable by the concerned department or the responsible individuals, such standards must possess three features which are ownership, achievability, and equity.

Rewards

Think rewards as source of motivation that can drive the staffs to work wholeheartedly towards the achievement of set targets, so that the organization can successfully achieve both its financial and non-financial goals in the long run. Now the reward structure/ system again should possess three qualities which are clarity, motivational and controllability.

- ii. Mrs. Kates wants us to evaluate two prominent colleges of Vilaspur city and come up with some conclusion. Going by the facts provided by Mrs. Kates it appears that both the colleges are doing well overall. However, the exact position of the colleges can be known from a detailed analysis of both qualitative and quantitative information available to us. This means we have to count both the financial and non-financial goals of each organization to precisely state how have been doing.

Financial performance can be measured by percentage increase in revenue and net profit margin. DCC remains the best performer on absolute revenue and profit although it performs so inadequately on other measures. This suggests that it may not be making the necessary investment in service and quality to satisfy the students’ needs.

Competitiveness can be measured by relating number of students enquiring and finally turning up as an applicant, i.e. how successful the organization is at converting enquiries into applications. The take up rate for HCI is higher as compared to DCC. This could be due to relatively low fees charged by HCI.

This can also be assessed in terms of sales growth, market share and growth in customers. We cannot measure year on year growth for revenue and profit as prior year data is not available, but we can compare present market share which is greater for DCC.

Quality of college tutoring can be measured by relating number of students passing out of total students and then by comparing students getting job from total students passing. In this aspect HCI is a lot better college than DCC.

Flexibility means responsiveness to changed demand and here we notice HCI is planning to hire freelance lectures to help students during their evening time once they are off from their work. This aspect is really appreciative and suggests a farsightedness of the college management.

Resource utilization means the productivity of the service staffs and in this case, they are lectures/ professors. This aspect can be measured using the relation between teaching days available and number of days actually served. DCC has higher resource utilization ratio compared with HCI. On the other hand, we apprehend some form of staff shortage in HCI when considering the total number of students served in HCI comparative to DCC.

Innovation suggests coming up with new and innovative mode of service delivery in context with the changing demand/environment. In present case we know that most of the students are working simultaneously to meet their college education cost. In regard to this situation, there is a need to bring in more online courses and distance courses, virtual classes so that time cannot be the barrier in learning. Both colleges are striving for the same and they stand in close competition as this regard.

Considering both the financial and non-financial goals of each college we can claim that HCI delivers a superior quality service, flexibility, making innovative attempts at comparatively lower price to meet the emerging needs of the students, which acts as a competitive edge over its direct competitor DCC.

Workings -

Dimensions	Measurement criteria	DCC			HCI		
		Budget	Actual	Rise	Budget	Actual	Rise
Financial (Results)							
Competitive performance							
Accounting	No. of application/ No. of enquiries	70.00%	75.00%	7.14%	83.33%	95.00%	14.00%
Taxation	No. of application/ No of enquiries	80.00%	78.95%	-1.31%	93.90%	97.44%	3.77%
	Market Share (in Revenue)		36.00%			22.00%	
Financial performance	% increase in revenue		10.00%			7.90%	
	NP margin		27.78%			24.55%	
Nonfinancial (Determinants)							
Quality	Students passing/ total students		95.00%			98.68%	
	Students getting jobs/ students passing		89.47%			93.33%	
Flexibility	See explanation						
Resource Utilization	Teaching days/ days served		96.00%			92.00%	
Innovation	See explanation						

Note - We do not get into discussing the standards and the rewards block of the model since Mrs. Kates was not able to provide much college information on these aspects.

Case Study 14 – Triple Bottom Line

A preliminary investigation for the Vidyut Dam Project was completed in 1962 in a South-Asian country (here-in-after referred as country) and its design was completed in 1973 with a 600 MW capacity power plant. Construction began in 1979, but was delayed due to economic, environmental and social impacts. In year 1987, technical and financial assistance was provided by the neighbouring country to said country after signing of MoU, but this was interrupted just a year later with political instability. Hence, said country was forced to take control of the project and at the first, it was placed under the direction of the irrigation department of concerned home state of said country. However, in July 1989 the Vidyut Hydro Development Corporation Limited (VHDCL) was formed to manage 1,900 MW Vidyut Hydro Power Complex; wherein 75% stake held by union government and remaining 25% stake by concerned home state government. The 1,900 MW Vidyut Hydro Power Complex comprises of Vidyut Dam & 1,000 MW Vidyut Hydro Power Plant (250MW×4), Beejuree HEP (400 MW), and Vidyut PSP (500 MW).

The Vidyut Dam is a 260.61 m (855 ft) multi-purpose high rock and earth-fill embankment dam on the Karaka River near Chapala town. Its length is 574.85 m (1,886 ft), crest width 20.11 m (66 ft), and base width 1,128.06 m (3,701 ft). The dam creates a reservoir of 4.0 cubic kilometres (~32,00,000 acre ft).

The 1,000 MW Vidyut Hydro Power Plant (Vidyut HPP) was commissioned in 2007-08 as a multipurpose project, with variable speed features which can optimize the round-trip efficiency under varying water levels in its reservoirs. Power is distributed to 10 northern states (including concerned home state) of said country. The complex will afford irrigation to an area of 2,71,139 hectares (=6,70,000 acres), irrigation stabilization to an area of 6,07,028 hectares (=15,00,000 acres), and a supply of 270 million imperial gallons (1.23×10⁶ m³) of drinking water per day. 162 million gallons of drinking water for around 4 million people of the neighbouring state, apart from 108 million gallons of drinking water for around 3 million people of the concerned home state. Due to regulated releases from the Vidyut storage reservoir, the existing downstream hydro projects are also benefited by way of augmentation in generation at no additional cost to them. Concerned home state also gets 15% of generated power as free. The total expenditure for this project was USD 1 billion. Since 2007-08, which was the first year of operation, VHDCL has been a profit making company.

The Vidyut Dam has been the object of protests by environmental organizations and local people of the region. The protest was against the displacement of town inhabitants and environmental consequences of the weak ecosystem. "We don't want the dam. The dam is the mountain's end" was the prominent slogan.

The relocation of nearly 1.5 lakh people or may be even more, from the area has led to protracted legal battles over resettlement rights and, ultimately, resulted in the project's delayed completion despite the fact that land acquisition was started in 1980. There is no master plan for rehabilitation nor even a clear estimate of the number of people affected. According to the 2003 status report of the public work department of Chapala town, the Dam replaced 15,550 families. This estimate excludes a large number of people who lost their lands but have not been officially recognised as project affected. Among those officially recognised, allotted with land of poor quality or with multiple ownership claims.

Near to year 2006, while filling of the reservoir has led to the reduced flow of Karaka River's water from the normal 1,000 cu ft/s (28 m³/s) to a mere 220 cu ft/s (6.3 m³/s). This reduction has been central to local protest against the dam, since the Karaka River is considered sacred river whose waters are crucial to religious beliefs.

Old Chapala town shifted and named as New Chapala Town (NCT) which is semi-ultra- modern hill station at height of 1,555-1,855 m above MSL, with better road network and district head quarter (shifted to NCT, earlier about 65 kms away from Chapala). NCT equipped with better health (got 80 bed modern hospital against 25 bed hospital in old Chapala, and also got 5 primary health centres with additional 75 bed facility in total) and education facilities (hostel facility of 900 students, degree college with university campus which can accommodate 440 residential students and faculties, and against 1 inter college in old Chapala, 5 inter-college established (one in NCT and 4 in nearby villages). This all done at project cost.

In addition to the human rights concerns, the project has spurred concerns about the environmental consequences of locating such a large dam in the fragile ecosystem of the foothills of great mountain range. There are further concerns regarding the dam's geological stability. The Vidyut dam is in a major geologic fault zone. This region was the site of a 6.7 magnitude earthquake in September 1992, with an epicentre 55 km (34 mi) from the dam. Dam proponents claim that the complex is designed to withstand an earthquake of 8.4 magnitude, but some seismologists say that earthquakes with a magnitude of 8.5 or more could occur in this region. Were such a catastrophe to occur, the potentially resulting dam- break would submerge numerous towns downstream, whose populations total near half a million.

In spite of concerns and protestation, operation of the Vidyut Dam continues and is completed. But VHDCL was aware of these and tried to respond in a constructive way. The spirit of CSR initiative is depicted by its CSR initiative title 'VHDC Sahridaya' (Corporate with a Human heart), wherein focus areas are:

- Shiksha - Education Development
- Svasth - Nutritional Health and Sanitation and Drinking Water Projects
- Nipun - Livelihood Generation and Skill Development Initiatives
- Unnaati - Rural & Infrastructure Development
- Yogy - Empowerment Initiatives
- Srrishti - Environment Protection Initiatives

Out of these 'VHDC Srrishti' has some special mentions, 'Environment Focused Initiatives' is working with three objectives Soil & Water Conservation, Green Energy Generation & Technology Promotions and Environment Protection & Promotion.

To conserve soil and water VHDCL is working on water harvesting and water harvesting tanks (capacity 3,000 litres each) were installed in the project affected villages for rainwater harvesting. Through this activity, beneficiaries were able to store almost 9 lakh litres of rainwater during monsoon. In addition, VHDCL under this program installed more than 730 LED based Solar Street Lights and more than 180 LED based Solar High Mast Lights in near- by towns and villages in year 2019-20. Moreover, to promote plantation of different fruit, fodder, and medicinal plants, VHDCL planted 2,70,202 plants/sampling till now.

VHDCL has won many awards in last decade in different categories including CSR domain, but most recent and relevant (for case study) among them are→

- HR Platinum Award for Training Excellence in 2019-20
- National CSR Leadership Award 2020
- CSR Innovation and Leadership Award 2020
- It not only recognition in term of awards, VHDCL has obtained following Certifications:

- ISO 9001:2015 Certification (Quality Management System).
- ISO 14001:2015 Certification (Environment Management System).
- OHSAS 18001:2007 Certification (Occupational Health and Safety Management System).

Required

As part of policy initiative, if VHDCL is willing to implement the Triple Bottom Line (TBL) reporting initiative; then ADVISE the management regarding dimensions of TBL, and what are perspectives composed by different dimensions of TBL. Also, enumerate the challenges, expected benefits, and initiatives under each dimension in context of Vidyut Dam & Vidyut Hydroelectric Power Plant (1,000 MW).

Solution

British business author John Brett Elkington in year 1994 coined the term TBL. Every business needs to be sustainable, rather than only profitable. A business is said to be sustainable, when management makes sustainable business decisions. To consider sustainability of business decision there are three bottom lines i.e. People, Planet and Profit (also known as dimensions of TBL), instead of single bottom line (i.e. Profit).

Here-in VHDCL, shows strong commitment for CSR through the certification (regarding quality, environment and safety) they obtained and also through the awards they won (in the domain of CSR and Training).

Dimensions (sets) of TBL

(i) **People, the social equity** bottom line relates to corporate governance, motivation, incentives, health and safety, human capital development, human rights and ethical behaviour.

The project has major concerns about the displacement of town inhabitants, followed by reduction in flow of Karaka River from the normal 1,000 cu ft/s (28 m³/s) to a mere 220 cu ft/s (6.3 m³/s). Former concern is more significant than the later concern, because later was of short duration; it is obvious when the reservoir is filled to its maximum capacity, the flow of the river will again become normal. Regarding the displacement, it is mentioned in the case itself that according to the 2003 status report of the public work department, the Dam replaced 15,550 families. Further, this estimate excludes a large number of people who lost their lands but have not been officially recognised as project affected. Even those officially recognised, allotted with land of poor quality or with multiple ownership claims. This concern substantiates in absence of a full-proof master plan.

It is not the case that local resident were/are in complete distress, they were/are compensated with alternative and better facilities and remedies as well that too at project cost, which includes the:

- Development of hill station to attraction for tourism – The New Chapala Town (NCT) is developed with semi-ultra-modern facility at height of 1,555-1,855 m above MSL as pre-planned hill station which will attract the tourist. By creation of lake due to the impoundment of the reservoir of Vidyut Dam, scope of water sports is there. Hotels, Guides and Tour and travels will cause employment opportunities for locals.
- Better road network leads to ease of living and improved communication channels which also help in establishing suitable industries according to environmental aspects.
- Shifting of district head quarter to NCT results in reduction of distance of travel by town residents to reach to district head quarter for any task by about 65 kms, hence life of locals will be further eased.

- Improved health facilities - NCT equipped with better health facilities. It got 80 bed modern hospital against a 25-bed hospital situated in old Chapala town. Apart from this also got 5 primary health centres with additional 75 bed in total.
- Improved Education facilities in term of hostel facility of 900 students and increase in number of inter-colleges.

Not only the local resident (directly affected), other too got benefit from project, such as 250 cusecs (~162 million gallons per day) of water supply to neighbouring state, which will meet drinking water need of around 4 million people, apart from 167 cusecs (~108 million gallons per day) of water supply to concerned home state, which will meet the drinking water need of around 3 million people. Power is also distributed to 10 northern states (including concerned home state) of said country.

VHDCL showed social commitment through Shiksha, Svasth, Nipun, Unnaati, and Yogy as part of their CSR initiative.

(ii) Planet, the environmental bottom line measures the impact on resources, such as air, water, ground and emissions to determine the environmental impact and ecological footprints.

The project has spurred concerns about the environmental consequences of locating such a large dam in the fragile ecosystem of the foothills of great mountain range, which will result in weak ecosystem and concerns over a catastrophe to occur (due to earthquake - the potential dam-break). Regarding the later concern, it is also mentioned in the case that the Vidyut dam is in a major geologic fault zone. This region was the site of a 6.7 magnitude earthquake in September 1992, with an epicentre 55 km from the dam. In response to which the Dam proponents claim that the complex is designed to withstand an earthquake of 8.4 magnitude, but some seismologists say that earthquakes with a magnitude of 8.5 or more could occur in this region. Were such a catastrophe to occur, the potentially resulting dam-break would submerge numerous towns downstream, whose populations total near half a million.

The major environmental benefit is generation of 1,000 MW (3,532 MU of Annual Energy) of environment friendly peaking power.

In order to leave improved environment footprint and to trade-off the environmental loss caused during construction, VHDCL through initiative 'VHDC Srishti' working on:

- Rainwater Harvesting – It has installed the necessary infrastructure in the affected areas to harvest almost 9 lakh litres of rainwater during monsoon.
- Green Energy Generation & Technology Promotions through installing LED based Solar Street Lights and LED based Solar High Mast Lights.
- Environment Protection & Promotion through plantation of 2,70,202 samplings so far, of different fruit, fodder, and medicinal plants.

(iii) Profit, the economic bottom line refers to measures maintaining or improving the company's success in terms of adding value to shareholders.

It is an inherent feature (rather project specific concern) of hydro power projects that the duration of construction is quite lengthy and huge capital outlay is involved. In case of Vidyut Dam too, Construction began in 1979, but was delayed due to economic impact apart from social and environmental pressure. In 1987, technical and financial assistance was provided by the neighbouring country, but this was interrupted years later with political instability. Project then placed under the

direction of the irrigation department of concerned home state of said country. However, in July 1989 the Vidyut Hydro Development Corporation Limited (VHDCL) was formed to manage such 1,900 MW Vidyut Hydro Power Complex; wherein 75% stake held by union government and remaining 25% stake by concerned home state government. The total expenditure for this project was USD 1 billion. Since 2007-08, which was the first year of operation, VHDCL is a profit making company.

The initiative includes the feature of variable speed, the 1,000 MW Vidyut HPP has variable speed features which can optimize the round-trip efficiency under varying water levels in its reservoirs to keep the cost of operation low.

The quantifiable economic benefits include:

- The generation of 1,000 MW (3,532 MU of Annual Energy) of environment friendly peaking power. This will no doubt lead to industrial and agricultural growth in the northern region.
- 15% of generated power will be given free to the concerned home state, apart from power as per their share, where the distress is caused due setting up of the project. Hence, the state has economic benefit from the project too.
- Irrigation of 2.71 lakhs hectares of area, beside irrigation stabilization of 6.07 lakhs hectares. Hence, supporting other economic activities as well indirectly.

To conclude, the project largely seems sustainable as running in profit since it was operational, leaving minimal and positive environmental footprint, and also payback society (especially directly affected local population) with alternate better facilities and compensation (may be with few minor exceptions or irregularity on case-to-case basis).

Case Study 15 - Non-Financial Measure

The world fame Taj Mahal is situated on the banks of Yamuna River in the city of Agra, Uttar Pradesh, known for its beautiful design and is counted as one of the Seven Wonders of the World; the city attracts a lot of tourist from all around the world. The Tourism is one of the main sources of livelihood for its residents. Consequently, cleanliness and maintenance of garden area within the Taj Mahal campus is of prime importance in order to sustain and develop this industry.

The local government has recently employed a contractor to clean and maintain the garden area within the Taj Mahal campus. The contractor uses cleaning machines pulled by horses to avoid pollution. The contractor has been selected through an online competitive tendering/bidding process. Majority of the litter comprises of plastic waste (bags, bottles etc.) while some portion also includes glass, aluminium cans, paper and cardboard. A detailed log is held by the contractor about the waste that has been cleaned, time taken for the clean-up, number of horses used, etc. This log is also checked and signed by local government officials. This record is used to process payments at the end of the month.

In addition to contracting, the local government has also placed bins at various locations within the campus for the public to dispose their waste. The Nagar Nigam's workers clean these bins every morning. Again, detailed logs of the manpower and other resources employed are kept by the respective department. In addition, the government has started a mobile messaging system, whereby the public can message the concerned department if they find litter anywhere in the campus. Depending on whether it is from overflowing bins or scattered waste, the Nagar Nigam's workers will take action to clean it within 12 hours. A detailed log of these operations is also maintained. Patrons can also suggest measures for improving cleanliness on the above-mentioned areas.

Due to its importance to the economy, the local government has allotted substantial budget for these operations. At the same time, it is essential to know if this is sufficient for the purpose of maintaining the cleanliness of the campus. Therefore, the government wants to assess whether the city is getting, "good value for money" from expenditure. The "value for money" concept can be looked at from three perspective's: (i) economy, (ii) efficiency and (iii) effectiveness. The internal audit department that has been requested to undertake this study has requested for guidelines on whether the audit should focus on economy and efficiency of the Taj Mahal campus cleaning operations or on effectiveness of the same. Economy and efficiency audit assess whether the same level of service can be procured at lower cost or resources while effectiveness audit assess whether better service can be procured at same cost.

Depending on the outcome of the audits, if required, Policy decisions like requesting for additional funding from the state government, alternate policy measures like levying penalty for littering etc. can be taken.

Required

- (i) RECOMMEND guidelines to assess economy, efficiency and effectiveness of Taj Mahal and campus cleaning operations.
- (ii) IDENTIFY challenges involved in assessment of effectiveness.
- (iii) RECOMMEND general guidelines, how the audit team may conclude the audit based on the combined outcomes of economy, efficiency and effectiveness.

Solution

(i) Economy, efficiency and effectiveness are three dimensions of value for money. Economy and efficiency audit of an operation focuses on the consumption of resources and the output achieved. Whereas effectiveness audit of an operations focuses on the comparison of outputs achieved with the desired level of output.

Economy

The Dimension of economy assesses the financial aspects of the activity i.e. are the objectives of the activity being achieved at reasonable cost?

To look at economy of cleaning and maintaining (of the garden area in-side the campus of Taj-Mahal) operations, the cleaning expenses need to be bifurcated into different cost centres such as payments made to the contractor, the expenses of emptying waste from bins, and mobile messaging system. At this stage only the competitive tendering process may be reviewed to ensure that the contractor getting the order is offering the required quality of service at the lowest price, similar way bins are procured at lowest possible price etc.

Further subcategories of these expenses into cost head such as labour, material, disposal van expenses etc. also need to be collated from the cost records. (This will help in comparison over a period as well).

Then afterwards, these shall be compared to the budgets that were approved by the local government of Agra. If the quality of cleaning has been achieved, by staying within budget, the operation is economical. However, if the actuals exceed the budgeted, then government shall make comparison of cost with cost of similar cleaning operation. **On comparison, if found that cost incurred by Agra**

local government is more; then the cleaning operations are said to be non-economical and these may not be efficient too.

Efficiency

Efficiency assesses the volume of input consumed to derive the desired output i.e. are the resources and funds being consumed to get maximum output?

Efficiency of cleaning and maintaining operations can be determined by checking the log records maintained for cleaning operation by the contractor and municipality workers. These would have details of activities carried out and the resources utilized for each of them.

For each of these services (be it cleaning and maintaining garden or emptying out bins or mobile messaging system), the cost drivers can be identified, and certain metrics can be developed for analysis. For example, cost of cleaning per square metre of garden can be computed or cost of emptying each bin can be computed or cost to respond each call.

While analysing these activities, certain operational considerations have to be given. For example, certain stretches or corners of the garden (where landscaping structure is complex) may take more time or resources to clean. Cost of emptying and re-clean the bin used for dry and wet waste may be different. Therefore, if resources for operations are disproportionate for certain parts of the gardens, then multiple categories of garden shall be formed and cost for each category need to be worked out. But data to get this information will depend on the extent of details maintained in the logs. This information has to be tracked over some period of time in order to understand trends in operations and related expenses.

The data collected from the mobile messaging system should also be investigated. Frequency and area of the campus regarding which complaints are frequent or maximum? Reasons for these lapses need to be taken from the contractor (for cleaning the garden) and the concerned Nagar Nigam workers (for emptying bins) in order to find out whether resources are being employed properly.

Effectiveness

As mentioned earlier that effectiveness of cleaning and maintaining operations would focus on how the actual cleanliness of garden area inside the campus compares with the desired level as laid out when budget was allocated. To assess whether performance has been met, the target.

To begin with, it should be clear as to what constitutes litter. From an operational angle, it would be difficult to clean out every bit of dry leaf (falling from tree) lying on garden floor. However, it is possible to pick up every plastic bag or bottle or empty soft drink can. Hence, the government authorities must be clear on what constitutes litter? and tolerance level for each types of litter e.g. tolerance level of aluminium can and dry leaves will be different, because few of dry leaf may left behind even after cleaning. Quantity of waste collected would be the indicator to make the above assessment.

Certain other parameters like safety standards can also be defined. Safety problems could be cuts from sharp objects like glass. Assessment has to be made whether these standards have been met.

For this, the primary source of information about cleanliness would be feedback from the patrons. These could be in the form of complaints received directly or those through the mobile messaging system would provide data to work out the metrics. This would be an indicator of “customer satisfaction”. The measure for can be how many mobile messages are responded within the time-cap of 12 hours. Other inputs could also be the suggestions given by the patrons about the ways to improve cleanliness.

Observation by making surprise visits to inspect immediately after the cleaning operations would also provide sufficient evidence about the effectiveness of operations.

(ii) Challenges Involved in assessment of effectiveness would be:

- Defining what constitutes litter? These are subjective guidelines, the perception of which may differ from person to person. One can consider dry leaves that have been fallen from trees as litter other may not.
- Establishing the tolerance level of waste (litter) or acceptable level of cleanliness? High amount of subjectivity is also involved in determination of level.
- Frequency of cleaning and when to measure the effectiveness, it is obvious the cleanliness will not be at same level throughout the day.
- Certain forms of litter out of operational control such as animals' or birds' dropping, are they also considered as part of litter or ignored when effectiveness is measured. Basically, what matrix of desired objective contain is critical to determine the level of effectiveness.
- Indicator of effectiveness- There has to be a conscious civic sense of duty not to litter, failing which this initiative will most likely be ineffective. Therefore, while measuring performance for effectiveness, collection of more litter does not necessarily indicate effective operations. More litter requires more cleaning and more resources, therefore is actually not a positive indicator of effectiveness. On the contrary, in the long run, lesser litter collected to maintain desired level of cleanliness would be a good indicator of effectiveness.

(iii) The outcome of the audits can indicate achievement of any or none of the three parameters of economy, efficiency and effectiveness of cleaning and maintaining (of the garden area in-side the campus of Taj-Mahal) operations. To form an integrated conclusion based on the different outcomes of individual audits, the audit team may consider the following guidelines:

(a) Has the objective of the cleaning operation been achieved as per the guidelines in the relevant policy or white paper (based upon which budget is allocated)? i.e. have the operations been effective?

(b) If the answer to (a) is yes, **are the expenses within budget**. If so, then the operations are economical and efficient. Given that the operations have been effective at the same time economy and efficiency have been achieved, the team can conclude that the cleaning operations policy has been a success.

A cost-over run can also be justified if the operations have been effective. In that case, the audit team has to conclude whether all expenses incurred are indeed justified and that the resources have been put to the best possible use. If not, can the operations be made more economical or efficient?

(c) If the answer to (a) is no, the operation has not been effective, then next question is is the difference from the target is marginal or huge? If the operations have not been entirely effective, but only by a marginal gap say 95% success, then analysis of expenses can be made similar to the point (b) mentioned above.

However, if the operations have been ineffective to a larger extent, then the cleaning drive initiative has been ineffective. The local government has to look at alternate solutions of tackling the problem.

These could include imposing heavy penalty for littering, requesting for additional funding from the state government to employ better resources etc.

Therefore, it can be seen that achievement of one objective does not automatically lead to achievement of other objectives. A holistic approach would be needed to draw conclusions about the performance of the cleaning operations.

Case Scenario 1 – Performance Pyramid

Corner is an online Pizza delivery business. Corner is one of the QSR that created its own system, website, and app. Corner's pizza baking points having a home delivery system. Due to popularity of E Commerce awareness among the customers, online food order system come up with new opportunity for food business. Corner has grown rapidly due to boom in online platform. It is now operating around 1,000 points.

Corner's vision is to increase shareholder wealth by making and timely delivery of quality pizza. Corner provides customize pizzas as per customer's taste. People choose to order pizza online for different reasons not wanting or having time to cook, do not have to wait in a queue for order or taking delivery. During happy hours from 4pm-7pm, baking points have a great deal on both pizzas and beverages. The customers can call, text or order pizzas online. Corner's collection and delivery service uses delivery motorcycles and scooters to transport pizza parcels.

The process consists of a customer choosing the restaurant of their choice, scanning the menu items, choosing an item and finally choosing the place of delivery. Payment is then managed by cash on delivery, or with a credit card, debit card etc. when the delivery boy delivers the pizza at the customer's place of delivery.

Issue

Corner's delivery service is slow. It uses an automated reminder service like Dial My Calls to send updates to customers about the status of their order - when it goes into the oven, when it comes out, when it is out for delivery, and so on. Customers are willing to wait a little longer if they know that pizza is on its way. Slow delivery reduces the taste, aroma and flavor of pizzas delivered.

Recently, financial performance and market share of Corner has deteriorated. The CEO of Corner believes that reductions in customer satisfaction and flexibility, caused by a decline in operational performance, may have led to the recent deterioration. It has been suggested that to use the Lynch and Cross's Performance Pyramid to reverse this deterioration and four new measures for operational performance have been suggested.

Measure	Description
Live tracking system/ GPS driver tracker (to choose the best and the shortest routes for food delivery vehicles and to guide the drivers in real time basis)	Number of successful deliveries per day
On-time delivery	% of pizzas delivered within 30 minutes of the booking time
Fuel consumption	Average fuel consumption per km travelled
Improving the taste (It is proposed to use pizza delivery bags to keep the pizzas hot and fresh)	% of positive feedback

Required

EVALUATE the extent to which the suggested new measures can be used to manage operational performance at Corner.

Solution

The performance pyramid covers not just only financial performance but also a broad range of underlying processes of business organization which drive financial performance. It facilitates to set financial and non-financial performance measures. Non-financial measures are important indicators which can help to attain long-term financial performance. The elements of the pyramid are interconnected, and each level in the pyramid backs the one above it. For example, on-time delivery of pizzas will increase customer satisfaction, which will eventually lead to greater market share, one element of the vision.

The left side of the performance pyramid covers external effectiveness, such as customer satisfaction, while the right side of the pyramid covers internal efficiency, such as flexibility and productivity. Operational performance is signified by the four elements, which are quality, delivery, cycle time and waste, at the bottom level of the performance pyramid. Operational performance measure can help the organization to achieve the vision of the organization. Reduction in pizza delivery time and delivery of fresh hot delicious pizza i.e., quality can help Corner to achieve its vision.

Cycle time can be reduced by using live tracking system. Live tracking system is a key to improve productivity and profitability. It can help in taking well-versed decisions and schedule pizza delivery more efficiently.

GPS driver tracker will allow real time monitoring of vehicles and offer detailed insights of fuel usage, driver's behavior, engine's idle time, etc. using this data efficiently; money saving areas for pizza delivery can be identified. Through this tracking system idle delivery vehicles can also be identified. This may lead to an increase in the number of deliveries per day and more deliveries, translated into more business.

It can also assist Corner to reduce the fuel consumption and unnecessary overtime costs. Reducing fuel consumption would lead to an improvement in financial performance. Measuring average fuel consumption per km travelled does not, however, relate directly to activity, for example, to the number of pizzas delivered. Average fuel consumption will vary between type of vehicle used for delivery i.e., scooters or motorcycles and conditions of roads in the areas of delivery. Average fuel consumption per km is not a good measure of waste or any other aspect of operational performance of business organization. To be useful in managing operational performance, this measure should be changed to average fuel consumed per pizza delivered which would be an appropriate measure for waste.

A loyal and satisfied client is paramount to success of a food delivery business. With the assistance of tracking system, pizza delivery vehicles will respond to service calls quickly and reach their destination on time. Customers are likely to value on-time pizza delivery very much, this will be one of the main causes, and they will choose pizza from Corner. The proportion of on-time delivery is a measure of operational performance i.e., key driver for customer satisfaction.

Moreover, use of pizza delivery bags to keep the pizza hot and fresh will improve the taste, aroma and flavor of pizzas, which is also related to the quality element of the performance pyramid and is key driver of customer satisfaction.

Case Scenario 8 – Triple Bottom Line

Fashion industry prospered more than any other industry and it kept blooming with new trends being brought weekly and almost all being sold in no time. The NextGen clothing (NGC) into the fashion industry, situated in the outskirts of Deshipur, had several textile plants, nurturing the needs of the community. NGC had a good base of laborers and farmers, few of them aged under 14, from nearby locations enrolled into the program. They had no source of employment past the clothing plants. It gave boost to their living avenues with receptivity to all modern facilities of living. They worked overtime to get NGC to where it wanted to be.

The raw materials did not cost much to NGC, given the local availability and the cheap quality. The low financial cost and the low sale price it offered to its customers allowed it to churn out cotton and viscose fabricated clothes in humungous quantities. The citizens loved the artcrafts brought out by the designers and the cotton material pleased them.

NGC had no history of reporting sustainable efforts to build up a strong environment to work in. It reported phenomenally huge profits in past three years, paid out impressive dividends to its shareholders, bonuses and lucrative overtime pays to its laborers. All were happy and no one complained about the sustainability aspect, the duty it owes to its surroundings and the greater environment.

The community focused on the form rather than the substance of it. It kept overlooking the brutal effects of producing cotton and viscose in local farms which was the primary source of raw material for NGC. One day NGC learnt that a scholar born and brought up in Deshipur, studied in Northern America, returned to his hometown. He presented brain storming sessions to the civilized people which made them rethink on their clothing habits. His sessions were summarized below:

Cotton

First of all, the production of cotton involves enormous water usage, which is already a scarce resource globally. Just to manufacture cotton enough to make a t-shirt, involves using liters of water. Above that fertilizers and pesticides employed takes a toll on farmers' health. They become ill often than not. Not just the cotton producing process is environmentally non tenable, it involved tons of water for spinning the cotton and dyeing the fabric to make the cloth. The chemical composed water then flows to the nearby rivers and hampers the life of water beings and people around.

Viscose

This is a semi synthetic matter derived directly from wood pulp and converted into cloth by application of chemicals and water. Most of the deforestation can be ascribed to the paper production and rayon production. The greedy merchants overlook even the protected areas to get the required pulp. The sprouting air pollution and water pollution has left community residents forsaken to cry over their fate. The use of harmful chemicals leads to diseases like cancer and heart strokes.

We, the Customers

The ridiculously low prices of the clothes with the advent of the internet have created a desperate demand of clothes and have led to surge in its buying frequency. Hardly few of us contemplate on how a t-shirt or jeans we are wearing was made, what processes they had to undergo before it took that shape and the extent of loss and injury it caused persistently.

In a nutshell, his sessions were about the ideas hinting at the destructive impacts on environment that NGC is bringing to their plate. They gave a patient listening to all his talks, well fabricated in their native language, free from any fictions.

The training sessions of the scholar, Raghu picked up many ears, it was all over the country and NGC started to perceive this as the verge of its downfall. NGC had to give a rethinking on the way clothes were made

Required

RECOMMEND ways to bring a turnaround in the reporting framework and go extra miles to do something “sustainable” for the environment.

Solution

Sustainability is a wider phenomenon in itself and cannot be narrowed to just the environment and its people. Ensuring sustainability in a profound context means not just to make the present secure but also considering the needs of the future for the resources. This can be done when there is well blend of demand and supply of such resources.

As per the triple bottom line approach, in the context of fashion, sustainability is interpreted as using environmentally ethical means of producing wearables like clothes, footwear, and other apparels. This approach considers the challenges that a production process brings to the people and the planet even if of less intensity to the firm itself, in the short run. The triple bottom line counts in the advantage of the greater stakeholders rather than the traditional shareholders as noted down from a traditional reporting policy.

Therefore, a sustainable fashion is an undertaking to consider the implications of triple bottom line pillars (i.e., environment or planet, the people, and the profitability of the firm) when producing consumables. This holistic approach looks beyond just the term fashion and does what is to be done to put in place an ecological balance.

Once we understand the term sustainability, we now catalog some of the sustainable efforts that are recommended in the situation of NGC and they are:

Producing quality materials

Nowadays firms are resorting to producing cheap materials that cost them less to produce and sell. Bearing the come and go fashion in mind, their produces have less longevity and are more representative of use and throw stuffs. Given the environmental boost, NGC should use materials that guarantee longer lasting textiles, thoughtfully designed and priced. This will plunge the need to buy the clothes so often and will enhance the clothing experience of the masses. The highly priced material will lower the demand and keep at bay its accessibility to all. From a short-term perspective, this may sound a financial hit which in the long term will prove a reputational boost to the firm, given the drastic change in quality it adapts to.

Spreading awareness among the customers

Though many expectations are just around the firms engaged in textile production and sale thereof, the customers are no less responsible in turning down the clothes and discarding them in less environmentally amicable manner. They do not discard the clothes in the right time and at right place, rendering the clothes unsuitable for reuse. The thrift stores and donation center are propelled to throw such unfit clothes. As per reports, only established donation centers or processing centers are

able to sell overwhelming quantities of secondhand clothing and footwear. So, there is a strong relation between the conscious buying choice of the customers and the sustainability in the fashion industry. With less numbers of purchases of good quality pieces, they can support sustainability.

Using organic materials and addressing safety issues

Triple bottom line suggests that reducing financial expense at the cost of health of its people can cost unimaginable money to the firm in the long run. A firm cannot be seen in isolation to its people who work for its interest and the local residents that live around. As indicated from the facts above, we are aware that producing cotton and viscose involved usage of enormous pesticides and fertilizers that ultimately impaired the health of the farmers and other people involved. They end up having life threatening diseases like cancer and heart strokes. Organic material does not necessarily eliminate the application of pesticides and other toxic materials; however, it will reduce its usage to an acceptably low level. Though restoring to organic materials would not lead to reversal of harmful effects that occur once the cotton is harvested, it will present considerable relief to the health of its people. The adversity occurring by way of colossal use of water to produce organic cotton as compared to the ordinary cotton has to be kept in mind though. This aspect will risk the sustainability of the water for the future generation, an already scarce resource for the present as well.

Moreover, selling the produce for cheap prices, will mean an adjustment to the wages of the laborers and farmers they receive for their hard work. Historically we have seen that firms with an attempt to practice price competition, try to cut down their production cost by compromising the quality of machines they use, providing below standard working environment to their workers, undue firing of skilled people. All of these presents an ongoing challenge to the wellbeing of those people such that they are forced to eke out their living.

Channelizing efforts towards recycling

NGC can introduce innovative recycling channels to ensure that customers are enticed to turn over the used clothes rather than throwing them away. Having a recycling collector at its store with a catchy slogan like 20% discount on fresh stocks for the used clothes, can help. This effort directs people to resort to reusing their old stuffs so that the landfill pressure reduces thereby reducing the emission of carbon gases in the environment. Few firms collect their own products, and after working on them, are sold below normal prices.

Alternatively, NGC can seek the services of third party that can help them buying secondhand clothes and sorting those based on their quality and resale the ones suitable for use and get others to the recycling process. Such unsold clothes left over can be used as raw materials by carpet manufacturers or other textile manufacturers.

Compliance to local labor laws

The true cost of any firm is not just the perceivable financial cost that is reported in its annual publications, it also comprises of the non-financial cost not counted in the context of financial reports. As mentioned above, the low quality of machines can cause myriad accidents at NGC's plant thereby putting it into legal liabilities which is although a financial cost for the firm but will prove to be reputational risk in the long run, a non-financial cost.

Ethical manufacturing also means complying by the local laws of the country pertaining to usage of labor. We see that NGC are pulling in children of age below 14 years to get their job done. Rather than defending the rights of its workers, it puts an imminent risk to the local kids. It is against the local labor

laws to hire child labor and provoke them to work when it is their right to receive educational and nutritional support at this age.

Producing Poly clothes

We see the most expensive sportswear made out of recycled polyester materials, which comes as no surprise. Thanks to the ethically aware multinational firms. It is suggested that NGC should direct its effort in reducing the negativity of plastic remnants brought into the cycle. The plastic materials like ketchup bottles, pickle and oil containers are processed to a liquid consistency which is then turned into reusable fabrics. The demand for cotton clothes is surging globally and polyester made clothes appears to bring a switch over. Poly clothes have less ecological impacts compared to cotton and are easily recyclable; and consume less water.

Reducing the usage of water consumption

As evidenced from the facts, each cloth made to wear consumes liters of water. This usage of water can be controlled by manufacturing as per the just in time approach rather than churning out humungous quantities. This will allow controlled production of raw material on need basis and in turn the limited manufacture of the clothes. NGC can adapt the policy of taking customized order made to manufacture what is ordered for. This will also ensure limited flow of hazardous chemically composed water to the nearby rivers, thus managing the risk of commoners' lives.

Overall

Considering the above approaches, it is perceived that NGC can bring a significant positivity to its environment. Being a socially responsible part of the community, it owes a duty to its surrounding and not just to its capital providers. Hence it is also recommended that it should hire an expert who can assist it in presentation and preparation of sustainability report (or reporting as per the triple bottom line framework). This report satisfies the informational needs of the larger stakeholders i.e., the government, regulatory authorities, employees, local residents and community, and the customers and suppliers.

Once NGC implements some of the suggested sustainable approach to manufacturing clothes, those policies and efforts can be reported in the triple bottom line framework reporting. This will provide a reputational advantage and also a competitive edge over its competitors in the industry which will bring in financial gains.

Case Scenario 11 – Building Block Model

ABC is a medium size Chartered Accountancy firm having five branches in India. Their major revenue segments are statutory compliances, taxation practice, audit & assurance and consulting services. Their founder partner, in a recently organized year end closing meeting with all working partners, has given the following vision statement for the next year:

‘The next financial year, ABC should use results and determinants-based framework for each revenue segment and the current rewards scheme to be remodeled to a clear result oriented one’.

Required

- (i) DESCRIBE management strategy, the founder partner of the firm referring to.
- (ii) LIST some performance measures that might be used.

Solution

(i) The management strategy that the founder partner of the firm referring to is the 'Building Block Model' as proposed by Fitzgerald and Moon. The model was proposed as a solution to performance measurement in service industry but can also be extended manufacturing field to evaluate business performance. The model requires the establishment of results and determinants-based framework, wherein 'determinants' are the performance areas and the 'results' reflects the success or failure of the determinants. This model also requires setting the fair standards against which performance will be measured and linking the same to controllable factors in order to motivate the staff.

(ii) Some performance measures that might be used in ABC are as follows:

Financial Performance in ABC can be measured through computing gross/ net profit margin, margin per partner, change/ increase in revenue over previous year.

Growth in revenue, success rate in converting enquiries into revenue, retention rate of clients, relative market share and position are measures of **competitiveness**.

Statutory compliances segment will be having characteristics of recurring work, and strict adherence to return filing timelines; hence it is essential to ensure optimum and effective **resource utilization**. In order to measure the productivity of the staff, hour charged as percentage of total available hour/ total hour paid can be computed. This ratio will also signify the peak and off period.

Consulting Services segment will be having characteristics of analytical skills, inter-personal skills and ability to close on prospective clients; therefore, quality of services is critical factor for success. Customer rating and proportion of number of errors/ defects to number of compliances submitted can be taken as KPI for **quality of services**.

Flexibility is important from the prospective from delivery of service, the manner and timing and of delivery. Some performance measures that might be used for this dimension are number of returns submitted on time to total returns, actual number of visits to number of visits planned for specific assignment, number of technical areas like accounting, auditing, taxation handled by each team member.

Although the scope of innovation is not much available in accounting firms, but still use of IT tools can improve the utility for client. Moreover, innovation can be seen, as offering new range and category of services. Number of new services offered with in the previous year or three years can be a performance measure of **innovation**.

Case Scenario 12 – Performance Pyramid

'Digital Computers' is a manufacturer and wholesale dealer of electronic goods. In the initial years, the company was performing excellent and was improving year after year. However, from past three years, the performance of the company is towards decreasing trend. In a report, the sales manager stated that sales had been disappointing, and company's sale has gone down drastically. However, the sales manager pointed out that some orders had been lost because the production department had been unable or unwilling to adapt product specifications to the requirements of the customer. Also, one of company's larger customers had returned goods which it claimed did not meet its requirements, and the customer has subsequently not placed any further orders with Digital Computers. In addition, a delay in the completion of another large order meant that some revenue originally budgeted for this year would not now be earned until next year. The employees and

managers are not motivated to perform at their best nor are the cycle time and waste at production department monitored.

Summary of Annual performance figure

Particulars	Rs. in Lacs		
	Actual (CY)	Budgeted (CY)	Actual (PY)
Sales	605	640	603
Less: Cost of Sales	343	365	341
Gross Profit	262	275	262
Less: Other Costs	173	183	175
Net Profit before tax	89	92	87

The CEO believed that company's performance measures needed to link operations to strategic goals more closely, and they needed to focus on non-financial as well as financial measures. The CEO has suggested that Digital Computers should use a structure for setting targets based on the concept of the performance pyramid and should not focus only on financial performance.

Required

- (i) LIST, how the system of performance measurement within Digital Computers could be improved?
- (ii) ASSESS how the implementation of a performance pyramid might help Digital Computers achieve its stated objectives for sales and profit growth.

Solution

(i) The performance reporting system of Digital Computers appears to have focus exclusively only on financial performance and does not provide information about effectiveness and efficiency issues which may be affecting the company's performance. Digital Computers can improve its performance by establishing a range of operational measures which should include both financial and non-financial performance targets.

Some of the key pointers which can improve the performance measure at Digital Computers:

- Be allied to corporate strategy, which needs to be linked to day-to-day operations of Digital computers.
- Focus on customer satisfaction which is of foremost importance as orders have been rejected as it did not meet the requirement of customers, hence increase in flexibility needs to be adopted.
- Consider internal as well as external measures in the company i.e. internal such as waste and cycle time can be monitored at production department as well external measures like customer's requirement can be assessed.
- Make explicit the trade-offs between different dimensions of performance i.e. in order to increase performance on non-financial performance dimension it has to decrease performance on the financial dimension.
- Consider all important factors to assess the performance whether difficult to measure.
- It appears that 'Digital Computers' is having poor communication and information sharing between departments. Therefore, having an integrated communication system across the organisation is recommended.

(ii) **Establishing corporate level objectives** – Establishing a performance pyramid structure should begin with the overall corporate objective or corporate vision. In Digital Computer, there may be the

objective of increasing profit by a fixed percentage each year and increasing market share. The overall objective should then be used to establish targets at the next level down in the performance hierarchy.

Strategic business unit objectives – At the business strategy level, performance targets should then be created for both internal efficiency which includes financial targets and external effectiveness which includes marketing targets. The financial and marketing targets should be consistent with each other.

External effectiveness – The marketing success is associated with the achievement of customer satisfaction. The success will need an efficient business operating system for all aspects of the cycle from product design to after sales service to customers. Customer satisfaction is linked with improved quality as well as focus on delivery of goods provided as per customer specifications.

Internal efficiency – The financial success is linked to the achievement of high productivity. This can be gained through reduced cycle time and decreased levels of waste. Quantitative measures of these factors are:

- The average total cycle time from customer enquiry to delivery.
- Waste in the form of idle machine capacity.

Setting targets – Targets should be identified for productivity, customer satisfaction and flexibility. Targets for flexibility may be qualitative in nature, relating to Digital Computer's ability to adapt product specifications to customer requirements. Targets for measuring customer satisfaction may include targets for reducing the volume of customer returns. For instance, specific quality targets may help Digital Computers to reduce the volume of customer returns. Targets for cycle time and delivery may help the company to complete customer orders more quickly, thereby increasing the amount of orders it can complete in a year and hence achieving its sales target and thereby its profit.

Case Scenario 14

Mr. Benn, oversees the diverse operations of Bennsys, a large multinational company by using a much decentralized management structure. According to its 2019 annual report, Bennsys had 1,25,000 employees and earned over \$100 billion in revenue. Mr. Benn managed this empire from his headquarters in London, that consists of 20 employees and occupies only 10,000 square feet, although the company's vice-chairman, Simon, who works out of London, occupies another 600 square feet. The total payroll, including benefits, of both locations was only just above \$2 million in 2019. Mr. Benn was invited as the chief guest in a business summit organized at New Delhi during March, 2020. Asked about how an organization of that magnitude could be managed with such a small resources as to space and manpower. Mr. Benn's own description about his and Mr. Simon's management style is, "we delegate almost to the point of abdication (renouncing everything)." An exaggeration perhaps, but clearly a decentralized style and he and his deputy are the stable believers of FOUR recognized levels of decentralization.

Required

In the context of responsibility accountings DISCUSS the levels of decentralization which Mr. Benn was referring to and do you concede to the view that Mr. Benn is exaggerating the success of his Divisional organization structure.

Solution

In a business context, decentralisation is the delegation of decision-making authority to smaller local units at lower levels of the organisation. This takes some control away from the hub and will often result in an upward flow of information – the opposite of what happens in a centralised organisation. An organisation with divisional structure has various divisions operating autonomously as business under a broad corporate framework according to geographical areas, markets or products and services; there by limiting the centralized monitoring and scrutinizing of each and every element of functioning. This would spare the top management from deploying time and efforts by sitting on the top at gigantic corporate offices. 'Bennsys' is a good example of a decentralised business. Mr. Benn is managing a staff of over 1,25,000 persons which is earning revenue over \$100 billion in revenue with small resources.

Responsibility accounting is apt where top management has a willingness to delegate the authority to make decisions. The idea behind the responsibility accounting is that each manager's performance should be judged by how well he or she manages those items under his or her control. There are four recognised levels of decentralisation in the context of responsibility accounting which Mr. Benn was referring to are detailed below:

Revenue Centre managers are having control over the generation of revenue from operation with no responsibility for costs.

Cost Centre managers exercise control over costs but not revenues and investments. Their responsibility is to minimize the cost of producing a specified level of output or the cost of providing a specified level of service. The objective of cost centre managers is to improve the efficiency of operations by finding ways to cut costs and minimize waste.

Profit Centre managers are having focus on profit. Their goal is to both maximize revenues and to minimize costs.

Managers of **Investment Centres** make decisions that influence costs, revenues, and investments. Their responsibility is to maximize the returns from invested capital, or to put the capital invested by owners and shareholders of their organizations to the best profitable use.

Organizations vary considerably in the extent to which they decentralize because decisions about whether and how much to decentralize involves numerous costs and benefits. Moreover, the scale of these costs and benefits depends on specific facts. A major chunk of top management's responsibility is to find out how to maximize the benefits and minimize the costs associated with decentralization. An organisation can increase benefits by carefully identifying the decisions under each manager's purview, matching the scope of decisions with the manager's skills and knowledge. It can also help lower-level managers in understanding the firm's values, goals, and strategy. Mr. Benn clearly expressed the management style that has focus on abdication. Abdication, like delegation, involves allocating duties and responsibilities to a team - but without the measuring and managing part. It sounds reasonable to believe that Mr Benn's style of functioning leads to the decentralization of decision-making process where in the division heads are free to set selling prices, choose which markets to tap in, make product mix and output decisions and select suppliers.

If decentralized business model is ideally crafted to suit the desired style of functioning, how voluminous the organisation be, could be well managed by the top management by occupying reasonably small space with very minimum number of employees and act on the basis of management by exception.

Skill Based Q.2 – Building Block Model

The Soup Ltd. offers a range of beauty parlor services like hair care, body care, manicures/ pedicures, skincare, etc. It has 150 Centre/s across the country. The business of beauty parlor is extremely competitive in all region. Each centre operates autonomously and managers are able to offer customize services.

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

- Service Customization
- Professionalism, Work, and Clinical Responsibility
- Client's Feedback

Company has developed a website where it creates blogs, post high-quality content related to beauty tips. Website is also connected to social media to reach customers. If a customer searches Soup's services on search engine, it automatically redirects to the place of nearest service center. Soup's all services are presently booking through online channel.

Results for one of the centre, "Roop", are given below. The column headed "Centre" shows the average figures for all Centre/s:

Particulars	Roop Oct'20	Centre Oct'20
Revenue (Rs.)	91,26,000	1,08,66,900
Gross profit (Rs.)	48,50,400	51,37,740
Number of senior Beauticians	90	110
Number of junior Beauticians	60	55
Number of website hits	15,010	19,260
Total number of services booked online and completed	9,915	12,270
Number of services taken from repeat customers	1,510	1,605
Total time spent completing jobs (hours)	24,120	25,880
Number of new service packages	3	2
Customer % in terms of feedback forms showing score of 9 or 10	86%	77%

Notes

- (1) Beauticians are categorized as 'senior' if they have been qualified for more than three years.
- (2) 'Junior' Beauticians includes both trainee beauticians and beauticians who have been qualified for less than three years.
- (3) The Roop launched three new service packs during the year:
 - free coupon of worth Rs. 600 for services over and above Rs. 1,200.
 - a head massage costing only Rs. 240, instead of the usual Rs. 480, for 10 days advanced bookings.
 - a haircut Rs. 120 will be charge, which usually costs Rs. 360, for all customers booking hair spa.

These three new service packs produced revenues of Rs. 7,92,000; Rs. 6,96,000 and Rs. 6,48,000 respectively. Two comparable new service packs developed by other centre/s produced revenues of Rs. 5,28,000 and Rs. 5,04,000.

(4) 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 Soup 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 Soup Ltd.

(i) ANALYZE Roop's performance relative to the other Centre/s.

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

Solution

1) Analysis

Competitiveness

	Roop	Centre/s Average
Website hits converted into orders (in percentage)	66.06% (9,915/15,010) × 100	63.71% (12,270/ 19,260) × 100

This ratio shows whether Roop's services are attractive compared to its competitors, which is essential if it is going to persist in such a competitive market. It has performed considerably better than Centre/s average, having converted 66.06% of website hits into jobs, compared to the 63.71% converted by other Centre/s. This is a good outcome.

Financial Performance

	Roop	Centre/s Average
Gross profit ratio	53.15% (48,50,400/ 91,26,000) × 100	47.28% (51,37,740/ 1,08,66,900) × 100

Gross profit ratio is the measure for financial performance. It indicates the percentage of revenue which exceeds the cost of goods sold. Roop's gross profit ratio is 5.87% higher than the average, which is a good result. This could be because of new service pack sales. It is also likely to be because of ratio of senior beauticians to junior beauticians (1.5), which is lower than the average (2) and junior beauticians will invariably be paid less than senior ones.

Quality of Service

	Roop	Centre/s Average
Jobs from repeat customers (in percentage)	15.23% (1,510/ 9,915) × 100	13.08% (1,605/ 12,270) × 100

Quality is a key aspect of Roop's service to customers and if it is poor, customers will not return. Again, Roop has surpassed the other Centre/s on average by 2.15 percentage points. Though, it has a lower

ratio of senior beauticians to junior beauticians (1.5) than other Centre/s (2), it might be possible that Roop has a portfolio of enthusiastic staff. So, the quality of work is probably better, thus the higher level of repeat customers.

Flexibility

	Roop	Centre/s Average
Time taken per job (hrs.)	2.43 (24,120/ 9,915)	2.11 (25,880/ 12,270)

The comparison shows that Roop takes longer time to complete a job than the other Centre/s average, which is not really good, and is probably because of they have slightly less experienced staff on the whole, but it could also be that they do a more comprehensive job than other Centre/s. Given the fact that they have a higher % of return customers than the other Centre/s and they are also graded 9 or 10 by most of the customers (86%). Therefore, this cannot be viewed as too adversely.

Resource Utilization

	Roop	Centre/s Average
Revenue per beautician	60,840 (91,26,000/ 150)	65,860 (1,08,66,900/ 165)

The crucial resource in a service company is its staff and so these indicators measure how this resource is being utilized. Roop's utilisation of its staff is lower than that of the other Centre/s by 5,020 per beautician. This clearly links in with the point that the average time to complete a job is longer at Roop than other Centre/s. However, given that Roop uses a slightly less experienced staff than other Centre/s and the fact that its gross margin is higher than the average, this should not also be viewed too adversely.

Innovation

	Roop	Centre/s Average
Revenue generated from new service packs (in percentage)	23.4% $\{(7,92,000 + 6,96,000 + 6,48,000) / 91,26,000\} \times 100$	9.5% $\{(5,28,000 + 5,04,000) / 1,08,66,900\} \times 100$

Roop is offering a wide variety of service packs to its customers. The ratio of 23.4% indicates that Roop has really outperformed other Centre/s on this front, generating a far larger part of its revenue by the introduction of new service packs, which must have attracted customers. This is a really good performance.

- (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.

Skill Based Q.4 – Profit Sharing Plan

Cona Precise Solutions (CPS) manufactures switchgear and specifically designed the electricity boards, which are sold to customer through wide-spread retailers and distributors network across the country.

CPS enjoys the high reputation among the stakeholders, specifically workers. The attrition rate at CPS is relatively lower than of other players in the industry; reason for low attrition rate is employee friendly policies, specifically in regard to sharing of profit and employee participation in decision making. Cona Precise Solution applied a profit-sharing plan around three ago. The terms of profit share plan of CPS can be read as follows–

1. The CPS will be responsible to make available the profit share pool, which will be equivalent to the minimum of following of three limits–
 - a) 30% of Earning before taxes, to the extent it is excess of the minimum acceptable target profit margin, or
 - b) 0.75% of Gross Revenue, or
 - c) Absolute amount of Rs 2.5 Crores
2. Minimum acceptable target profit margin will equivalent to the average of last three year's net operating profit of industry group.
3. The individual employee will be participated in profit share pool in proportion to ratio of that employee salary to the total salary of all employee of that division.

Additional Information for year just closed are–

1. CPS's earning before tax is Rs. 40 Crores.
2. Net operating assets employed by CPS are Rs. 120 Crores.
3. During the year, CPS records the revenue of Rs. 360 Crores.
4. Total relevant payment of salary for the year was Rs. 42 Crores.
5. Industry's average last three year's net operating profit rate is 8% of net operating assets.

Required

- i. EXPLAIN profit sharing plan, as performance management tool and group incentive plan.
- ii. COMPUTE the will the amount to be make available as profit sharing pool by CPS.
- iii. Mr. Vineet Shukla, who is one of the employee of CSP and eligible to participate in profit share plan, if his annual salary is 36 lakhs, then COMPUTE the amount of his profit share.
- iv. Synthesise profit sharing plan of CPS, in order to highlight major limitation.

Solution**(i) Profit Sharing Plan**

Profit Sharing is a group incentive arrangement where cash bonus is paid to worker or employees, calculated based upon the reported profit of concerned division (responsibility centre) of entity or of entity as a whole. Since profit sharing is based upon the profit, hence can be said a compensation plan based upon short – term performance.

Profit share plan must define the percentage of profit to be shared and who are eligible employees for participation and what will the ratio of participation by each employee/worker in the bonus pool

and formula for computing each of these percentage or ratio. The criteria for participation in share may be score or salary/wage.

Profit share plan may be used to boost the motivation among the employees to enhance and promote their performance, hence profit-sharing plan can be considered as performance management tool. Profit sharing plan can also be considered as pre-stage of Kaizen Costing.

(ii) Amount of profit-sharing pool will be equivalent to the minimum of following of three limits–

30% of Earning before taxes, which are in excess of the minimum acceptable target profit margin,

30% of 40 Crores – 8% of 120 Crores

12 Crores – 9.6 Crores

2.4 Crores

or

0.75% of Gross Revenue,

0.75% of Rs 360 Crores

2.7 Crores

or

Absolute amount

2.5 Crores

So, Amount of profit-sharing pool will be 2.4 Crores.

(iii) Share in profit sharing pool of Mr. Vineet Shukla

The individual employee will get share in proportion to ratio of his salary to the total salary of all employee of that division.

= Profit Sharing Pool × Individual Employee's Salary / Total Gross Salary

= 2.4 Crores × 0.36 crores / 42 crores

= 0.0205714 Crores i.e., Rs. 2, 05,714

(iv) Profit Sharing is a group incentive arrangement, where each member of group will participate in profit sharing pool in ration of either score scored by him/her in reference to total score; then it is valid. But if share of profit-sharing pool is calculated based upon wages likewise in case of CPS, then a worker who may be under performing getting the share despite his performance is not acceptable; In similar way, an efficient worker may not get due reward/share. Hence major limitation of profit-sharing plan is due to inherent nature of it.

Skill Based Q.7 – Balance Scorecard

NFC Limited is a company engaged in the manufacture and supply of forgings and castings for automotive and industrial applications. Automotive contributes to 60% of its revenues while the balance (40%) can be traced to industrial applications which amongst others include, Power, Oil and Gas and General Engineering. The company has an R&D set-up which includes new product development. The company recently concluded successfully a Long- Term Settlement with the workmen with an increase in productivity numbers in terms of output per man per day more than offsetting the increase in wages offered to workmen. The company has just completed (October 2018) its strategy and business planning exercise for Calendar year 2019 and beyond. The following is the data on 2018 (estimate) and the business plan for 2019.

Balance Sheet	Estimate 2018	Budget 2019
	Million	Million
Equity	3,000	3,000
Reserves (Opening)	1,000	2,250
Transfer (Current year surplus)	1,250	730
Debt @10% (pre-tax)	2,000	1,500
Trade Creditors	600	700
Total	7,850	8,180
Plant and Machinery	4,000	3,500
Inventories	1,500	1,630
Debtors	1,600	1,770
Cash	750	1,280
Total	7,850	8,180
Profit and Loss Account		
Sales	9,000	10,800
Less: Expenses	6,000	7,000
Less: Depreciation	500	500
Less: Interest	200	200
Profit	2,300	3,100
Less: Tax @ 30%	690	930
Profit After Tax	1,610	2,170
Less: Dividend and Dividend Distribution Tax	360	1,440
Transfer to Reserves	1,250	730

Assumptions/objectives drawn up in the making of the strategy and business plan document are as follows:

1. To improve shareholder value by attempting to grow EVA substantially over 2018.
2. To de-risk exposure to few sectors further by looking at other diverse applications through new technologies, tie-ups etc. This could be in the areas of Defense and Aerospace or even new areas like Electric Vehicles which would be the future in the mobility space.
3. To keep investing in R&D to ensure that the company keeps pace with changes in technologies and in meeting customer requirements by developing new products in accordance with their needs
4. Financials:
 - a) An increase of 20% in Sales has been assumed over 2018. This includes an expected market growth of 12%, 3% from a new product “NP” to a large manufacturer (a new customer) for 9 months in 2019. It

is expected that the new customer will approve the product by March 2019 (3 months from January 2019 when the approval process will start) so that 9 months sale can be realized. It normally takes 5 months for the approval. The company expects the balance 5% growth from normal new products, new customers, improved service levels in terms of delivery etc. Capacity is sufficient, also aided by the productivity improvement from the Long-Term Settlement with the workers.

- b) Inventories: A reduction in number of days inventory held by 5 days has been budgeted. Without this reduction, the inventories would have been Rs 1,800 Million as against 1,630 Million budgeted.
- c) Debtors: A reduction in number of days sales outstanding by 5 days has been budgeted. Without this reduction, the debtors would have been Rs 1,900 Million as against 1,770 Million budgeted.
- d) Expenses have been budgeted at Rs 7,000 Million taking into consideration cost savings. It should have been Rs 7,500 Million taking into consideration, increased activity levels (Sales), cost inflation including the wage increase from the Long-Term Settlement but without cost savings.
- e) No reduction or increase in creditors budgeted except for the increase in activity levels (Sales).
- f) Repayment of debt Rs 500 Million on 31st Dec 2019.

Required

Your superior, the CFO of the company has asked you to:

- (i) PREPARE a Balanced Score Card for Calendar year 2019 including objectives to be included for achieving long term goals of the company. He informs you that the company wants to use EVA as an overall performance measure and a driver to achieve improved shareholder value.
- (ii) The CFO also wants you to indicate metrics where possible and but ignore weightages for the perspectives and clearly EXPLAIN the inclusion of the objectives in each perspective of the balance score card.
- (iii) You have therefore been also entrusted with the task of PREPARING the Economic Value Added (EVA) with assumptions for the previous year 2018 (estimate) and also for the budget year 2019 and ensure that this forms the predominant basis for the balanced scorecard. Cost of Equity is 14%.

Solution

1. Balanced Score Card

Perspectives	Objective	Measures	Targets	Initiatives
Financial				
EVA (Millions)	Grow EVA	Absolute	1,435 Million	- Repay 500 Million of debt - Reduce working capital - Improve profit through top line growth and cost reduction
Working Capital	Reduce working	Reduce inventory	300 Million reduction	- MIS on inventory and

	capital	and debtors by 5 days each	(170 +130)	debtors on real- time basis - Weekly short meetings on inventory and debtors to monitor and initiate actions to achieve targets
Customer				
New Products	Increase over 2018	As a % to Sales	From x % to y %	- Meet <i>existing customers</i> with new product offerings - Meet <i>new customers</i> and find out their Requirements - Participate in exhibitions
On time Delivery	Increase over 2018	% of deliveries on time to total deliveries	From x % to y %	- Strengthen production planning and control process - Leverage IT systems for accurate and timely information flow on orders, delivery dates
Internal Process				
Manpower Productivity	Increase output per man per day	As agreed, under the long-term settlement	From XX to YY	- Training of employees - Improved communication - Improved supervision
Cost Reduction	Reduce cost of Production	Raw material costs Outsourcing costs Overheads	500 Million Reduction	- Alternate sources for raw material Improve yields through <i>value engineering</i> <i>Make or buy</i> on certain high-cost outsourced Components - Reduction in travel costs (use video conferencing) - Monitor other costs to save
New Product Approval by Customer	For expediting approval of "NP"	Reduction in time taken for approval	By 2 months	Form a task force Weekly progress monitoring by CEO Use of PERT/CPM tools
Learning and Growth				
Train senior technical staff in new technologies (products defense, aerospace)	To keep pace With changing technologies and to de risk exposure to few sectors	Timeline	By MMY (e.g., Dec 20)	Specific training Participation in seminars on new technologies

Explore possibilities for tie-ups on products for electric vehicles	Future growth through products for electric vehicles	Timeline	By MMY (eg. June'20)	- Appoint a consultant to look at possible partner - Prepare a road map to achieve the objective
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(ii) Rationale for each of the above perspectives:

- EVA has been included under “Financial Perspective” as this is what the company intends to drive the same and it is a good measure of shareholder value as it takes into consideration cost of equity which a normal profitability metric ignores. Working Capital is included, as an improvement in the working capital measure would affect cost of capital and hence EVA.
- New products and improvements in delivery times have been included under “Customer Perspective” as these have to be driven to achieve the sales volumes beyond normal industry growth. This will ultimately improve sales, profits and hence EVA.
- Manpower productivity and cost reduction have been included under “Internal Perspective” as these have to be monitored and further efforts taken to reduce other costs to achieve the cost reduction planned to finally achieve the profits required to deliver the EVA.
- As the balanced score card is just not a short-term measure, initiatives on new products, technologies and new markets have been included in the “Learning and Growth” perspectives to plan for long term sustained growth and to ensure that the company stays relevant in a changing business environment.

(iii) EVA Calculations

Particulars	2018 (Est.) Million	Budget 2019 Million
PAT	1,610	2,170
Add: Interest adjusted for tax {Interest \times (1-0.3)}	140	140
NOPAT	1,750	2,310
Capital Employed (see assumptions below)		
Equity (14%)	3,000	3,000
Reserves	1,000	2,250
Debt (10%)	2,000	2,000
Cost of Capital		
Equity (14%)	420	420
Reserves (14%)	140	315
Debt {10% \times (1-0.3)}	140	140
Cost of Capital	700	875
EVA (NOPAT – Cost of Capital)	1,050	1,435

Assumptions

For 2018 estimated, Capital Employed is opening equity, reserves and debt. Similarly, for budget 2019, for calculating Capital Employed, opening equity, reserves have been considered.

Economic and accounting depreciation were assumed to be the same.

Skill Based Q.8 – Balance Scorecard

ABC Limited is an auto component manufacturer having a facility in Chennai. It has been in the business for the past 7 years supplying a range of gaskets for automotive applications. It predominantly supplies to car manufacturers in and around Chennai but also in a small way to a few manufacturers based in Pune and Bangalore.

The promoters have worked previously in automotive industry and have several years of experience in the auto industry.

Quality is of paramount importance in gaskets especially for cylinder head gaskets as any leak (considered a major defect) could severely damage the engine. While the company is certified for TS 16949 standard of quality systems, the PPM (parts per million of defects) of finished products of the company are yet to reach “Zero PPM” levels which are the levels reported by its nearest competitor.

As the supplies are made to auto OEMS (original equipment manufacturers), just in time supplies are a must to avoid line stoppages at the customer end. It has signed purchase agreements with a few auto manufacturers with a clause amongst various others to pay for line stoppages at customers end.

The procurement function plays a critical role as the quality of input raw material can obviously significantly impact the quality of gaskets produced. Also, input material has to be made available in time to avoid stocks outs of raw materials, loss of production and hence line stoppage at customers end.

While the company has taken a conscious decision to keep stock of finished goods at a rate higher than industry to avoid stock outs, it has decided to keep input raw material stocks at low levels to partially manage the impact of inventory holding costs as it has to maintain low working capital levels to save on interest cost.

The sales function besides having the challenge of finding new customers, offering new products and collection of dues is faced with a daunting task of getting price increases arising out of input cost increases from tough auto customers.

Gaskets in general apart from automotive find use in refineries, power generation, chemical processing, industrial machinery, pulp & paper, food & pharmaceuticals and a few other industries viz. textiles and wastewater treatment.

The CFO met the CEO and they discussed declining growth, operating and net margins as well as loss of customers due to price and quality considerations. The CEO indicated that the Board wanted the company to grow double the turnover by 2024 with 2019 as the base. He wanted the CFO to make out a draft Balanced Score Card for 2020 addressing the challenges faced by the company and also its objective of doubling the turnover by 2024, so that this can be discussed with the Senior Management Team and finalized.

Required

You are a Senior Finance Manager of the company and the CFO asks you to draft brief report and he also provides you with newspaper reports on India's move towards BS VI emission norms, the India's plans to move to Electric Vehicles and also about the current slowdown faced by the economy including a severe one in the automotive industry

Annexure

	2019	2018	2017	2016	2015
Revenue growth over Previous year	8.1%	8.8%	9.7%	1.6%	---
Revenue (Cr.)	400	370	340	310	305
Expenditure (Cr.)	-359	-326	-297	-277	-265
Operating Profit (Cr.)	41	44	43	33	40
Interest (Cr.)	-14	-13	-12	-11	-10
Depreciation (Cr.)	-14	-13	-12	-8	-8
PBT (Cr.)	13	18	19	14	22
Operating Profit %	10.3%	11.9%	12.6%	10.6%	13.1%
PBT %	3.3%	4.9%	5.6%	4.5%	7.2%

Additionally, the following information is to be noted:

1. PPM has deteriorated to 115 in 2019 from the best of 25 achieved in 2017.
2. Working Capital turns (Sales/ Working Capital) have deteriorated to 34 times from 67 times in 2017.
3. The company also lost three of its customers who cited quality and price considerations.
4. The company's attrition at middle management was high at 13% compared to industry's 10%. The predominant reasons attributed to this are lack of challenging work and career growth prospects.

Solution**Report**

Addressed to:

Office of CEO,
ABC Limited,
Dated – 24th April 2020

Report on Balanced Score Card for 2020 addressing the challenges faced by the company

The challenges faced by the company can be categorized as follows:

1. Financial: Declining profitability and hence reduced returns to shareholders. Possible causes; Declining sales growth, challenges in getting price increases, increasing cost of quality due to increasing defects (PPM), higher interest costs due to higher working capital.
2. Top-line (sales) related: Declining sales, slowdown in economy, dependence on auto industry, lack of- new products, new customers, and loss of customers.
3. Operations including procurement: Increasing PPM levels, input cost increases.

Balanced Score Card

Perspectives	Measures/ Targets
Financial Perspective	Grow Sales by 10% (over 2019) by December 2020. PBT Margin for 2020 not to be less than 10%. NWC turns to be 60 by December 2020.
Customer Perspective	Bring down PPM levels to 50 by March 2020. Bring down Cost of Product by 5% and share 50% with customer. Carry out a Customer Satisfaction Survey by March 2020 and implement actions by December 2020.
Internal Perspective	Launch and adopt Total Productive Maintenance. Complete training by April 2020, Launch and adoption from May 2020 Form a cross functional team for working on, monitoring and improving NWC; through reduction of inventory (reduce number of days FG from xx to yy), speedy collections (reduce number of days receivables from aa to bb), negotiating higher credit from raw material suppliers (increase credit from x to y days). Reduction in time to launch new products from xx days to yy days.
Learning and Growth	Conduct a market study for entry into manufacture of gaskets for sectors other than automotive as a de-risking and growth strategy. Complete study by June 2020 and action viability study and CAPEX by December 2020. Revisit and rehash Human Resource Development program to bring in new talents, train existing resources on new technologies, new products by June 2020. Adopt latest Information technologies for speedy and accurate data analysis and Management Information System for quick decision making, speedier internal operations and quick customer service.

Rationale for the above

1. Tasks included in the Learning and Growth perspectives will help the company's growth as it will de-risk the threat from Electric Vehicles which will eliminate the need for internal combustion engines used in fossil fuel driven automobiles. It will also enable the company to enter into other industries where gaskets find use. The Human Resource Development Program will address the dual challenge of attrition and making the current employees ready for new markets and technologies. With Information Technology space changing, adoption of new technologies will help the company staying ahead or in tandem with competition.
2. Including Total Productive Maintenance will help the company address quality issues and productivity of machines. This along with NWC initiatives will not only improve customer satisfaction but also improve bottom line.
3. Inclusion of PPM, cost reduction and customer surveys will improve Customer satisfaction, customer retention, bring in new customers and stop loss of customers
4. Inclusion of growth in sales targets will help achieve the company's growth objectives. Others like net profit improvement and improvement in NWC will automatically flow from the initiatives in the other three perspectives.

Further details can be tabled on requisition basis.

Closure of Report

Chief Financial Officer ABC Limited

Skill Based Q.11 – Superior Performance

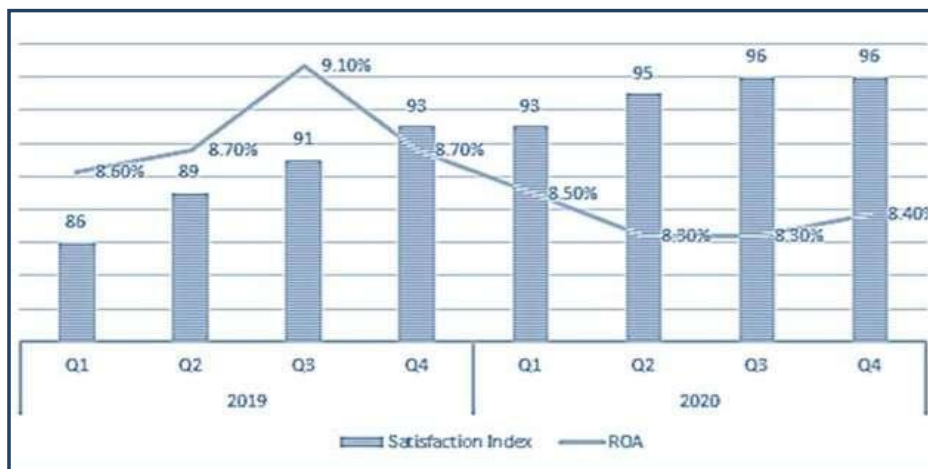
Kristin LLP sells wide range of household products. The firm has recently received few negative feedbacks about the product and customer services. CEO is not happy with this. As per the opinion of CEO -

“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.

Solution

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!

Skill Based Q.12 – Non Profit Organisation.

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.

Required

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

Solution**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.

Skill Based Q.21 – Building Block Model

Healthcare hospital provides medical care to patients to all strata of the society at nominal cost. Hospital has been operating for the last 15 years. It gets grant from the government that helps it sustain its operations. Each year an annual report is submitted to the officials in the health ministry that is in charge of giving out grants to hospitals. Each year over the last 15 years, grants given to the hospital has been increasing. This increment was found necessary to meet the increase in operational costs due to inflation. While operations have been moderately successful in the recent years, the grants committee is of the opinion that the hospital can manage its funds better.

To benchmark performance, performance of Healthcare hospital is being compared with the performance of another government funded hospital within the same city, Lifeline hospital. Both hospitals have similar scale of operations and get the same amount of grant. Given below are some of the parameters that are tracked at both hospitals:

Operational Parameters	Healthcare Hospital		Lifeline Hospital
	Budget	Actual	Actual
Total inpatients	1,10,000	96,000	1,00,000
Delay in admission due to unavailability of beds			
Number of inpatients waiting for more than 1 week	1,100	2,880	500
Number of inpatients waiting for more than 2 weeks	-	960	-
Total outpatients	90,000	95,000	93,000

Delay in appointment due to unavailability of medical staff			
Number of outpatients waiting for more than 1 week	900	1,900	465
Number of outpatients waiting for more than 2 weeks	-	475	-
Number of emergency admissions	400	600	500
Delay in providing medical care to emergency admissions	-	5	-
Number of medical staff shortages (positions not filled for more than one month)	3	5	1
Cancelled or delayed operations (due to non-clinical reasons)	5	20	6
Number of complaints received related to medical care	500	1,350	600
Number of complaints resolved within 15 days	500	1,080	550
Number of deaths post operation (all inpatients)	4,400	2,880	2,000
Number of medical negligence case that the hospital lost	2	5	-
Number of errors in prescription of drugs	15	45	10
Number of infection outbreaks within the hospital	-	2	-
Bed occupancy rate	90%	85%	94%
Average patients stay (days)	4	6	5
Operating theatre utilization rate	95%	90%	95%
Revenue including government grant (in crores)	15	13	16
Operating expenses (in crores)	12	12	12
ROI	8%	5%	9%
Staff Training sessions (hours)	500	500	600
Research publications	5	3	6

- Both hospitals have 50 wards with 10 beds in each ward.
- Each hospital has 50 doctors from various specialties and 75 nurses.
- Both hospitals were open all days of the year.

Required

(i) The grants committee wants to ANALYZE performance of both hospitals with respect to:

- Access to services
- Clinical performance
- Efficiency of operations
- Financial management
- Innovations

(ii) While preparing the balanced scorecard, how will you CATEGORIZE the above performance measures?

Solution

(i) Analysis of Performance with respect to:

Access to Services

Access to services is an indicator of whether patients are able to get medical care when they need it. Better access to medical service will improve chances of recovery for the patients. Given the information in the problem, this can be assessed using the following parameters:

- Delay in admission to inpatients due to unavailability of beds.
- Delay in appointments to outpatients due to unavailability of medical staff.
- Delay in providing medical care for emergency admission.
- Number of medical staff shortages.
- Cancelled or delayed operations.

The hospital should aim at reducing the delay and shortages in order to provide patients with better access to medical services.

- (a) Delay in admission to inpatients due to unavailability of beds:

As per the hospitals' policy, patients who need admission have to be accommodated within 1 week to get access to services. Any delay beyond this period is tracked by their information system. For delays, due to unavailability of beds, the hospitals are tracking two-time lags, delay by more than a week and delay by more than 2 weeks. Unavailability of beds shows that there are constraints in the capacity of patients to whom the hospital can provide service.

Operational Parameters	Healthcare Hospital		Lifeline Hospital
	Budget	Actual	Actual
Total inpatients	1,10,000	96,000	1,00,000
Delay in admission due to unavailability of beds			
Number of inpatients waiting for more than 1 week	1,100	2,880	500
Number of inpatients waiting for more than 2 weeks	-	960	-
Percentage of inpatients denied access to service			
by more than 1 week	1.00%	3.00%	0.50%
by more than 2 weeks	0.00%	1.00%	0.00%

As can be seen, Healthcare hospital has a target to provide admission within a week to 99% of inpatients, delay beyond a week may happen only in 1% of cases. Delay beyond 2 weeks should not occur. However, actual performance indicates that Healthcare hospital could provide admission within a week only to 96% of inpatients. There has been a time lag of more than a week in providing admission to 3% of the inpatients. This is already 2% more than the target. Further, time lag beyond 2 weeks in providing admission has occurred in 1% of inpatients. Therefore, 4% of the inpatients had to wait for more than a week, in some cases more than 2 weeks, to get admission. In contrast at Lifeline hospital, only 0.5% of inpatient faced time lag of more than a week in getting admission to the hospital. There were no instances where patients requiring admission had to wait more than 2 weeks.

This shows that Lifeline hospital provides better access to services as compared to Healthcare hospital.

(b) Delay in getting appointment due to unavailability of medical staff:

Operational Parameters	Healthcare Hospital		Lifeline Hospital
	Budget	Actual	Actual
Total outpatients	90,000	95,000	93,000
Delay in appointment due to unavailability of medical staff			
Number of outpatients waiting for more than 1 week	900	1,900	465
Number of outpatients waiting for more than 2 weeks	-	475	-
Percentage of inpatients denied access to service			
by more than 1 week	1.00%	2.00%	0.50%
by more than 2 weeks	0.00%	0.50%	0.00%

As per the hospitals' policy, outpatients should be able to get appointment within a week to meet the medical staff. Delay beyond a week is tracked by the hospital's information system as delay beyond a week and delay beyond two weeks. Healthcare hospital targets to provide appointments to meet medical staff within 1 week to 99% of the outpatients. Delays due to unavailability of medical staff can occur only in 1% of the cases. However, actual appointment schedule indicates that 2% of the outpatients had to wait for more than 1 week and 0.5% of the outpatients had to wait for more than 2 weeks to meet the doctor. This indicates that Healthcare hospital has not been able to meet its target. To improve performance, the reason for unavailability of medical staff has to be understood. It might indicate that more hiring is needed or high medical staff turnover.

In comparison, Lifeline hospital has provided better services to outpatients, only 0.5% of the patients had to wait beyond a week to get appointment with the doctor. This shows that Lifeline hospital provides better access to services as compared to Healthcare hospital.

(c) Delay in providing medical care to emergency admission patients:

In the case of Healthcare hospital, there were 5 instances when medical care could not be provided to emergency admission patients immediately. The hospital aims never to have such instances however this target has not been met. In case of emergencies, medical care is required urgently, any delay may impact recovery of the patient. Reasons for the delay in providing medical care to such patients have to be investigated. Lifeline hospital has been able to provide medical care immediately to all its emergency admission patients.

This shows that Lifeline hospital provides better access to services as compared to Healthcare hospital.

(d) Medical staff shortages:

The hospital should have enough doctors and nursing staff at any point in time to be able to provide good quality of medical care to patients. If there are vacancies, the existing staff have to bear extra patient load. This could lead to delays, some of which have been outlined above. This results in patients getting lesser access to medical services when they need it. Healthcare hospital has 5 medical staff vacancies that have been vacant for more than a month, as compared to the target of 3. There are lesser resources available to provide patient care. In comparison, Lifeline hospital has only 1 position that was vacant for more than a month.

This shows that Lifeline hospital provides better access to services as compared to Healthcare hospital.

(e) Cancelled or delayed operations due to non-clinical reasons:

When operations are cancelled or delayed are cancelled due to non-clinical reasons, it indicates that there are administrative issues that deny patients access to medical care. Possible reasons could be unavailability of operation theatres, unavailability of medical staff or unavailability of required instruments or medicines.

Compared to an expected 5 such instances, the actual cancellations or delays have been 20 in the case of Healthcare hospital. This is a huge variation that needs to be investigated. Given in the problem that operation theatres are used only to 90% of their availability. Possibly cancellations are not due to unavailability of operation theatres. It could be due to medical staff shortage or unavailability of instruments. Reasons have to be investigated to take appropriate action. Comparatively, such instances are fewer in the case of Lifeline hospital.

Clinical Performance

Clinical performance can be evaluated by looking at the quality of actual work performed. The parameters to look at are:

Operational Parameters	Healthcare Hospital		Lifeline Hospital
	Budget	Actual	Actual
Number of complaints received related to medical care	500	1,350	600
Number of complaints resolved within 15 days	500	1,080	550
Number of deaths post operation (all inpatients)	4,400	2,880	2,000
Number of medical negligence case that the hospital lost	2	5	-
Number of errors in prescription of drugs	15	45	10
Number of infection outbreaks within the hospital	-	2	-

(a) Number of complaints received related to medical care:

As can be seen from the table, the number of complaints received by Healthcare hospital is more than twice the expected volume. Only 80% of these have been resolved within the time frame of 15 days. Comparatively, Lifeline hospital gets fewer complaints also the complaint resolution rate within the given framework is much higher at 92%.

(b) Number of deaths post operation:

The actual deaths post operations are much lesser. While this is a good indication of quality, the objective of the hospital should be to keep this as low as possible. Lifeline hospital has a lower mortality than Healthcare. Good quality medical care can contribute towards preventing deaths post operation.

(c) Number of medical negligence case that the hospital has lost:

The fact that the hospital has lost a case of medical negligence shows that the quality of clinical care provided is questionable. In this case of Healthcare hospital, the number of such cases lost is 5. This is in excess of an expected loss of 2 cases. This indicates that quality of clinical care is found wanting at Healthcare hospital. Lifeline hospital has not lost any case of medical negligence implying that quality of medical care is better than Healthcare.

(d) Errors in prescription of drugs:

Prescription of drugs to cure an ailment should always be accurate. Any errors could be disastrous to the patient's health. Compared to the expectation, Healthcare has three times the number of prescription errors. This shows that medical staff have been negligent in providing their service. Again, Lifeline hospital has a better record comparatively.

(e) Infection outbreak in hospital premises:

Outbreak of infection within hospital premises indicates that proper standards of hygiene are not being maintained at Healthcare hospital.

Efficiency of Operations

Operating efficiency can be assessed using the following parameters:

Operational Parameters	Healthcare Hospital		Lifeline Hospital
	Budget	Actual	Actual
Bed occupancy rate	90%	85%	94%
Average patient stay (days)	4	6	5
Operating theatre utilization rate	95%	90%	95%

(a) Bed occupancy rate:

Bed occupancy is a factor that is dependent on the number of inpatient admissions. While this factor cannot be controlled by Healthcare, it is important to track this ratio to look at capacity utilization. The bed occupancy rate is lower than the expected rate. If this persists over a longer period, the hospital may want to explore the option of scaling down the number of wards and beds. The space freed up can be utilized for some other productive purpose.

However, as explained in point (a) above, 4% of the inpatients at Healthcare hospital are being denied admission due to unavailability of beds. This is a contradiction that needs to be investigated. Possible reasons could be administrative ones like inability to get the room and bed on time once the previous patient vacates. Else there may be miscommunication between the department discharging patients and the department admitting patients. Bed occupancy may not be tracked on real time basis due to which these delays in admission have occurred.

Lifeline hospital has an occupancy of 94% that shows that it has just the sufficient number of beds to meet demand.

(b) Average patient stay (days) in the hospital:

On an average a patient is staying in the hospital for 2 days more than the target of 4 days. While this factor is dependent on the type of ailment, lower the patient stay the higher can be the bed occupancy rate. That means more patients can utilize the same resources if patient stay is shorter. This may be needed when there is a constraint on the beds available, which is not the scenario in the current case. However, before taking action to improve bed occupancy rate, a hospital should ensure that quality of medical care given is not compromised.

In the given problem, bed occupancy is only 90% at Healthcare hospital. Therefore, the hospital can afford to have longer patient stay. Lifeline hospital has 1 lesser patient stay day, only marginally

different from Healthcare's record. In both cases, since there is no constraint on bed occupancy, higher average patient stay can be managed without any constraint.

(c) Operating theater utilization rate:

Utilization of operating theater is subject to the nature of treatment, something that cannot be controlled by a hospital. However, it is necessary to track this parameter since it shows whether the facilities that are currently in place are sufficient and are utilized properly. Again, at 90% Healthcare hospital has a lower operating theater utilization rate compared to the expected usage. If this continues in the long run, the number of operating theaters can be reduced to make resources available for other uses.

Lifeline hospital has a higher utilization rate at 95%, indicating more efficient use of resource.

(d) Medical staff shortage:

Medical staff is the most important resource at a hospital. Higher vacancies could imply higher staff turnover. A possible reason could be dis-satisfaction with the employer. Healthcare should understand the reason for have 5 positions that it has not been able to fill in within 30 days. Since this reduces the number of staff available, efficiency of the hospital will suffer. Comparatively, Lifeline makes better use of its medical staff since only one position was vacant for more than a month.

Financial Management

Healthcare hospital has an actual surplus of Rs. 1 crore compared to a budget of Rs. 3 crores. (Surplus = Revenue – Operating expense). ROI of 5% is below the target of 8%. The grants committee feels that there is a wastage of funds at the hospital. Therefore, areas of wastage should be identified such that operating expenses can be controlled better. Lifeline hospital has a surplus of Rs. 4 crores. Since there are other hospitals like Lifeline that are vying for grant, Healthcare has to make itself competitive in this respect. Therefore, it has to be more efficient, effective and economical in its operations.

Innovations

Research publications indicate that newer discoveries have been made in fields that can further the horizons of knowledge. Therefore, research publications are an important indicator of innovation. While staff training is not directly related to innovations, they do keep the experts up to date in their subject area of expertise.

(ii) Performance Measures Categorized into the Balance Scorecard

- Customer Perspective would include availability of service measures and clinical performance measures.
- Internal Processes Perspective would include measures used to determine efficiency of operations.
- Financial Perspective would include details of the surplus generated and ROI.
- Learning and Growth Perspective would include staff trainings and research publications.

Combined with other parameters that the grant committee finds important the balanced scorecard can benchmark the hospital's performance with its own targets and the performance of Lifeline hospital. Decision to extend grants and its quantum can be decided on this basis.

Important Note - Students may note that this is comprehensive question covering various aspects of performance measurement. While analyzing performance in this particular question students may treat each part (like access to service, clinical performance, efficiency of operations) as a separate question

Skill Based Q.22 – Building Block Model

Learning Horizons is an educational institute that conducts courses for students in accounting, law and economics. The institute is partially funded by the government. The institute aims to provide quality education to students of all backgrounds. The institute admits students who can fund their education privately as well as those who get sponsorship from the government. Knowledgebase is another educational institute in the same city providing courses similar to Learning Horizons. It is entirely private funded college where students arrange to pay for their own fees. It can be taken as a peer institution for comparison purposes.

Information about their operations for the year ended March 31, 2020 are as follows:

(1) Both Learning Horizons and Knowledgebase offer their courses that last the entire year. All of them are regular classroom lectures conducted through the week.

(2) Budget and actual fee rate structure for the year are the same. Information about the fees for each course are as follows:

Budget and Actual Fees in Rs.

Course Type	Learning Horizons		Knowledgebase
	Privately Funded	Government Funded	Privately Funded
Accounting	1,20,000	75,000	1,00,000
Law	1,20,000	90,000	1,50,000
Economics	80,000	60,000	1,00,000

(3) Salary details for lecturers and administrative staff are as follows: (Salaries in Rs.)

Staff Type	Learning Horizons		Knowledgebase
	Budget	Actuals	Actuals
Lecturers	5,00,000	5,50,000	6,00,000
Administrative staff	3,00,000	3,00,000	4,00,000

(1) Budgeted costs for year based on 8,500 students per annum for Learning Horizons are as below:

Costs	Amount Rs.	Variable Cost %	Fixed Cost %
Tuition Material	40,00,00,000	100%	---
Catering	10,00,00,000	75%	25%
Cleaning	1,00,00,000	25%	75%
Other operating costs*	5,00,00,000	25%	75%
Depreciation	1,00,00,000	---	100%

* includes cost of freelance staff

(2) Actual costs (other than salary costs) incurred during the year:

Costs	Learning Horizon	Knowledgebase
Tuition Material	42,00,00,000	40,00,00,000
Catering	10,00,00,000	13,00,00,000
Cleaning	1,00,00,000	1,50,00,000
Other Operating Costs*	6,00,00,000	5,00,00,000
Depreciation	1,00,00,000	1,50,00,000

* includes cost of freelance staff

(6) Keeping in line with latest technological developments, the management of Knowledgebase is introducing on-line tuition support by its lecturing staff. Learning Horizons on the other hand offers distance learning course. A general feedback from prospective students has revealed that some students would like weekend courses since during the week they focus on their regular jobs. Also, some students have requested for intermediate qualification, in the event that they discontinue the course halfway due to inability to complete the course or for other personal reasons.

(7) Both Learning Horizon and Knowledgebase have a policy to have a lecture staff of 50 throughout the year. When there is a shortfall in teaching staff available, instead of recruiting a fulltime lecturer, Knowledgebase substitutes the requirement with freelance staff for lectures. The cost of freelance staff is much lower than regular staff.

(8) Appendix with further details:

Sundry Statistics

For the year ended 31st March 2020

Particulars	Learning Horizons		Knowledge-base
	Budget	Actuals	Actuals
Number of students:			
Accounting	4,000	3,800	4,100
Law	2,500	2,550	2,500
Economics	2,000	1,500	1,200
Total students	8,500	7,850	7,800
Student mix (%) for each course:			
Privately funded	80%	70%	100%
Government funded	20%	30%	0%
Number of enquiries received:			
Accounting	4,500	4,500	4,600
Law	2,800	2,700	3,050
Economics	2,200	1,600	1,225
Total enquiries	9,500	8,800	8,875
Number of lecturers employed during the year	50	50	50
Number of lecturers recruited during the year:			
Accounting	2	4	1
Law	1	3	-
Economics	1	3	-
Total recruitment	4	10	1
Number of administrative staff	12	12	9
Pass Rate:			
Accounting	95%	99%	93%
Law	95%	98%	90%
Economics	95%	95%	95%
Overall Pass rates for the courses	95%	97%	93%
Days in a year when freelance lecturers were used	-	-	30
Number of new courses under development	-	-	6

You are the management accountant of Learning Horizons. The results for the year are to be reviewed next week by the management. To assess performance, you want to prepare the report as per the Fitzgerald and Moon model.

Required

(i) Using the “Results” dimension of performance as per the Fitzgerald Moon model prepare a variance ANALYSIS of Learning Horizons actual and budgeted financial performance. Also, based on the information given in the problem, collate the actual financial figures for Knowledgebase, use it as a basis to prepare ANALYSIS of competitiveness of Learning Horizons and Knowledgebase.

(ii) Using the “Determinants” dimension of performance as per the Fitzgerald Moon model EXPLAIN

- Quality of service
- Flexibility
- Resource utilization
- Innovation
- Course fees set by the government for various subjects cannot be increased beyond an average of Rs 75,000 per student. If the costs are maintained within this budget, the government can provide more sponsorship or grants in future. ADVISE a method that the management of Learning Horizons can use to resolve this.

Solution

(i) Analysis of the “Results” dimension of performance as per the Fitzgerald and Moon model

Financial Performance of Learning Horizons and Knowledgebase

The original budget had been prepared for 8,500 students, while actual enrolments are 7,850 students. At the very onset, reasons for lower enrolments have to be found and analyzed. For comparison of actual and budget, the budget of Learning Horizons has to be flexed to scale. Hence the budget needs to be scaled down to 7,850 for preparing a variance analysis.

Particulars	Learning Horizons				Knowledgebase	
	Budget		Actual		Actual	
	Number	Amount Rs	Number	Amount Rs	Number	Amount Rs
Revenue						
(a) Private Funded						
Accounting	2,955	35,46,00,000	2,660	31,92,00,000	4,100	41,00,00,000
Law	1,847	22,16,40,000	1,785	21,42,00,000	2,500	37,50,00,000
Economics	1,478	11,82,40,000	1,050	8,40,00,000	1,200	12,00,00,000
subtotal (a)	6,280	69,44,80,000	5,495	61,74,00,000	7,800	90,50,00,000
(b) Government Funded						
Accounting	739	5,54,25,000	1,140	8,55,00,000	---	---
Law	462	4,15,80,000	765	6,88,50,000	---	---
Economics	369	2,21,40,000	450	2,70,00,000	---	---
Subtotal (b)	1,570	11,91,45,000	2,355	18,13,50,000	---	---
Total Revenue (a)+(b)	7,850	81,36,25,000	7,850	79,87,50,000	7,800	90,50,00,000
Expenditure						
Salaries						
Lecturers	50	2,50,00,000	50	2,75,00,000	50	3,00,00,000
Administrative staff	12	36,00,000	12	36,00,000	9	36,00,000
subtotal of salaries	62	2,86,00,000	62	3,11,00,000	59	3,36,00,000

Tuition Material		36,94,11,765		42,00,00,000		40,00,00,000
Catering		9,42,64,706		10,00,00,000		13,00,00,000
Cleaning		98,08,824		1,00,00,000		1,50,00,000
Other Operating Costs		4,90,44,118		6,00,00,000		5,00,00,000
Depreciation		1,00,00,000		1,00,00,000		1,50,00,000
Total Expenditure		56,11,29,413		63,11,00,000		64,36,00,000
Net Profit		25,24,95,587		16,76,50,000		26,14,00,000

Note

(1) Original revenue budget is for 8,500 students. Actual enrolments are 7,850 students. For comparison, the budgeted revenue has also been adjusted to 7,850 students. The mix between private and government funded students is 80:20 as per the budget. The adjusted student strength is allocated between the courses based on the original budget student strength.

For example, out of the total strength of 7,850 students, based on the budget ratio, 80% are taken to be privately funded. This works out to 6,280 students. The strength for flexible budget for accounting course will be = $(6,280 \times 4,000/8,500) = 2,955$ students. Likewise, the strength for flexible budget for other courses is calculated in a similar manner.

(2) The budgeted expenses are for 8,500 students. Actual students are 7,850. For comparison, variable costs in the budget have been adjusted for 7,850 students. Fixed costs remain the same. For example, tuition material has a budget of Rs. 40 crore for 8,500 students. This is 100% variable, therefore adjusted budget for 7,850 students would be Rs. 40 crore /8,500 \times 7,850 students. The total budgeted cost for 7,850 students is therefore 37 crore.

Semi-variable costs in the budget, are separated as fixed portion and variable portion for the purpose of recalculation. For example, catering cost is Rs. 10 crore for 8,500 students, of which

Rs. 2.5 crore is fixed. The balance Rs. 7.5 crore is for 8,500 students and is variable. The budgeted cost per student is therefore Rs. 8,823. For 7,850 students, the variable cost works out to Rs. 6.93 crore. Adding the fixed cost, the total budget for catering for 7,850 students is Rs. 9.43 crore.

Likewise, the budgeted cost for cleaning and other operating expenses is calculated in a similar manner.

Analysis of Actual Financial Performance with respect to Budget

(a) Originally the student strength was expected to be 8,500 in comparison to an actual number of 7,850. The reason for this shortfall in enrollment should be analyzed by looking into non-financial performance measures.

(b) On the revenue side, actual revenue of Rs. 80 crore is marginally lower than the adjusted budget of Rs. 81.4 crore. Since the budget and actual course fee rates are the same, the reason for this difference is on account of the mix between the private and government funded students. Actual enrollments had a greater ratio of government funded students, for which the fees are lower. As per the flexed budget, government funded students were expected to be 1,570 versus an actual of 2,355, higher by 50%. Reasons for the change in student mix from a budget of 80:20 to actual mix of 70:30 has to be analyzed.

(c) On the expenditure side, actual costs of Rs. 63 crore is 12% more than the corresponding budget of Rs. 56 crore. The increase for salaries over budget is because a higher market rate that has to be paid for a lecturer. Given that Knowledgebase also pays a higher rate, the budget may need to be

amended to reflect a more realistic salary rate. The other major variance is on account of the tuition materials procured for the students. While the budget for 7,850 students is only Rs. 37 crore, the actual expenditure is Rs. 42 crore. Reasons for this large variation has to be analyzed. Reasons could reflect the quality of education imparted. If in reality better quality study materials costs more, the management has to decide whether they would be willing to incur this additional cost. This might have a further impact on the fees charged to privately funded students and the management may also want to ask for increase in the government sponsored fee rate.

(d) Overspend is noticed in other operating costs as well, actual cost is Rs. 6 crore versus Rs. 4.9 crore budget. As mentioned in the problem, 75% of this cost is fixed in nature, amounting to Rs. 3.75 crore (75% of Rs. 5 crore original budget). This portion of the cost should remain the same irrespective of variation in student enrollments. The remaining portion of the budget Rs. 1.15 crore is variable. The actual spend is Rs. 6 crore, of which ideally Rs. 3.75 crore would be fixed. If there is any variation in fixed cost, it should be looked into. If justified, future budgets need to be adjusted to reflect the higher cost. The remaining variable portion should also be analyzed to understand the reason for the higher spend.

(e) Overall, the impact of lower revenue and higher cost, has resulted in a shortfall of Rs. 8.48 crore (34% shortfall) as compared to the adjusted budget for 7,850 students. Action should be taken by further studying other parameters like competitor's performance and other non-financial factors like quality of education, pass rate, innovation.

Competitive Performance of Learning Horizons and Knowledgebase

The average revenue and cost per student for Learning Horizons and Knowledgebase are as below:

Average Revenue and Cost per student

Particulars	Learning Horizons		Knowledgebase
	Budget	Actual	Actual
Total revenue (Rs.)	81,36,25,000	79,87,50,000	90,50,00,000
Number of students	7,850	7,850	7,800
Revenue per student (Rs.)	1,03,646	1,01,752	1,16,026
Total cost (Rs.)	56,11,29,413	63,11,00,000	64,36,00,000
Number of students	7,850	7,850	7,800
Cost per student (Rs.)	71,481	80,395	82,513

The cost per student at Learning Horizons is marginally lower than Knowledgebase. However, the revenue per student at Knowledgebase is much higher. Analyzing the components further:

(a) Student Mix: Knowledgebase has higher revenue by more than 10 crore, almost 13.3% higher compared to Learning Horizons. Reasons could be on account a higher fee rate structure at Knowledgebase as compared to Learning Horizons, where part of the fee structure is government funded at a lower rate.

(b) Course Rate: Learning Horizons charges Rs. 1,20,000 per year for its accountancy course which is higher compared to Knowledgebase's rate of Rs. 1,00,000 per year. This might be a reason for a higher enrollment at Knowledgebase of 4,100 students compared to Learning Horizons enrollment of 3,800 for the same course. The management has to verify if this higher rate is sustainable.

(c) Course Rate: Learning Horizons charges Rs. 1,20,000 for its law course compared to Rs. 1,50,000 at Knowledgebase. However, despite being lower, the enrollment for the course is almost the same. The management has to look at non-financial parameters related to quality, in order to improve enrollments for this course.

(d) Course Rate: Learning Horizons charges Rs. 80,000 for its economics course compared to Rs. 1,00,000 at Knowledgebase. Consequently, it is able to have higher enrollment for its economics course.

(e) Compared to Learning Horizons, Knowledgebase is incurring Rs. 2 crore lesser on tuition materials. As pointed out earlier, Learning Horizons must try to find out reasons for its higher cost and try to economize on this expense, if required.

(f) Knowledgebase has been using freelance staff for 30 days in a year to keep its expenses lower. Therefore, although it has a higher pay scale for its lecturers, it uses a lower cost resource to meet its teaching staff requirements. Compared to 1 new recruitment by Knowledgebase, Learning horizons has 10 new recruitments during the year. Knowledgebase has substituted any shortfall in teaching staff by hiring freelancers during the year. At the same time, non-financial aspects like quality of education need to be assessed while using the service of freelancers.

(g) The other indicator of competitive performance, the take up rate, the rate of conversion of enquiries from prospective students into enrollments for the course. Reference to the budget here is the original budget prepared for 8,500 students, which represents the capacity that Learning Horizons wants to achieve.

Particulars	Learning Horizons		Knowledge.
	Budget	Actual	Actual
Accounting - number of students	4,000	3,800	4,100
Number of enquiries	4,500	4,500	4,600
Take up rate	89%	84%	89%
Law - number of students	2,500	2,550	2,500
Number of enquiries	2,800	2,700	3,050
Take up rate	89%	94%	82%
Economics - number of students	2,000	1,500	1,200
Number of enquiries	2,200	1,600	1,225
Take up rate	91%	94%	98%
Overall - number of students	8,500	7,850	7,800
Number of enquiries	9,500	8,800	8,875
Take up rate	89%	89%	88%

The take up rate is lower for accounting course at Learning Horizons as compared to Knowledgebase. As explained in point (b), this may be attributed to the higher rate that Learning Horizons charges privately funded students. The higher rate should be justifiable.

The take up rate for law is higher compared to Knowledgebase. As explained in point (c) this could be due to the lower fee rate. Higher enrollment could indicate the popularity of the course. At the same time the comparative pass rate may have to be looked into to judge the quality of the course.

The take up rate for economics is marginally lower than Knowledgebase. However, overall enrollment for this course is much higher compared to Knowledgebase, possibly to the substantially lower rate offered for the course. The management could look at better publicity to improve the take up rate.

(ii) **Analysis of the “Determinants” dimension** of performance as per the Fitzgerald and Moon model

Quality of Service

The pass rate for each course indicates the quality of course offered. Summarizing from the problem:

Pass Rate

	Learning Horizons		Knowledgebase
	Budget	Actual	Actual
Accounting	95%	99%	93%
Law	95%	98%	90%
Economics	95%	95%	95%
Overall Pass rates for the courses	95%	97%	93%

The targeted pass rate of 95% has been met in all courses, thereby it indicates that a satisfactory level of education is being imparted. In comparison with Knowledgebase the pass rate for all courses is higher, which is a good indicator. This could be a reason to justify the use of fulltime staff instead of substituting it with freelancer staff.

In the case of accountancy, the management can use the higher pass rate to justify the higher course rate, which may lead to better enrollments for the course. In the case of law, it has the potential of becoming a very popular course, lower course fee with higher pass rate. This can be used to improve enrollments. In the case of economics, the pass rates are at par. The management may use the lower course fee to attract students else may find other ways to make the course more attractive to have higher enrollments.

Feedback from current students and the institute’s alumni also provide value information about the quality of the courses and opportunities to improve.

Flexibility

The management of Learning Horizons has to consider the feedback from current and prospective students in order to bring in flexibility to their services. While long distance learning offers some flexibility, the management has to look at alternate channels of delivery like online lecture support by faculty similar to the model that Knowledgebase has developed. Also, offering weekend courses could help improve enrollments. Providing the option to get an intermediate degree gives flexibility to students who are not able to cope up with the course. While this cannot be a main objective of the institute, it still can maintain its motto of imparting quality education for students of all backgrounds.

Resource Utilization

The main resource of an educational institute is its staff. Management of Learning Horizon has to look at the teacher student ratio and compare it to benchmarks of peer institutes. Learning Horizons is having a higher recruitment of 10 lecturers for the year as compared to a budget of 4 recruitments for the year. Reasons for the same need to be looked into. One reason could be a higher turnover ratio among lecturers due to lower salary paid in comparison to the market rate. In comparison,

Knowledgebase has a more stable staff, having a recruitment of only 1 lecturer during the entire year. This might be due to the use of freelance teaching staff. Learning Horizon can explore options of using freelance teaching staff to meet its teaching needs, without compromising quality of education.

Innovation

From the information provided, Learning Horizons has a better quality of service in terms of pass rates. However, Knowledgebase planning to offer 6 new courses in the future. Learning Horizons has to explore options to improve on its current course offerings in order to maintain its market share.

(iii) There is a limit to fees sponsored by the government. Currently, government funded revenue is Rs. 18 crore, almost 23% of the total revenue of 80 crore. Average actual cost per student, referring to the table above, is Rs. 80,395. Since the government is unwilling to spend more than Rs. 75,000 per student, the management could look at target costing methods to resolve this issue. This reduction of Rs. 5,395 per student can be achieved by identifying opportunities to economize on costs. If feasible, the cost per student can be calculated for each of the courses, to identify where these economies can be achieved. This drive should encompass the administration and support services too. Thus, using target costing approach, the cost can be reduced below Rs. 75,000 to make government funded education profitable, within reasonable limits.

Important Note - Students may note that this is comprehensive question covering various aspects of Fitzgerald Moon model. While analysing performance in this particular question students may treat each part/sub-part (like financial performance, competitive performance etc.) as a separate question.

Skill Based Q.28 – EVA

Jal Cleaning and Distribution Services Ltd. (JCDSL) was established with an aim for supply and distribution of water in Nagpur and as well as supply of water to the various local authorities for distribution to villages and other small cities adjacent to Nagpur under "MISSION PAANI". This involved planning, operating, treating, maintaining, and distributing water resources in the country's urban centres and other areas mandated by State Government. The mission statement is to provide clean and economical water for healthy life to the public":

There are two operational divisions of JCDSL viz Water Distribution Operation (WDO) for distribution of water through pipes and Water Packaging Operation (WPO) for supplying water in packaged drinking water bottles. The state government ensures that JCDSL does not take advantage of its monopoly position in the regional area by increasing prices. The government controls majority of services through its water regulatory body which determines an acceptable margin level (ROCE) and ensures that the pricing of JCDSL within these areas does not break this level. The other operation Le. Water Packing Operation (WPO) is not regulated by government and JCDSL is free to charge a market rate for water supply in bottles. The company is free to use water for Water Packaging Operation but the total use of water for Water Packing Operation (WPO) cannot exceed 35% of the total supply of water by the company. The company is presently using 20% of total water supply for packaging operation. The brand name of packaged drinking water is "Swachh-Jal" which is packed in transparent plastic bottles.

The water regulator calculates Return on Capital Employed (ROCE) of JCDSL based on its own valuation and assessment of the capital assets which are used in operation and profit from these services. Acceptable level of ROCE set by the regulator is 6.50%. If JCDSL breach this level, then the company would be heavily penalized. JCDSL board is making sincere efforts to improve the

performance of the company for the benefit of the shareholders. The board of directors have decided to consider economic value added (EVA) as the key performance indicator, in order to meet the objective of maximizing shareholders' wealth.

Key Financial data for the year ending 31st March, 2020 is given below :

Particulars	Water Distribution Operation (Rs. In Crore)	Water Packing Operation (Rs. In Crore)	Total (Rs. In Crore)
Revenue	585.00	212.00	797.00
Less: Operating Cost	475.00	146.00	621.00
Operating Profit	110.00	66.00	176.00
Less: Interest Cost			42.00
Profit before tax			134.00
Less: Tax @ 30%			40.20
Profit after tax			93.80

Capital Employed for the last two years

Particulars	2019-20 (Rs. In Crore)	2018-19 (Rs. In Crore)
As per Audited Accounts	2,040.00	1,940.00
As calculated by Water Regulator (for WDO operations only)	1,812.00	1,760.00

The following notes are to be taken into consideration in the analysis:

1. Operating Costs include:

Particulars	2019-20 (Rs. In Crore)	2018-19 (Rs. In Crore)
Depreciation	124.00	118.00
Provision for bad and doubtful debts	6.00	2.00
R&D Cost	20.00	---
Other Non-Cash items	22.00	11.00

2. Economic depreciation is Rs. 156.00 Crore in 2019-20. In the FY 2018-19, economic and accounting depreciation were assumed to be the same.

3. Current year's tax paid is Rs. 23.00 Crore and deferred tax provisions of Rs. 2.00 Crore have been adjusted. There was no deferred tax balance before 2019-20.

4. The provision for doubtful debts was Rs. 12.00 Crore in the 2019-20 Balance Sheet.

5. Research and development has been non-capitalized. It belongs to a new project that will be developed over six years and is expected to be of long-term benefit to the company. 2019-20 is the first year of this project.

6. Cost of Capital:

Equity	15%
Debt (Post Tax)	5%

7. Gearing of JCDSL Equity:

Equity	30%
Debt (Post Tax)	70%

Required

- (i) CALCULATE EVA of JCDSL for the year ending 31 March, 2020 based on the above information.
- (ii) EVALUATE the financial performance of JCDSL using EVA.
- (iii) ASSESS whether JCDSL comply with its acceptable ROCE level.
- (iv) ADVISE how JCDSL can improve its performance in terms of profitability and EVA in future.

Solution

- (i) EVA of JCDSL for the year ending 31st March 2020 is negative ₹0.16 Crores.

Calculation of EVA →

$$= \text{NOPAT} - (\text{WACC} \times \text{Capital Employed})$$

$$= ₹156.40 \text{ crores} - (8\% \times ₹1,957 \text{ crores})$$

$$= ₹156.40 \text{ crores} - ₹156.56 \text{ crores}$$

$$= - ₹0.16 \text{ Crores}$$

Working Note 1 - Computation of NOPAT (Net operating profit after tax)

Particulars	₹ in Crore
Operating Profit	176.00
Add:	
Accounting Depreciation	124.00
Provision for Bad and Doubtful Debts	6.00
Research and Development	20.00
Other Non-Cash Items	22.00
Less:	
Economic Depreciation	156.00
Tax Paid	23.00
Tax Saving on Interest (₹42crores × 30%)	12.60
NOPAT	156.40

Working Note 2 - Computation of Capital Employed

Particulars	₹ in Crore
Capital Employed as on 31.03.2019	1,940.00
Add:	
Provision for Bad and Doubtful Debts as on 31.03.2019 (i.e. ₹12 - ₹6 crore)	6.00
Other Non-Cash Items (incurred in 2018-19)	11.00
Adjusted Opening Capital Employed	1,957.00

Working Note 3 - Calculation of WACC

$$[(K_e \times V_e) + (K_d \times V_d)] / (V_e + V_d)$$

$$= 15\% \times 0.30 + 5\% \times 0.70$$

$$= 8\%$$

(ii) Evaluation of Financial Performance →

Presently, JCDSL is distorting value (negative EVA of ₹16 lacs) as it is not able to meet the economic cost of its own capital, hence detrimental to shareholder's interest. The negative EVA raise the question on sustainability of business, hence perpetual succession become doubtful.

The prominent reason of negative EVA may be a higher cost of equity for JSDSL i.e. 15%. Here it is worth noting that despite around 73.40% (585/797) of the revenue to JCDSL is from WDO which is regulated one and wherein demand is guaranteed in future. Hence, investing risk shall be low.

Another major reason of negative EVA may be cap on ROCE in case of WDO hence NOPAT can't be raised beyond a level. JCDSL can focus on WPO to increase its NOPAT (to make it enough for break-even) or it can slash its capital employed by selling unutilized or under-utilized assets.

(iii) ROCE of WDO is 6.25% (see working note below), hence JCDSL is complying with the acceptable cap limit of 6.50%.

Working Note – Computation of ROCE from WDO

$$\text{ROCE} = \text{Operating Profit} / \text{Capital Employed} * 100.00\%$$

$$= (\text{₹}110 \text{ crores} / \text{₹}1,760 \text{ crores}) \times 100 = 6.25\%$$

(iv) Advise →

In order to improve performance in term of EVA or profitability JCDSL may apply any of the initiative either individually or in any combination– operating profits can be made to grow without employing more capital in both operations, but especially in WDO i.e. greater efficiency; additional capital shall be invested in WPO where the return is more than the cost of obtaining the capital, i.e. profitable growth; capital shall be divested from those projects that do not cover the cost of capital, i.e. liquidate unproductive capital.

Operating margin from WPO is 31.13% (66.00/212.00) compared to 18.80% (110.00/585.00) of WDO. JCDSL may use the WDO activities as a trusted source of cash profit to reinvest in expansion of the WPO. There is scope of expansion in WPO, because the JCDSL currently using 20% of total water

supply for packing operation against the upper cap of 35%. Hence, JCDSL shall expand the WPO (non-regulated businesses) to extent of 175% $[(35\%/20\%) \times 100]$ of current level using the cash generated by the regulated operation i.e. WDO.

Further, JCDSL may improve profitability by controlling costs within WDO activities through performance measurement. The regulatory body cannot argue that the company is overcharging its customers to increase profit margin. This is possible through strict observance of expenses and using cost savings techniques through efficiency improvements. In order to control cost within WDO, targets should be based on minimal variances and adopting cost reduction methods. It is important here to note that there is only a limited scope for increase in the operating profit of WDO due to ROCE cap. The maximum allowed operating profit can be only ₹114.4 crore i.e. 6.50% of

₹1,760 crore of capital employed.

Thus, JCDSL should go to expand its WPO as this is producing higher operating profit margins.

Skill Based Q.44

VEN Private Limited is a diversified agri-business company having three different business verticals - Dairy, Animal Feed and Crop Protection. The performance of each division is measured separately and staff members are rewarded accordingly.

Following information pertaining to the financials for the year ended 31st March, 2021 is furnished below :

	Amount (Rs.)		
	Dairy	Animal Feed	Crop Protection
Revenue	6,80,00,000	10,62,50,000	6,00,00,000
Profit before interest and tax	60,10,000	63,77,500	57,66,000
Net book value of plant and equipment	5,65,25,000	7,43,75,000	2,62,50,000
Net Current Assets (Current Assets less Current Liabilities)	1,04,75,000	1,51,25,000	60,00,000

Additional information:

- Cost of capital of the company is 9% per annum.
- Profit before interest and tax as mentioned above has been arrived at after deducting head office expenses at 2% on the revenue of each division.
- Depreciation rate for plant and equipment is 15% on cost per annum.

The divisional performance of VEN is measured using the Return on Investment (ROI) and Residual Income (RI) methods based on controllable profits of each division. The staff members are rewarded based on these results. VEN calculates ROI and RI using Net Book Value of the plant and equipment at the reporting date. The manager of Animal Feeds division claims that their division is the best performing division of the company.

Required

(i) CALCULATE the Return on Income and Residual Income for each division and explain the validity of the claim made by the manager of Animal Feeds division.

(ii) It has been proposed to expand the business of Dairy Division by venturing into manufacture of frozen desserts. This would require additional investment in plant and equipment of Rs. 1,75,00,000 which will generate a contribution of Rs. 95,00,000 per annum. Annual fixed cost of the division will increase by Rs. 8,50,000 (excluding depreciation). Net current assets of this division will increase by Rs. 25,00,000 due to acceptance of this proposal. EVALUATE the proposal of expansion of the Dairy Division for a period of one year and advise the management on the acceptance of the project using ROI and RI criteria.

(iii) Return on Investment (ROI) improves with the age of the asset. EXPLAIN with calculations how this happens using the proposal of the dairy division.

(iv) In addition to the financial performance measures, the management of VEN wishes to apply Non-financial Performance Indicators (NPFI) for three functions; (a) management of human resources, (b) product and service quality and (c) brand awareness and company profile. EXPLAIN the scope of Non-Financial Performance Indicators with regard to these three functions.

Hint- Compute ROI and RI by considering "Net Current Assets" along with "Net Book Value of Plant and Equipment".

Solution

(i) Calculation of ROI (Return on Investment)/ RI (Residual Income) (Amount in Rs.)

Particulars	Dairy	Animal Feed	Crop Protection
a. Profit before interest and tax	60,10,000	63,77,500	57,66,000
b. Revenue	6,80,00,000	10,62,50,000	6,00,00,000
c. Head office expenses [@2% of (b)]	13,60,000	21,25,000	12,00,000
d. Controllable operating profit (a)+(c)	73,70,000	85,02,500	69,66,000
e. Net book value of plant and equipment	5,65,25,000	7,43,75,000	2,62,50,000
f. Net current assets	1,04,75,000	1,51,25,000	60,00,000
g. Investment (e)+(f)	6,70,00,000	8,95,00,000	3,22,50,000
h. ROI [(d)/(g)×100]	11%	9.50%	21.6%
i. Required return [@9% of (g)]	60,30,000	80,55,000	29,02,500
j. RI [(d)-(i)]	13,40,000	4,47,500	40,63,500

The claim made by the manager of animal feeds division is invalid because it registered worst performance among the three divisions under both the criteria. ROI of animal feeds division is 9.50%, which is less than (11.00% and 21.60%) other two divisions, whereas RI is Rs.4,47,500 which is also less than (Rs.13,40,000 and Rs.40,63,500) both other divisions. It is important to note that Animal Feed Division earns the highest profit, however since its investment is high the ROI and RI are the lowest compared to the other divisions.

(ii) Evaluation of Expansion Proposal – Dairy Division

ROI/ RI for proposed expansion (for first year)

Particulars	Amount in Rs.
a. Additional investment in plant and equipment	1,75,00,000
b. Depreciation for first year on the above investment (15%)	26,25,000
c. Net book value of additional investment in plant and equipment at reporting date (a-b)	1,48,75,000

d. Additional net current assets	25,00,000
e. Total additional investment (c)+(d)	1,73,75,000
f. Additional contribution	95,00,000
g. Additional fixed cost	8,50,000
h. Net addition to earning (f)-(g)-(b)	60,25,000
i. ROI [(h)/(e)×100]	34.68%
j. Required return [9% of (e)]	15,63,750
k. RI [(h)-(j)]	44,61,250

Advise

ROI Criteria – Management of VEN private limited must expand the business of dairy division by venturing into manufacturing of frozen desserts, because the proposed expansion expected to generate ROI at rate of 34.68%, which is not only more than existing ROI of dairy division (11%) but also more than overall ROI as well (because among the three division the maximum ROI generated by crop protection division i.e., 21.6%).

RI Criteria – Management of VEN private limited must expand the business of dairy division by venturing into manufacturing of frozen desserts, because the proposed expansion expected to generate additional RI of Rs. 44,61,250.

Alternative Presentation

Particulars	Existing (Amount in Rs.)	Frozen Deserts Amount in Rs.	After Expansion (Amount in Rs.)
a. Investment in plant and equipment [Net]	5,65,25,000	1,48,75,000	7,14,00,000
b. Net current assets	1,04,75,000	25,00,000	1,29,75,000
c. Total Investment	6,70,00,000	1,73,75,000	8,43,75,000
d. Controllable Profit	73,70,000	60,25,000	1,33,95,000
e. ROI [(d)/(c)×100]	11.00%	34.68%	15.88%
f. Required return [9% of (c)]	60,30,000	15,63,750	75,93,750
g. RI [(d)-(f)]	13,40,000	44,61,250	58,01,250

Management of VEN private limited must expand the business of dairy division by venturing into manufacturing of frozen desserts, because the proposed expansion expected to increase dairy division's ROI to 15.88%, which is more than existing ROI of dairy division (11%). Similarly, proposed expansion expected to increase RI to Rs. 58,01,250.

(iii) ROI improves with age of the assets

Since ROI is rate of earning as percentage of investment, hence while assets getting older the amount of investment reduced; resultantly if same productivity or efficiency is maintained then ROI improves.

Same can be seen through calculations below that ROI improves from 34.68% in first year to 40.85%, and 49.69% respectively in second and third year.

ROI for proposed expansion over years (Amount in Rs. round off to nearest rupee)

Particulars	Second Year	Third Year
a. Plant and equipment at beginning of year	1,48,75,000	1,22,50,000
b. Depreciation for year on the above plant and equipment (15%)	26,25,000	26,25,000

c.	Net book value of plant and equipment at reporting date (a)-(b)	1,22,50,000	96,25,000
d.	Net current assets (assumed to be constant)	25,00,000	25,00,000
e.	Total relevant investment (c)+(d)	1,47,50,000	1,21,25,000
f.	Contribution (assumed to be constant)	95,00,000	95,00,000
g.	Fixed cost (assumed to be constant)	8,50,000	8,50,000
h.	Net addition to earning (f)-(g)-(b)	60,25,000	60,25,000
i.	ROI [(h)/(e)×100]	40.85%	49.69%

(iv) Non-Financial Performance Indicators (NFPs) are sustainable action-based indicators. For example, employee training will increase the profit & let them feel empowered, putting effort in research and development will result in a high brand image & high intellectual property rights. Hence for being sustainable rather being only profitable an organisation needs to include NFPs as part of performance matrix in addition to financial performance Indicators. Although the scope of NFPs substantially depends upon width and depth of organisation's objective, operations and strategies, but generically VEN Private Limited can consider–

Human resources management

Superior performance comes from superior processes. Who actually devise and execute superior processes to build an organisation with competitive advantage? It is the people (human resources) and their efforts. Hence human resources are a significant element for success of any organisation. If they perform well, then entire organisation automatically performs well; hence measures such as staff turnover, absenteeism, job satisfaction, and offer letter accepted shall be part of performance metrics.

Product and service quality

What makes any business distinct from others, what are the sources of competitive advantage? It is substantially the value which its products or services are capable of creating for the users; and quality is an important determinant of value. Simply saying quality is conformance to need of user. Hence the following performance measures, owing to quality shall be part of performance metrics

1. What are the functions that product or service offers and how much value these are capable of generating?
2. Where does our product stand in market in comparison to that of competitors, especially rivals?
3. Is product capable of generating further superior performance and scope of innovation?

Brand awareness and company profile (brand equity)

Non-financial performance measures consider the brand equity (value of the brand) as one of the significant performance measures. Brand value is largely based upon factors like customer's awareness & loyalty which includes consumer behaviour also perceived quality, stakeholder's expectation and organisation ability to meet them, and factors like patents and trademarks etc.