



**VIRTUAL COACHING CLASSES
ORGANISED BY BOS (ACADEMIC), ICAI**

FINAL LEVEL

**PAPER 5 – STRATEGIC COST MANAGEMENT
AND PERFORMANCE EVALUATION**

DATE 16TH NOV 2020

FACULTY - PANKAJ KAPOOR

Students are firmly advised to keep print-out (keeping one side blank for notes, key points, and solutions) of these lecture notes handy while attending class.

Do read this page prior to class.

Session – 16th Nov 2020 (Monday)

Coverage – Chapter 4 i.e. Cost Management Techniques

- Cost Control/Waste Control and Cost Reduction
- Target Costing

Lecture's learning objective – Post this lecture, students will be able to answer

LO₁ – What is cost control and its prerequisites?

LO₂ – What is cost reduction and its scope? (With Insight on available tools and techniques)

LO₃ – How cost control is different from cost reduction?

LO₄ – What is target costing, its features, and scope?

LO_{5A} – How target costing can be practiced? (Steps and Principles)

LO_{5B} – How target costing can be practiced? (Tools)

LO_{6A} – What impacts target costing can make on profitability?

LO_{6B} – What are the use cases of target costing?

LO_{6C} – What are pros and cons of target costing?

Disclaimer – Views expressed in this document are of individual faculty, not necessary of the institute.

Let's start by acknowledging the fact that **'anything which can be measure, can also be controlled and managed'**. Hence cost management is practiced reality for optimisation as extension of cost accounting (which you already studied at intermediate level).

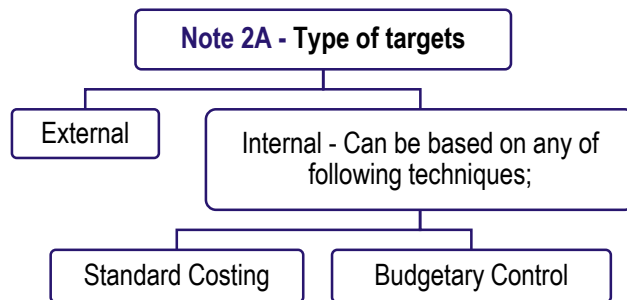
Lecture Notes

Note 1 - In the competitive business environment, it not easy to increase the sales; hence cost control or cost reduction are two preferable way to enhance the profit.

Note 2 - Cost control means regulation of the cost of operation by controlling the action of executives.

It involves setting up the **targets** (yardstick) for executives. (See note 2A)

Then continuous comparison of actual performance against such targets shall be made for executives (who are responsible for cost centres) to regulate the former.



Note 3 - Prerequisite of cost control (six)

Crowningshield and Gorman (Book **Cost Accounting - Principles and Managerial Applications**)

Effective delegation of authority (responsibility centre) → clearly defined targets → motivation to encourage → timely and efficient reporting → recommendations must be followed by action → effective follow-up system

Check-Point → LO₁ → What is cost control and its prerequisites?

Yes

No

If your answer is yes, then move to Note 4, else read Note 1 to 3 again

Note 4 - Cost reduction is the real and permanent reduction (till the optimal level) in the unit cost of goods manufactured or service rendered without impairing the utility for the intended use.



Cost reduction team can be utilised to identify the scope of cost reduction. **Cost/benefit approach** is essential. **Change management**.

Note 5 - Scope of Cost Reduction

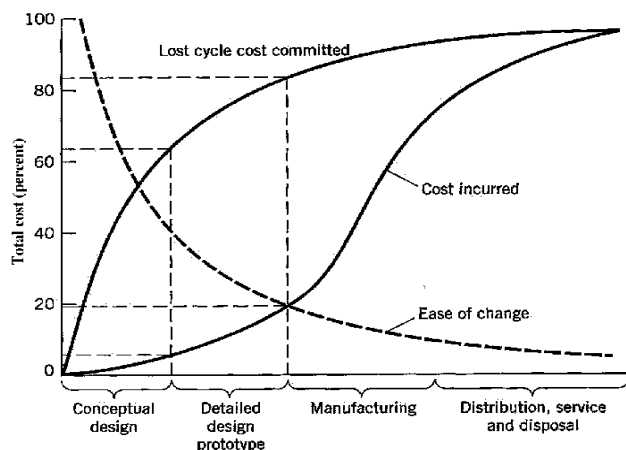
Product and Process Design - Design has a high possibility for cost reduction, because more than 80% of life cycle cost is committed at design phase only.

Efficient designing for a new product or improving the design for an existing product can reduce the cost through **cheaper substitute** or/& **less varieties of materials** or/& **reduced time of operation and increased productivity reduce cost** or/& **standardization and simplification**

Organisation - #Definition of each function and responsibility, #Proper assignment of task and delegation of responsibility to avoid overlapping, #A suitable channel of communication between various management levels, #Co-operation and closed relationship between the various executives, #Removal of doubts and fiction, and #Encouragement to employees for cost reduction suggestion.

A cost reduction programme should study the **factory layout** and the utilisation of the **equipment**.

Production control ensures proper planning of work by installing an efficient procedures and **production plan programme**



Note 6 - Tools and Techniques

Value Analysis, Inventory Management (e.g. Just in Time, Backflush), Business Process Reengineering, Target Costing, Kaizen Costing, Standardisation of product, components etc.

Check-Point → LO₂ → What is cost reduction and its scope?

Yes

No

If your answer is yes, then move to Note 7, else read Note 4 to 6 again

Note 7 – Differentiate cost control and cost reduction

Cost Control	Cost Reduction
Comparison of actual with the standards or budgets	Real and permanent reduction in the unit cost
There could be temporary savings in cost.	Realistic savings in cost, which are permanent too.
Quality maintenance is not guaranteed.	Utility, quality and characteristics are retained.
Setting up a target , investing variances	Not observing standard or budget as a yardstick
Relatively less dynamic.	A fully dynamic approach .
Emphasis on present and past costs.	Emphasis on present and future (largely) costs.
Preventive measure	Corrective measure

Check-Point → LO₃ → How cost control is different from cost reduction?

Yes

No

If your answer is yes, then move to Note 8, else read Note 7 again

Note 8 - Target costing can be defined as “a structured approach to determining the cost at which a product must be produced with specified functionality and quality, to generate a desired level of profitability at its anticipated selling price”.

Note 9 - Target costing is almost the exact opposite of cost-plus margin modelling where a company produces a product with no cost structure in mind. Once the product is built they add a profit margin on top to arrive at the final price.

Limitation of traditional cost-plus pricing model, includes #the ignorance of the price charged by competitor, #the ignorance to the price which customer ready to pay and #Cost control.



Study Material (Page 4.20)

KTC expects to successfully launch Toy “H” based on a Disney character.

KTC targets a selling price of ₹ 100 per toy and profit of 25% on selling price.

KTC must pay a 15% royalty on the selling price to Disneyland.

The cost data forecast are tabled below.

Particulars	₹ / toy
Component H ₁	8.50
Component H ₂	7.00
Labour: 0.40 hr. @ ₹ 60 per hr.	24.00
Product Specific Overheads	13.50

In addition to the above, each toy requires 0.6 kg of other materials, which are supplied at a cost of ₹ 16 per kg with a normal 4% substandard quality, which is not usable in the manufacture.

Determine target cost, and **evaluate** whether the forecasted cost is lower to target cost. If not, **advise** what should be the extent of cost reduction?

Check-Point → LO₄ → What is target costing, its features, and scope?

Yes

No

If your answer is yes, then move to Note 10, else read Note 8 and 9 again

Note 10 – Steps of Target Costing

Step 1 – Re-orient culture of thinking and attitude

Step 2 – Identify the requirements (market research)

Step 3 – Establish the market-driven target price

Step 3A – Determine the volume of product to be produced

Step 3B – Establish the target profit margin

Step 4 – Determine the target cost by reducing the desired/required margin from market-driven target price.

Step 4A – Establish a balance between target cost and requirement to finalize the target cost

Step 5 – Establish the target costing process

Step 6 – Brainstorm and analyses the alternatives

Step 6A – Establish product cost models

Step 7 – Use the tools to closing down the gap

Step 7A – Reduce the indirect cost applications

Step 8 – Measure the results and maintain management focus on further possibilities of cost reduction as a continuous improvement program.

The deductive approach discussed in step 4 above is not the only approach, **Kobe University Management Accounting Research Group** found another inside-out approach '**Additive Approach**'. It suggests that target cost can be calculated by adding up the costs function in a product for every product function. The starting point under this approach is the supplier or suppliers' supplier.

Note 11 - Principles of Target Costing

S Ansari, J Bell & Dan Swenson in the year 2006 in '**A Template for Implementing Target Costing**' developed a model which includes following six main principles (as premise or dimension of target cost)

Leadership of Target Selling Price, # Focusing on Customer, # Using and Developing a Team Work, # Reduce the Cost of the Product Life Cycle, #Focus on the Stage of Product Design, #Attention to all Stages of the Value Chain

Check-Point → LO_{5A} → How target costing can be practiced? (Steps and Principles)	Yes	No
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If your answer is yes, then move to Note 12, else read Note 10 and 11 again

Note 12 - Pros (argument for) of Target Costing

- ✓ Process and product **innovation** (to resolve issue and achieve competitive advantage)
- ✓ Identify market opportunities that can be converted into **real savings** (best value rather than lowest cost)
- ✓ **Proactive approach** (ahead of actual production and marketing)
- ✓ Enhances the employee awareness and empowerment & fosters partnership with suppliers.
- ✓ Encourages the **adoption of value added activities** with higher pay-off and **elimination of non-value added activities** to residual level
- ✓ It **enhances product life** by reducing the time to market.
- ✓ Target Costing takes a **market-driven approach towards cost**.

Note 13 - Cons (argument against) of Target Costing

- ✗ Development process can be **lengthened to a considerable extent** only
- ✗ Can result in **finger-pointing** in various parts of the company

- ✗ **Difficult to reach a consensus** on the proper design
- ✗ Require the development of **detailed cost data**
- ✗ May **reduce the quality** of products
- ✗ Involves the great amount of **forecasting** and **estimation**.
- ✗ Market-led information is highly **dynamic** in nature.



For problems outlined above, there is one dominant solution and that is 'retaining the strong control over the design teams, which calls for a good team leader. The team must be in the form matrix of cross-functional experts.



Case Scenario (Page 4.21 SM) Kaveri Ltd. (KL) is a manufacturer of bikes in India and it sells them in India and outside India. KL has just launched the World's smallest and most affordable bike called 'Zingaroo'.

The bike is mounted with all-aluminium, single cylinder, air cooled, and 99.2 cc engine. The engine makes just over 8 bhp power and 8 Nm of torque, but it stakes claim to be the fuel-efficient bike, with a claimed figure of 88 kmpl. It has been creating competition for two wheelers as none of the Indian companies as well as foreign companies, offer a bike for such a competitive price within the reach of middle class families

KL has adopted the target costing technique in manufacturing this bike. For KL, maintaining target-price was difficult. During the designing and production process of bike, input costs increased frequently. However, KL designed various components especially for bike to maintain the target price. Though, one curiosity about how this can be done in the future when input costs are bound to increase further.

Many environmentalists have opposed the manufacture of this bike, because they believe that mass production of the small bike (about 2.5 lakh bike every year) will create heavy pollution. Many people believe that this small bike is not up to the safety standards due to lightweight and use of aluminium and plastic frames. The design of this bike is entirely different from that of other bikes. This also causes a doubt that the existing bike mechanics would be able to repair or not. The durability of the bike is another issue in the Indian environment. Further, the performance of 'Zingaroo' more or less depends upon the condition of roads and traffic systems.

After the launch of 'Zingaroo', many other national and international automobile companies are also planning to manufacture small bike which will create tough competition in near future.

Now you being a strategic performance analyst of KL, **required** to answer the following questions:

Identify strategy which KL has adopted for 'Zingaroo' bike → **Low Cost Strategy** (since it is the most affordable bike)

After adopting target costing, **identify** issues and challenges faced by KL and suggest the remedial action to be taken to solve these issues → The issues and challenges faced by KL and their remedial action are #1.Maintaining of target price, #2.Environmental issues, #3.Safety issues, #4.Servicing/repairing facilities, #5.Durability, #6.Global competition.

Note 14 - Impact of Target Costing on Profitability. Target costing improves profitability in two major ways, first being **continuous emphasis on product costs throughout the life cycle** and second being **precise targeting of the correct prices**.



If any organisation constantly issues a stream of new products, or if its existing product lines is subject to severe pricing pressure, it **must make target costing a central part of its strategy**.

Note 15 - Target costing is **most useful in those situations** where the substantial amount of product costs are locked (committed) during the product design phase. (Refer note 15A here). This is a common feature of a product to be manufactured; but rare in case of services. In the services environment, the "design team" is more commonly concerned with streamlining the activities conducted by the employees providing the service. (Refer note 16 in further reference to this)

Note 15A - Companies, with following features (not exhaustive) expected to gain maximum from target costing;

- **Assembly-oriented** industries;
- Involved heavily with the **diversification of the product lines**;
- **Use technologies** of factory automation, including computer-aided design, flexible manufacturing systems, office automation, and computer-aided manufacturing;
- **Are in process of implementing management methods** such as just-in-time, value engineering.

Note 16 - Target costing may not be for everyone, the two cases illustrated below where the utility of target is not at the maximum level.

Fast-Food Restaurant - The design team can lay out the floor plan of a fast-food restaurant, with the objective of creating an arrangement that allows employees to cover the shortest possible distances while preparing food and serving customers; this is similar to the design of a new product.

However, unlike a product design, this layout can be readily altered at any time if the design team can arrive at a better layout, so that the restaurant staff can continue to experience high levels of productivity improvement even after the initial design and layout of the facility. In this situation, costs are not locked in during the design phase, so there is less need for target costing.

Chemical Production Industry - Another situation where target costing results in less value is **the production of raw materials**, such as chemicals. In this case, there are no design features; instead, the industrial engineering staff tries to create the most efficient possible production process, which has little to do with cost reduction through the improvement of customer value.

Check-Point → LO_{6A} → What impacts target costing can make on profitability?

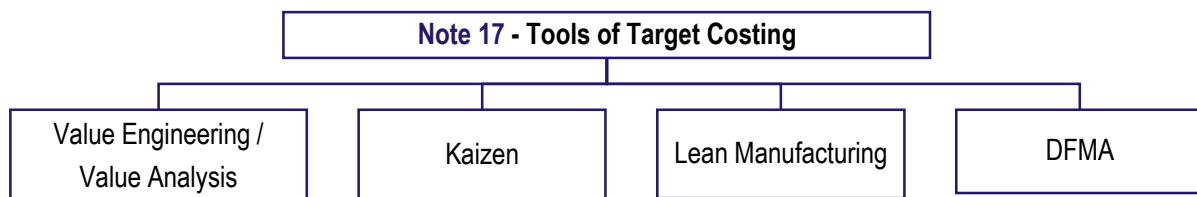
LO_{6B} → What are the uses case of target costing?

LO_{6C} → What are pros and cons of target costing?

Yes

No

If your answer is yes, then move to Note 17, else read Note 12 to 16 again (as the case may be)



Note – Lean System and Kaizen is already discussed in detail in chapter 3, hence will not be dealt with here.

Typically, under the target costing system the total target is broken down into its various components, and then each component is studied to identify the opportunities for cost reductions.

Note 17A – Value Engineering is a systematic approach to analyzing functional requirements of products or services for the purposes of achieving the essential functions at the lowest total lifecycle cost. It can be seen as a problem solving technique.

Note 17B – Value Analysis is a scientific technique which improves value by sustaining or improving performance attributes of the product and/or service while at the same time reducing the overall cost



Value analysis is focused upon value perceived by customer hence customer oriented and useful for both new and existing products, whereas value engineering is focused on features of products due to which value is being perceived by customer hence product oriented and useful for a new product.

Note 18 – Questions that must be answered during a Value Analysis/Value Engineering review:

- Can we eliminate functions from the production process? (Determines the *non- value added* activities)
- Can we eliminate some durability or reliability?
- Can we minimize the design? (Uses fewer parts or has fewer features)
- Can we design the product, in the way in which it is better for the manufacturing process?
- Can we substitute parts? (Search for less expensive components)
- Can we combine steps? (Process centering)
- Can we take the supplier's assistance?

➤ Is there a better way?

Note 19 – The initial value engineering may not uncover all possible cost savings → Then What → **Kaizen Costing** is designed to repeat many of the value engineering steps for as long as a product is produced, constantly refining the process and thereby stripping out extra costs. The cost reductions resulting from kaizen costing are much smaller than those achieved with value engineering but are still worth.



Case Scenario (Additional Case Study, Page 4.13 SM) Queenstown Wood Co. (QWC) began 20 years ago, as a small family-run business supplying custom-made school furniture. Now QWC has grown into a thriving hub of experts specializing in either custom-made, locally sourced or quality imported commercial grade furniture. The newly appointed CFO is concerned due to declining trends in sales volumes and profits for last three years, cost is also increasing. He observed that the reason of these trends is increased cut-throat competition that has emerged over the last three years. For many years, QWC has been known for high quality but now this quality is being matched by the competitors. QWC's market share is declining due to equivalent products being sold by competitors at relatively lower prices. It is considered that, to offer such low prices, the furniture's production costs of the competitors must be lower than QWC's.

You are required to **advise** how QWC can improve its sales volumes, costs and profits using Value Analysis and Functional Analysis.

Solution

Value Analysis is viewed as a reduction in cost and problem solving technique. Such technique analyses an existing product to identify and cutback or eliminate any cost which does not give any contribution to performance or value. It is a planned, scientific approach to cost reduction which reviews the material composition of a product and production design so that modifications and improvements can be made which do not reduce the value of the product to the customer or to the user (i.e. quality for the purpose should not be compromised).

Functional analysis is applied to the design of new products and breaks the product down into functional parts. For example, a new chair may have the moveable feature. The value that the customer places on each feature is considered and added to give a target cost. Thus, functional analysis aims to increase profits by reducing costs through elimination of unnecessary features and/or by adding cost-effective new features that are so attractive to customers that the product becomes more lucrative.

The result of the above analysis is to improve the value of the furniture while maintaining costs and/or cutback the costs of the furniture without compromising with value. It is clear from the scenario that QWC needs to cut back its selling prices to compete in the market. This selling price reduction can only be possible by a reduction in QWC's unit costs; however, such reduction must not be accomplished by compromising with quality. Both value analysis and functional cost analysis may be used for QWC; however, value analysis is likely to be a more useful technique because office tables and chairs are such items which are demanded more on the basis of their use value rather than their esteem value.

Note 20 – Designed for Manufacturing Assembly – This tool is used throughout the product designing but before the first pilot product is built. This tool is used to evaluate the effectiveness of design with regard to assembly operations. One benchmark is to reduce the number of products components and to simplify the assembly processes that will result in fewer errors and improved reliability.

Check-Point → LO_{5B} → How target costing can be practiced? (Application of tools)

Yes

No

If your answer is yes, then move to question for practice (RTP, MTP, Past Exams & others), else read Note 17 to 20 again

Questions for Practice (RTP, MTP, Past Exams & others)



Question 1	Originally Placed	Repeat 1	Repeat 2
	RTP May 2018 (Q9)	SM – Page 4.48	MTP May 2020 (Q2)

Storewell Industries Ltd. manufactures standard heavy duty steel storage racks for industrial use. Each storage rack is sold for ₹750 each. The company produces 10,000 racks per annum. Relevant cost data per annum are as follows:

Cost Component	Budget	Actual	Actual Cost p.a. (₹)
Direct Material	500,000 sq. ft.	520,000 sq. ft.	20,00,000
Direct Labour	90,000 hrs.	100,000 hrs.	10,00,000
Machine Setup	15,000 hrs.	15,000 hrs.	1,50,000
Mechanical Assembly	200,000 hrs.	200,000 hrs.	30,00,000

The actual and budgeted operating levels are the same. Actual and standard rates of material procurement and hourly labour rate are also the same. Any variance in cost is solely on account of difference in the material usage and hours required to complete production. Aggressive pricing from competitors has driven down sales. A comparable rack is available in the market for ₹675 each. Vishal, the marketing manager has determined that in order to maintain the company's existing market share of 10,000 racks, Storewell Industries must reduce the price of each rack to ₹675.

Required

- Calculate the current cost and profit per unit. Identify the non-value added activities in the production process.
- Calculate the new target cost per unit for a sales price of ₹675 if the profit per unit is maintained.
- Recommend what strategy Storewell Industries should adopt to attain target cost calculated in (ii) above.



Question 2	Originally Placed	Repeat 1 (with name NEC Ltd.)
	Nov 2018 (Q2) (20M)	SM Page 4.49

Zen Ltd., forms a Committee consisting of its Production, Marketing, and Finance Directors to prepare a budget for the next year. The Committee submits a draft budget as detailed below:

Particulars	₹
Selling Price per unit	50
Less: Direct Material Cost per unit	9
Direct Labour Cost per unit	9
Variable Overhead per unit (3 hrs. @ 2)	6
Contribution per unit	26
Budgeted Sales Quantity	25,000 units
Budgeted Contribution (25,000 x 26)	6,50,000
Less: Budgeted Fixed Cost	5,00,000
Budgeted Profit	1,50,000

- The Management is not happy with the budgeted profit as it is almost equal to the previous year's profit. Therefore, it asks the Committee to prepare a budget to earn at least a profit of ₹300,000. To achieve the target profit, the Committee reports back with the following suggestions:
- The unit selling price should be raised to ₹55.
- The sales volume should be increased by 5,000 units.

- To attain the above said increase in sales, the company should spend ₹40,000 for advertising.
- The production time per unit should be reduced.
- To win the acceptance of the workers in this regard the hourly rate should be increased by ₹3 besides an annual group bonus of ₹30,000
- There is no change in the amount and rates of other expenses. The company has sufficient production capacity.
- As the implementation of the above proposal needs the acceptance of the work force to increase the speed of work and to reduce the production time per unit, the Board wants to know the extent of reduction in per unit production time.

Required

- i. Calculate the target production time per unit and the time to be reduced per unit.
- ii. Identify the other problems that may arise in production due to decrease in unit production time and also suggest the remedial measures to be taken.
- iii. State the most suitable situation for the adoption of Target Costing.



Question 3

Originally Placed

Nov 2019 (Q2 (a) (i) (9M)

Pixel Limited is a toy manufacturing company. It sells toys through its own retail outlets. It purchases materials needed to

manufacture toys from a number of different suppliers. Recently, due to the entry of few reputed foreign brands in the toy market and particularly in the segment in which Pixel Ltd. is doing business, it is facing a threat to operate profitably.

Each toy requires 4 kg of materials at ₹19 per kg and 5% of all materials supplied by the suppliers are found to be substandard. Labour hour requirement for each toy is 0.4 hour at ₹120 per hour.

Market research has determined that the selling price will be 240 per toy.

The company requires a profit margin of 15% of the selling price. Expected demand for toy in the coming year will be 50,000 toys. Sales and variable overhead per unit for the four quarters of the year will be as follows:

Particulars	Q1	Q2	Q3 Festive season	Q4 Festive season
Sales (units)	7,500	9,000	15,500	18,000
Variable overhead Per units (₹)	22	22	24	25

Total fixed overheads are expected to be ₹625,000 for each quarter.

The production manager has decided to produce 12,500 units in each quarter.

Inventory holding costs will be 18 per unit of average inventory per quarter. Inventory holding costs are not included in above mentioned costs.

Assume zero opening inventory.

You are **required** to calculate the cost gap that exists between the total cost per toy as per the production plan and the target cost per toy.