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# 🥯 CONTENTS OF ENGLISH PART - II 🔏

Sr. No.	Name & Author Name	Page No
l	Impact of Covid-19 on Hamals and Traders (Aadhti) Working in APMCS	1-6
	of Marathwada Region	
	Dr. Sanjaykumar P. Phad	
2	An Assessment on Effects of Divorce on Mental Health through	7-14
	the Life Course	
	Ms. Monty	
3	A Study on Consumption Pattern of Women in Mumbai towards	15-21
	Skin Care Products	
	Ms. Vaishali Pandya	
	Dr. Mrs. Anupama Nerurkar	
4	India's Look East Policy Shifted to Act East Policy	22-28
	Dr. Vasant Abasaheb Kharat	
5	Effect of Mobile Phone Usage on Communication Skills among	29-33
	Adult with Mild Intellectual Disability	
	Suraj Singh	
	Dr. Ved Prakash Sharma	
6	A Study of Interest and Motivation Levels of Secondary School	34-42
	Students, Post Pandemic	
	Dr. Sr. Tanuja Waghmare	ŀ
7	Revolution, Inclusion & Assmilation: African Feminism and Adichie	43-47
	Dr. Priyanka Yadav	
8	A Study of Costing Methods for Cost Control and Cost Reduction	48-54
	for Economic Revitalization of Cooperative Sugar Factories in India	
	Dr. Gaikwad Vijay Ganpat	
9	Knowing your Resilience and its Relevance to Idea About	55-60
	Internal-External World	
	Sammyaka Uttam Ambhore	
	Dr. Sandip Sisode	
	Dr. Aparna Ashtaputre-Sisode	

# 8. A Study of Costing Methods for Cost Control and Cost Reduction for Economic Revitalization of Cooperative Sugar Factories in India

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#### Abstract

Indian Economy is said to be agronomic based economy. Agriculture is considered as main livelihood source of income and wealth to the rural employment for development and sugar industry is one of them. Now days sugar factories of India suffering from financial crisis due to continuously increasing cost of sugar production and low revenue. Major concern of the sugar industry is to improve the financial health of the factory, which is possible only through reducing the cost of production at each stage of manufacturing and control over different type of expenses whether they are direct expenses or indirect expenses incurred while in manufacturing process of sugar and its byproducts. Cost ascertainment and for cost control of sugar and its byproducts various costing methods are available such as Process Costing, Contract Costing, Job Costing, Activity Based Costing and ABC Analysis for Inventory control etc.

## Rationale of the Study

Indian Economy is said to be agronomic based economy. Agriculture is considered as main livelihood source of income and wealth. The agro product is not only used for consumption but it is used for producing different industrial and consumer products. The agriculture production becomes raw material of different types of industries such as sugar, wine, food products, textile, edible oil and others. Sugar is main agro based industry basically is established in Cooperative Sector in rural areas. The main base of such industry is political and economic activities of the rural are around the industry and within the operational area where industry is located.

Sugar Industry is the second largest agro based industry in India after the textile industry. This is the only one industry which is located in the rural area. More than six crores of sugarcane growers are depends on this industry and huge number of workers is involved in sugarcane

### iii. Contract Costing

Under this method, contract costing is performed for big jobs involving heavy expenditure, long periods of time and often different work sites, each contract is treated as a separate unit for costing. Contract costing helps to ascertain the cost incurred, revenue earned or loss incurred in each of the contracts undertaken and completed by the sugar factory.

Sugar industry may undertaken a large construction work especially in development oriented activities in sugar factory premises and social oriented activities in operational area of sugar factory, such as increasing the existing crushing capacity, development of new factory building, inauguration of new plant for byproducts, development of school & college buildings, construction for hospital building, construction work for residential purpose to factory employee, road construction in factory premises and facilitate water supply etc. all these work involving heavy expenditure, long periods of time and often different work sites, for each work undertaken by sugar factory appointing a contractor to undertaken or completion of work at specific contract amount which is set as per the terms and conditions laid down in to the agreement between contractor and contractee. Contract costing helpful to sugar industry to ascertain the accurate cost incurred in each of the work or contracts undertaken and completed by the sugar factory. Under contract costing a separate account is opened and maintained for each contract to ascertainment of contract cost. All the costs incurred for a contract are recorded in the separate account kept for that contract because each contract is reckoned as a cost unit.

#### iv. Operating Costing

Operating costing is a method of costing used to ascertain the cost of generating and rendering service such as transport, hospitals, canteen, electricity, gas etc. In the sugar factory Harvesting and Transportation, Repairs and Maintenance, Boiler House, Cogeneration departments provide the service to sugar factory. Harvesting and Transportation department perform the fastest work for cane cutting, binding the cane in sizable bundles and loading the cane in to the transporting vehicles. Harvesting and transportation of cane would be required to crush within 24 hours with minimum cost. Cogeneration technology produced ne tone of 30 to 40 kwh electricity from the one tonne of sugarcane. Power generation plant of sugar factory produced electricity by using bagasse and power can be utilised as fuel for electricity or power for generation of plant for sugar production, after self fulfillment, excess power may be sale to national grid at reasonable rate. Repairs and Maintenance department kept all the machinery in

good condition. The cost incurred to generate and render this type of services are called operating costs. The aim of operating costing is to ascertain the operating cost of service. Operating costs are usually classified into three categories, (a) operating and running charges which are mostly variable in nature (b) standing charges which are usually fixed in nature (c) maintenance expenses which are semi variable in nature.

# v. Activity Based Costing

Sugar industry is the process industry while sugar production sugarcane passes through various processes at the final product. Activity Based Costing is very much essential for measuring the performance and effective utilization of available resources. Minimization of production cost and maximization of productivity is required in cooperative sugar factories, where activity based costing is useful for sugar industry. The proper choice of costing and calculation of accurate product cost in processing industries have been widely discussed by academics and practitioners. At present the cooperative sugar factories have been facing the problems of qualitative raw material, sufficient raw material, harvesters, transporters, cost of transport, skilled manpower, pricing, cost, performance etc. To solve the sugar industries various problems, absorption costing is not suitable now days because of high cost of production and competition among the sugar factory, whereas use of activity based costing system is effective in selected sugar factories.

For introduction of Activity Based Costing system in sugar factory there is need to know the sugar manufacturing process such as cane preparation, mill extraction clarification of juice, evaporation, crystallization – pan boiling, centrifuging and sugar drying storage of sugar factory, work place of the sugar factory and cost incurred in various department of sugar factory.

# vi. ABC Analysis method for Inventory Control

Sugarcane is the main raw material for the producing of sugar in the sugar manufacturing process. Sugarcane is refined with various chemicals such as sulphur dioxide, phosphoric acid, calcium hydroxide etc. subordinate raw materials used in sugar production. All this material processes certain value and it should be kept in well structured store department under the supervision of store manager. Store department covers all aspect of materials, handling, storage, stock control and issue to concern department as per requisition.

Inventories constitute the significant part of current assets, and it involved major portion of working capital out of total capital invested in assets. Inventory management can effectively and efficiently avoid unnecessary investment. Inventory control is the process of deciding what and how much of various items are to be kept in the store department. It is also determines quantity of finished goods, quantity of work in progress, quantity of closing stock of all raw materials specially in chemical material, spare parts and equipments. The basic aim of inventory control is to minimize cost in investment in inventories and ensure the continuous production process. For better inventory control there is need to undertake systematic analysis of all items in store rooms stored. On an average 1250 to 2500 TCD sugar factories carries items in inventory between 5000 to 6000 items. A high degree control on each item is possible only by applying the ABC Analysis Method for inventory control in selected sugar factories.

In ABC Analysis, annual consumption of various items is worked out in terms of rupee value, and it is divided in to three board categories i.e. A, B, and C category at descending value. The items in the A category have the highest value, B category items are lower value than A category value and C category items have the lowest value.

ABC analysis for inventory control in the store department can be explained at allocation of total items in percentage and its value. A category items - 10% of the items accounts for 70% of the annual consumption value of the items. B category items - 20% of the items accounts for 20% of the annual consumption value of the items. C category items - 70% of the items accounts for 10% of the annual consumption value of the items. As per the concept of ABC analysis A category items give a major importance for control and there is no need for strict control over the B & C category items.

#### Conclusion

Cooperative sugar industry is a well established sugar industry in India. Cooperative sugar industries provided good employment to the rural development, also contributes the maximum revenue to the Government. Sugarcane growers are played a significance role in development of sugar industry in rural development when sugar factory is in operation otherwise not. India is ranks first in sugar consumption and second in sugar production in the world, India share of sugar trade is 20 per cent towards World. It is observed that financial performance of cooperative sugar factories is not satisfactory, they earned a heavy loss due to increasing cost of

production of sugar and low revenue from sugar sales and its byproducts. Due to this each Sugar factory would like to determine how much it will cost to manufacture a product and how much profit will be recognized from the manufacturing the sugar and its by-products. Cost is a better deal in every cooperative sugar factory to make it commercially, economically, profitable and competitive. The management should adopt various costing methods to ensure a given return on capital and optimum output per quintal of cost. The important element of cost are Cane price, Harvesting and Transportation cost, Power expenses, Chemical and Consumption cost, Repairs and Maintenance cost, Salary & Wages, Packing cost, Overheads, Interest, Depreciation etc. These all element of cost are beyond the control of management of sugar factory. They must take suitable steps through cost planning, cost estimates; cost classification in various department and bost follow up to reduced the desired cost to the prescribed norms and standards. Therefore for cost control and cost reduction each sugar factory must follow or develop above costing methods with the well communication system having professional managers at different levels using scientific management methods and excellent top management having knowledge of methods of costing to run the sugar factories on profitable line controlling cost.

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