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CHAPTER - III

MANAGEMENT INFORMATION SYSTEM IN THE INDUSTRY



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3.1 SUGAR MILL MANAGEMENT SYSTEM:

(a) Introduction:

India is one of the major sugar producing countries in the world. The sugar industry has grown by leaps and bounds over the past few decades. More and more farmers in the country are now growing sugarcane, the most vital input in any sugar mill. At the same time, as this industry is growing, it has its own share of problems and complexities. As such, it is the need of the hour that these upcoming problems should be thrashed out in a most systematic way, using latest technological advancements so as to not only maintain but enhance the rate of growth of this segment.

(b) Trends in Sugar Industry in India:

- (1) Sugar industry is considered as one of the pillars of the national economy.
- (2) More than 3.2 million hectares of land in India is used for growing sugarcane.
- (3) Productivity of sugarcane per unit is extremely low, chiefly due to inadequate monitoring of sugarcane development programmes.
- (4) Average sucrose content in the sugarcane grown in the

country is 12.5% whereas the recovery is hardly around 9%.

- (5) Out of the sugarcane grown in the country, only 35-40% can be procured for direct consumption for producing sugar.
- (6) Diversion of the sugarcane to Khandsari and Gur producers leads to the non-availability of sugarcane for sugar production.
- (7) Threat from farmers to grow substitute crops as a result of delays in sugarcane payment and other operational problems.
- (8) Lack of availability of proper information leads to heavy overstocking of materials in stores.
- (9) Complete handling of all types of payments to farmers and transporters through bank or cash or both.
- (10) Complete handling of fiscal related matters, be it loans, sales, financial accounting issues.

For solving about trends or problems in sugar factory, proper management information system is required.

(c) Datta Sugar Mill M.I.S.:

Management Information System is not a common system for all the industries. The system that is to be introduced depends upon the nature of the industry and the manner in which it is run.

The MIS reporting in the sugar industry will fall into the following three categories:

- (A) During crushing season,
- (B) During Off Season,
- (C) Throughout the year.

(A) MIS During Crushing Season:

During crushing season, the following reports are to be submitted to the top management:

1. Daily Crushing Report:

In this report, indicating the on-data and to-date figures of the quantity of cane crushed, quantity of sugar produced and the recovery percentage. This is the minimum essential information to be submitted to the top management for decision-making.

2. Cane Arrival Statement:

This statement is also a daily one, to be sent to the management, showing therein the total quantity of cane bonded, total quantity of the cane supplied to the mill till the end of each day and balance quantity of cane the mill expects to get during the remaining part of the season. From this statement, the management can calculate the approximate date of closure of the season.

3. Daily Manufacturing Report:

This is very important report showing therein the important information relating to each day's operations

such as cane crushed, recovery percentage, production in bags, down-time due to various reasons, sugar process losses, consumption of chemicals, sulphur, gunny bags and firewood, mill extractio, final molasses purity, etc.

4. Daily Grade-wise Production Statement:

The quantities of large, medium and small grain of sugar produced on date and to date, are shown in the statement.

5. Technical Statement:

In this statement, against the standards set are compared with the actual figures of the technical parameters achieved such as sugar losses in bagasse, crushing rate, etc.

6. Financial Reports of Daily Crushing:

In the mills which follow good budgeting practices, it is possible to ascertain the profit or loss likely to result from the crushing operations on a day-to-day basis and the approximate unit cost of production on cumulative basis by applying the marginal costing technique. This statement is very helpful to the management in effectively calculating the progress of crushing, production and cosumption of variou's process materials, all in financial terms.

(B) MIS During Off Season:

1. Off Season Repairs & Maintenance Schedule:

One of the two most important MIS statements submitted to the management during off season is that relating to

the progress of off season repairs and maintenance work of the mill. As soon as the mill stops its crushing and production operations at the end of each season, it prepares a plan for carrying out the off season repairs and maintenance work in its various departments, such as cane mill house, clarification house, boiling house, drier house, packing house, boiler house, power house, etc. This plan shows the sequence of the repair work and the number of man-days required for each of the items. This work is very important. If it is not done properly and perfectly, frequent interruptions to production will result during the season due to mechanical and electrical faults.

2. Cane Development Programme Statement:

The other statement relates to the development activities of sugarcane cultivation and details such as number of farmers who have bonded their sugarcane for supply during the subsequent season, area covered under plantation, cane varieties, crop loan facilities made available to the farmers from the banks, the progress, growth and the health of the cane and remedial measures if any, to be taken are also indicated.

(C) Throughout the Year:

Under this category, the following are the important statements:

1. Monthly Inventory Statement:

This statement shows the various sub-stores and against each, opening balance, receipts, consumptions and closing balances are shown.

2. Monthly Personnel Position Statement:

This statement shows various categories of employees such as managerial, supervisory, highly-skilled, skilled, semi-skilled and unskilled and casual labourers, employed in each department.

3. Monthly Profit and Loss Statement:

This statement shows the approximate profit and loss made by the plant. This information is useful to the management for financial decisions.

4. Advance to Suppliers:

This statement shows the names of various parties to whom advances have been made for the supply of goods and services. This enables the Purchase Department to follow up with the suppliers.

5. Advances to Employees:

This statement shows the names of the various employees who have taken advances but not rendered their accounts.

6. Daily Funds Position Statement:

This statement shows the total value of the sugar stocks and other materials on hand, borrowings made from the banks, balance drawing power, arrears of sugarcane prices, cane transportation costs and surplus or deficit or funds.

The objective of an MIS is not just to collect information and to go on filing the same in neatly bound volumes. As soon as a statement is received, it should be studied by the management and whenever necessary, a feedback should be sent in time. This makes communication possible between different levels of management and thus management-by-objectives more meaningful and participative.

3.2 MIS IN DATTA SUGAR FACTORY:

Information is of vital importance for running and managing a sugar factory. In fact, a sugar factory cannot survive without information. For the day-to-day administration and running of the sugar factory, tremendous amount of the information gets generated, which is to be used, in brief, as a source of power to make decisions.

In a sugar factory, we may find that the information generates right from the gate-keeper who keeps the record of the total weightage of the cane, the amount of it, mode of transportation, types of cane, related cost. When this information comes to the desk of an accountant for payment, there can be a delay of time due to processing of information at the lower levels.

At the factory level, the Works Manager receives the information from his subordinates like the factory incharge, chief chemist, labour officer, time-keeper, warehouse keeper,

distillery incharge, paper plant manager, about how much sugarcane is crushed, what type of machines are used, how much is the wastage in processing, the present capacity, how much juice extracted, working hours of the factory, stoppages, etc.

The Chief Chemist gives information about the recovery of sugar, available chemicals and the various chemical processes to the management for decision-making.

The labour officer gives information about the number of workers, types of workers, i.e. skilled workers, semi-skilled workers and unskilled workers, absent and present workers, various facilities provided to the workers, etc. Such information is provided to the management for making decisions in relation with the workers. The time-keeper is one of the sources of information to maintain orderliness and timeliness in factory.

The store-keeper gives information to the management about the stock available, stock required, how much store material is sent to various departments, etc. This information is very important for decision-making, because Lakhs of Rupees are invested in the form of this store material; so that the management would be alert and careful.

Bye-products in the sugar factory are important elements to make the factory economically strong. They enhance

the economic solidarity of the factory. In fact, they are the income sources of the sugar factory. The information regarding this is essential for making decisions and this information is supplied by the Distillery Incharge in relation with the distillery products and Paper Mill Incharge in relation to the quality of the paper, demand for it, standard prices, etc.

As the sugarcane is an agricultural product, the person who is working as an Agriculture Officer is really the spinal cord of the factory. He must be knowledgeable enough to give the information about the total acreage under sugarcane, types of sugarcane, maturity dates of sugarcane, names of the farmers, what type of sugarcane is suitable for a certain or peculiar type of land, recommendations regarding the fertilizers, chemicals, etc. As sugarcane is the only raw material which needs nearly 70% of the total expenditure of the cost of sugar production, it is, therefore, essential to provide reliable and relevant information about the above mentioned things by the Agriculture Officer to the management for making decisions.

The Purchase Officer is also an important part of the MIS. As he has to purchase a lot of materials for various departments in the factory, he has to supply the information about the requirements of the materials for each department in the factory, when it is required, the tentative

cost of the material to be purchased, span of time to purchase, to the management for making decisions.

The various resources of information system discussed above are highly important in the running, working and management of the factory for decision-making. In a nutshell, these sources are the veins of blood of information to the heart, i.e. the management of the factory. In Shree Datta Shetkari Sahakari Sakhar Karkhana Limited, Dattanagar (Shirol), the above discussed management information system is in force and operating well.

But in the sugar factories, 50 to 60 percent of the information collected is not used at all. If we look carefully, expenses of printing and stationery and postage for certain types of information, saving of 10% of such expenses would be equal to the annual profits of the organization. When information transmission and communication becomes difficult and delays in the receipt of information take place, the expenses increase quite a lot. If the information is delayed, final decisions are also delayed. Hence, even in the absence of certain information, decisions should be taken. The important thing one should note here is that sending the information about the factory to Government in certain forms does not mean 'management information system'. The MIS means the system which provides information to the management for decision-making.

3.3 COMPUTERIZED MANAGEMENT INFORMATION SYSTEM IN DATTA SUGAR:

When computers were first introduced into the organization, these were used mainly to process the data, for a few organizational functions, usually accounting and cane billing. Because of the specialized skills required to operate the expensive, complex equipment, computer is located in the Accounts Department of the factory.

Since recently, the computer is being used for processing the data in the following areas:

1. Payroll,
2. Harvest scheduling,
3. Cane bills, harvest contractor bills and transport contractor bills,
4. Deposits and interest bills.

1. Payroll:

In this system, information of attendance of employees and various deductions like LIC premia, cooperative society dues, postal recurring deposits, provident fund, income-tax, consumer stores, etc., is collected from the time office. Then following reports are generated at the computer section:

1. Monthly paysheet,
2. Monthly payslips,
3. Various deduction reports like LIC, cooperative

society, bank, etc.

4. Annual Bonus payment sheet
5. Annual provident fund, 3A and 6A statements,
6. Overtime and holiday paysheets.

2. Harvest Scheduling:

In this computer information system, the cane registration forms are collected from the Agriculture Department. Then the data is fed to the computer and after that following reports are generated for management decision-making:

1. Date-wise schedules,
2. Village-wise, Month-wise, Variety-wise area statement,
3. Gat-wise, Month-wise, Variety-wise area statement.

3. Cane Bills:

For preparing cane bills, cane weighment data is received from the weigh-bridge section. The weighment is recorded into computer. Various deductions like society, land development bank loan, other bank loans, fertilizer cost, penalty (if any), etc., are collected from the Cane Accounts Office. Then every fortnight, first-advance cane bills are prepared for the shareholders and non-shareholders, who have supplied cane in that fortnight. The weighment data is also used for preparing harvest

and transport contractors bills. This information and papers are sent to the Accounts Section for payment and brief tabulated data to the management.

4. Deposits and Interest Bills:

Different types of deposits like refundable, non-refundable with different interest rates like 9%, 12% are deducted from the cane bills of the shareholders and the non-shareholders. The deposits are repaid after the expiry date in case of refundable ones. Interest on deposits is paid every year. The deposits and interest bills are prepared by using the cane billing data along with various deductions are made in the cane bills.

3.4 **IMPORTANCE OF A COMPUTERIZED M.I.S. IN A SUGAR FACTORY:**

By using computer, a lot of duplication of the data is avoided. Accuracy in calculations is achieved and also the reports are generated at a very high speed as compared to the manual system, e.g. to process the cane final bills, about 100 persons could take about 8-10 days. The same job is carried out within 2-3 days with a computer system and, of course, with more accuracy of calculation. Saving is also achieved in stationary cost, labour cost, time cost, etc., due to the computerized MIS.

A computerized management information system is definitely useful to our nation's sugar industry, as it is

saving the time, cost of data processing, avoiding the duplication of data in different books, etc. Due to the computerized system, information will be transported at electronic speed. Even if we are having a lot of labour to carry out various functions, we cannot avoid the use of computer. In other countries, computer's use is growing in every field.

Computer is one of the most powerful tools for the managers. Modern computers possess certain abilities such as rapidity of calculations, read and store large amount of data, make comparisons, draw and print graphs, etc. These capacities of computers allow man to handle many and varied problems that are tedious and routine in nature. So, the computers have become an integral part of man's everyday life.