

ERP SYSTEM FOR EFFECTIVE MANAGEMENT OF CO-OPERATIVE SUGAR INDUSTRIES - A CASE STUDY OF SAHYADRI SSK LTD SHIRAVADE KARAD (M.S.)

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Globalization, that is economic world without borders is here to stay. No activity whether it is social, economical or cultural; cannot do without the impact of globalization. Such globalization has created an inevitable and essential requirement for any economic activity to get success to have technology-enabled systems.

Co-operative sugar industries are not exception to the aforesaid fact. It means that for the sustainable perpetual development of co-operative sugar industries implementation of IT enabled technology is a must. The latest development in IT field is the Enterprise Resource Development, commonly known as ERP systems.

Keeping in view the fostering growth of ERP systems and its successful implementation in sugar industries created an earnest and immense need in the mind of researchers to conduct an empirical and exhaustive study in the field of ERP implementation in co-operative sugar industries.

To have compressive study of ERP implementation in sugar industries the researcher has decided to study Sahyadri SSK Ltd., as a model for such research.

Keywords: ERP, Resource Planning, Sugar Industries, SSK

1. ABOUT COOPERATIVE SUGAR INDUSTRY IN MAHARASHATRA

Cooperation and coordination is the real base of human society. The co-operative movement is well flourished in Maharashtra by efforts and philosophy of Mahatma Phule and Rajarshi Shahu Maharaj. 'The way of cooperation is the only way to the prosperity' was well understood by Mahatma Gandhi. The co-operative sugar factories and dairies are the examples of eloquent well-flourished co-operatives in Maharashtra. These co-operatives have changed the lives of millions of people from villages. The first co-operative sugar factory was established by late Padmashree Vithalrao Vikhe Patil inspired and supported by late Vikunth Mehta and Prof. Dhananjayrao Gadgil.

The beauty of the rural co-operative movement is these big establishments of hundreds of crores of rupees are owned by semiliterate and poor farmers. Democratic system is adopted to run their business functions. Boards of Directors are elected every five years from their General Body members to keep control over the functioning. They elect Board of Directors and run the organisation. But now a day, the co-operative industries are suffering from many problems and most of the problems are related to management. The ignorance of the farmers, lack of transparency in the management and slow rate of

information processing, leads to losses, corruption and misappropriation of funds.

The co-operative sugar factories are not only income generating or sugar producing establishment, but they are amongst the biggest employers. At present 175 sugar factories are registered in Maharashtra state out of which more than 95% factories are co-operative sugar factories are situated in Western Maharashtra, Marathwada and Vidharbha.

These factories are directly related to livelihood of 30 million farmers, 1.7 million employees and 5 million labourers in Maharashtra. The co-operative dairy industry is related to sugar industry, as the green fodder is mainly generated from sugarcane leaves and residues. Even the industries producing chemical fertilizers are depending upon sugarcane growers. Therefore the progress of rural Maharashtra depends upon progress of sugar co-operatives. In the era of globalization and liberalization, all industries in private sector have improved their management system through Information Technology and they have improved their performance as well. But the co-operative sector is lagging behind in this regard. Hence it is a national and social need that the management of these co-operatives should be improved through Information Technology. Of course, many suggestions and solutions have come forward for the automation of the sugar industry, but due to lack of requisite research and investigation, no solution could solve many problems which remains as it is in the cooperative sugar industry. Therefore, the best-suited system to these industries

should be consistent to salient features of sugar industry, which are as under:

1. The management of sugar industry encompasses illiterate, politically motivated persons having their vested interest.
2. Instead of having pure democracy, there exists 'autocratic democracy' in cooperative sugar industry as the control of the industries lies in few hands only. The persons who are dominating and having great influence over the farmers run the show hence centralization of power takes place, which creates discrepancies and discrimination in the organization.
3. In addition to above management related features, another special feature relating to operations of cooperative sugar industry is that, perhaps sugar cooperatives are the only industries where the purchase price of raw material is fixed after sale of the final product i.e. Sugar. This particular feature creates a suspicion and confusion in the minds of poor sugarcane growers about the rightness of the price of their agricultural produce.

Presently some of sugar factories have adopted modular approach for computerization, which does not fulfill competitive requirement of the industry. Information Technology is revolutionizing the way in which we live and work. It is changing all aspects of our life. The digital revolution has given to the mankind, the ability to treat information with mathematical precision to transmit it with very high accuracy and to manipulate it at will. Computers and Communication are becoming integral part of each and every industry.

One of the latest developments in the field of IT is 'ERP system', which is gaining success in many facets of corporate world.

2. INTRODUCTION TO ERP

Enterprise Resource Planning, commonly known as ERP, is a system encompassing business integration through IT. Initially, ERP packages were targeted at the manufacturing industry, and consisted mainly of functions for planning and managing core businesses such as sales management, production management, accounting and financial affairs, etc. However, in recent years, adaptation of ERP not only to the manufacturing industry, but also to diverse types of industry, has become possible and the expansion of implementation and use of the same has been progressing on a global level.

ERP software is designed to module and automate many of the basic processes of a company, from finance to the

shop floor, with the goal of integrating information across the organization as well as other business partners of the organization. The business partners are supplier, customers, stakeholders etc.

The Figure shown as under explains how information is integrated within an organization using the ERP system:

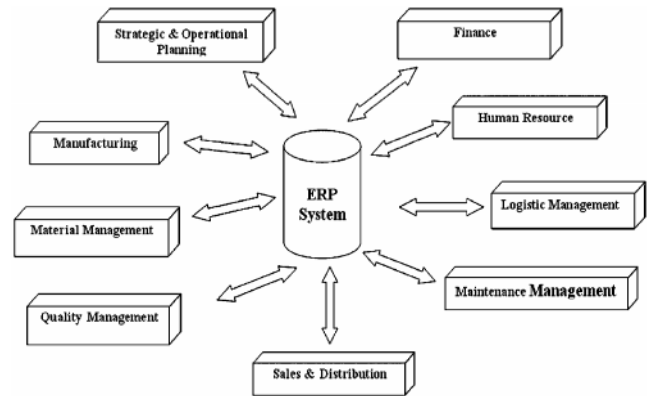


Fig.: Information Integration through ERP System

ERP software is a mirror image of the major business processes of an organization, such as customer order fulfillment and manufacturing ERP systems' are set of generic processes, produce the dramatic improvements that they are capable of only, when used to connect parts of an organization and integrate its various processes seamlessly.

2.1. The Advantages of ERP

Installing an ERP system has many advantages—both direct and indirect. The direct advantages include improved efficiency, information integration for effective decision making, faster response to customer queries, etc. The indirect benefits include better corporate image, improved customer goodwill, customer satisfaction, and so on. The following are some of the direct and indirect benefits of an ERP system:

- Business Integration;
- Flexibility;
- Better Analysis and Planning Capabilities;
- Use of Latest Technology;
- Reduction of lead-time;
- On-time shipment;
- Reduction in cycle time;
- Better customer satisfaction;
- Improved supplier performance;
- Improved Quality.

3. TECHNO ECONOMICAL FEASIBILITY OF ERP IMPLEMENTATION IN SAHYADRI SSK LTD., SHIRAVADE KARAD

As per the exhaustive survey conducted by researcher for the industry under study i.e. Sahyadri SSK Ltd., following observations are noted:

Sahyadri SSK Ltd., was established on 1974 under the leadership of architect of Maharashtra Late. Yashwantraoji Chavan who worked hands-in-glove with Shri P D Patil with modest beginning of Sahyadri SSK having initial production capacity of 1250 TCD. It has grown to tune of 7500 TCD as on date. The growth of capacity itself indicates that this organization has progressed many fold in past 33 years. Presently the annual turnover is Rs 160 corers which includes sale of sugar, byproducts and other produces, however net profit of the organization is very meger which is to the tune of 1.25 corers i.e. approx 1%.

The meger profit itself indicates improper management of SSK which needs certain improvements in various aspects and levels.

The inefficient management can be improved upon using the latest technology which will enable the management to provide right information's, in order to take right decisions at right time. Presently SSK is having the IT enabled infrastructures which incorporates following:

3.1. Hardware Infrastructure

Sr.No.	Particulars	Nos
1	Server	01
2	Clients	60
3	Dot Matrix Printers	35
4	Line Printers	03
5	Laser Printers	06
6	Backup Devices - Dat Drive	01
7	Scanner	01
8	UPS System with appropriate Backup	41

All systems are in local area network [LAN] using UTP and optical fiber cabling. The factory has 256 KBPS broad band internet account and website.

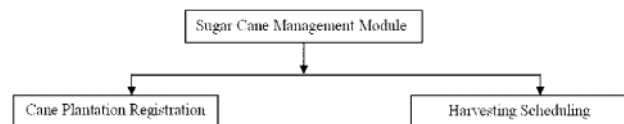
3.2. Software Infrastructure

3.2.1. System Software

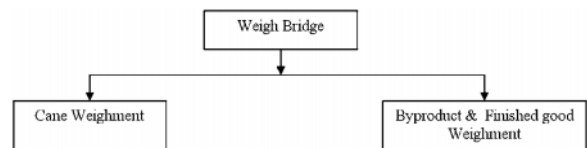
1. Windows & DOS O.S.
2. Novell Netware.
3. Microsoft Visual Studio.
4. Oracle 8 and FoxPro DBMS.

3.2.2. Application Software

1. MS-Office.
2. Shree Lipi & ISM.
3. The Organisation had developed varied modules for the IT enabled functioning of the organization. The modules are as under:
 - Sugar Cane Management: This module handles activities of sugar cane management, including Cane Plantation Registration, Harvesting Schemes based on plantation date and maturity of cane, cane analysis etc.

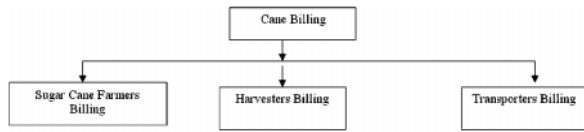


- Weigh Bridge: This module records cane weighment without intervention and does requisite calculation, displays, prints the cane weighment slip and maintains data related to the procured cane. It permits editing to the authorized person whenever necessary. It also generates daily cane crushing and other necessary reports.



- Sugar Manufacturing And Chemical Lab. Analysis: This module deals with the process materials, production And Process chemicals etc. used in the sugar Manufacturing process. It covers the necessary calculation and produces various reports on sugar production and factory performance.
- Cane Billing: This module has two sub modules viz.: Sugarcane farmer billing and Harvester-Transporter billing. It processes data on cane procurement, which come from weigh bridge, deductions from cane payment with respect to primary agricultural society dues, advances and other deductions of cane payment. It prepares fortnightly and periodical bills concerning of cane supplies, sugarcane transporters and harvesters. It provides facility of varying rates for gate cane suppliers, takes care of statutory deductions with scheduled priority. It facilitates the installment and deductions, fixed or proportionate to the bill the amount or sugarcane tonnage. It prepares cane ledgers with required details on tonnage, payments, pre-decided deductions, actual deductions, balance of deductions etc. It also carry forwards recoveries

of various deductions to next season. It maintains detailed record of cane supply from cane growers.

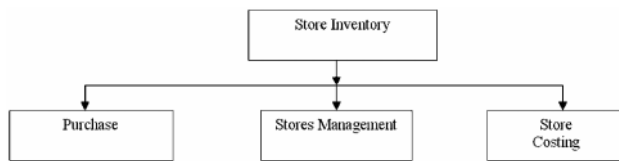


- **Sugar Sale and Godown Management:** This module handles activities of sugar sale business and godown management.

This includes invoices, receipts, sugar tenders, daily reports, frequently required reports, and periodic reports, sugar production and sugar stock, reprocessing sugar account, various summary report, statutory report etc.

- **Store Inventory:** This module has three sub-modules, Stores, Purchase and Store costing.

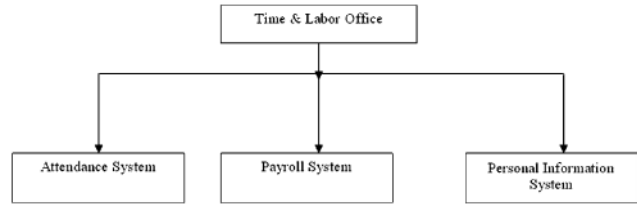
The store module manages store material: receipts, issues material loans, stock bin-cards, material location, min-max levels, reorder level, stock adjustment, moving non-moving analysis, A,B,C analysis etc. The purchase module handles material procurement activities; Enquires, quotation analysis comparative statement, purchase order, local purchase, purchase register, supplier information etc. The costing module covers allocation, stock valuation, material consumption analysis, bill provision store hypothecation, detail of sales tax forms, VAT etc with subsidiary ledger etc.



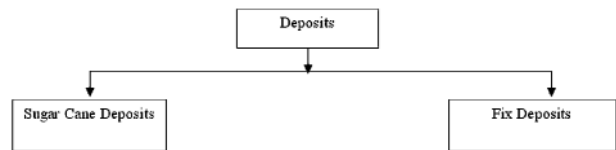
- **Financial Accounting:** This module include daily, periodical and year ending financial activities of finance section, different vouchers, daybook, cashbook, general book, various registers etc. The frequently used periodic activities include the main ledgers; sub ledger, receipt, payment, bank reconciliation, trial balance, other final account etc. The schedules profit and loss account, balance sheet etc. and other facilities required for sugar factory are incorporated in the module

Time and Labour Office

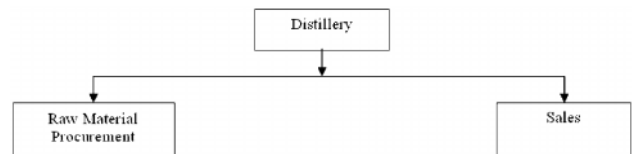
This Module includes all detail of Human Resource Development, including staff position, their record, statutory and non-statutory details of salary and wages, PF along with daily attendance, leave record etc.



- **Shares:** This is a resource base module. Facilities and reports of this module are as under:
 - Allotment, transfer and cancellation of share.
 - Classification of shares on member type basis.
 - Share holding pattern-wise voters lists.
 - Members sugar sale Management.
 - I, J register of members required under MCS Act of 1960.
- **Deposits:** This module has two sub-modules viz.: sugarcane deposit and fixed deposit. Sugarcane deposit includes all details of deposits collected through sugarcane suppliers and payment thereof. Fixed deposit handles different schemes of deposit, on-line interest payment, auto renewal of deposit etc.



- **Distillery:** This module includes activities of molasses procurement, storage, production and sale and raw material management. The distillery management involves molasses supplier billing, supplier orders, receipt and issue, transport billing, supplier and transporter ledger, alcohol billing and excise duty related matters.



4. ECONOMIC IMPLICATIONS OF ERP IMPLEMENTATION IN SAHYADRI SSK LTD.

As far the financial and economical implication are concerned, the ERP system will financially benefited and will add to increased profitability of the organization at very meager cost. At present factory installed sufficient hardware for modulwise computerization with networking. Hence same hardware infrastructure can be used for ERP with little modification. The major cost will be incurred only in purchase of ERP software, training and implementation which will be approx. 55 Lacs.

After the diagnostic research conducted under the consultation ERP implementers (Om-Shulb, NextStep Solutions) and by SSK authorities. The researchers could find that out the net profit will be increased at least by 22 to 23%, which will enable the organization to motivate the employees by giving them more salaries and dividends to the shareholders, which is presently not given.

5. CONCLUSION

In nut shell it can be concluded that though SSK is a progressive sugar cooperative unit but further improvement is needed in MIS which can be successfully achieved through ERP implementation. This will not only by

generating more revenue but in addition will result into the enhanced brand image of Sahyadri SSK Ltd., Shiravade Karad.[M.S.].

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