

IT Applications in Fertiliser Marketing

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Fertiliser Marketing, with its own peculiarities in respect of widespread customer base, multi-tier and multi-product distribution system, inaccessibility to millions of farmers etc, has been exploring IT (information technology) applications, though predominantly confined to dispatch and sales accounting areas. With partial decontrol of fertiliser sector in 1992 and the imminent possibility of total decontrol in the near futures, floodgates of competition would open up not only from within but also from foreign suppliers. In a commodity market like fertiliser products, what will make difference is data-based decision-making, its speed and capability to extend comprehensive services leading to a strong and loyal customer base. It is here that IT applications hold potential to provide a competitive edge in the market place. We could visualise B2B And B2C environment in Fertiliser Marketing areas during the years to come.

IT Aid in Decision Making

With the growing enormity and complexity of business dimensions, gone are the days of decision-making by hunches. The data-based qualitative decision-making process has become the imperative need of the modern day business organisation. Information is reckoned as power. Speed, quality, on-line etc, have become buzz words. Information has thus acquired a key and strategic role in the business processes.

Management of information has posed several challenges and also opportunities. Capturing data/information, its storage, analysis, accessing and sharing has assumed such large dimensions over past few decades that it has become humanly impossible to manage them manually. This is where technology stepped in and the combination of hardware and software was born. Technological developments in these spheres have undergone rapid and radical changes. It all started with a mainframe computer, punching of data (information) at a centralised location by data entry operators, centralised processing and preparation of output in printout forms for dissemination and record. Since then, we have travelled a long way wherein data is captured and recorded at source; data entry operators have become irrelevant; mainframe computers have gone into oblivion (having been replaced by PCs/Notebooks); printouts are no more essential for sharing of information and record, and the use of computers is no longer restricted to information management but has become a powerful tool for connectivity and communication. The present IT age is thus a combination of high-speed sleek computing machines with vast storage capacity, user-friendly and yet a versatile software package and the global communication network.

IT applications thus yield the following benefits, irrespective of the type of industry:

-  Creation of database.
-  Avoidance of repetitive jobs by many people, and many times
-  Accuracy.
-  Quick access to information.
-  Sharing of common information.
-  Saving of time and manpower.
-  Check on manipulation of records.
-  Data-based and faster decision making.

The fertiliser industry, with a staggering investment of about Rs. 23,500 crores, happens to belong to the core sector of the Indian economy and could not have remained out of the IT net for long. The rest of this paper, however, deals with IT applications in Fertiliser Marketing operations only.

IT in Fertiliser Marketing Operations

For a fairly long time, application of IT in Fertiliser Marketing was limited to the sales accounting aspects, covering invoicing, customer ledger, control of outstandings, etc. Later on, despatch accounting of fertilisers from the factory was achieved by some companies. Marketing Research and MIS opened up further avenues for the use of computers in Fertiliser Marketing.

Several market research studies are carried out to understand customer reactions to marketing strategies pertaining to product, packaging, pricing, advertising campaigns, media mix, product delivery system etc. so as to evaluate their effectiveness and bring about changes, if necessary. The customer base in Fertiliser Marketing generally runs into lacs and is widely scattered belonging to different cropping patterns, land-holdings, income-size, etc, necessitating stratified sample surveys with large sample size and then compilation and analysis of such vast and complex data. In addition, demand forecasting exercises are carried out for medium term and long term business planning. This is where the application of statistical packages came into being. Despite fundamental structural changes in the IT environment, the use of computers in market research studies in the fertiliser industry continues to be confined to statistical packages.

With the growth and spread of fertiliser business, structured MIS also became the need of Fertiliser Marketing organisations to achieve the multiple objectives of routine planning, monitoring, evaluation and control. Most companies have developed systems to meet their MIS needs and these generally include periodical review of sales, collections, outstandings, despatches, stocks, individual performances of dealers I sales force against pre-set targets, product-wise netbacks, etc. Not many companies have computer-generated MIS; what is being done in most companies is to resort to the spread-sheet approach for management of marketing-related MIS. This is a time consuming process and involves IT applications limited to the facilities of data storage and computations. Any comprehensive and ideal IT system has to aim at capturing the data at its source, which is still a far cry though some companies have resorted to ERP, which is also mostly confined to production and supply chain management.

Peculiarities of Fertiliser Marketing Operations

IT applications in any functional area depend on the nuances of each function and the environment in which the industry operates. Following are the peculiarities of Fertiliser Marketing operations:

a) Wide and multi-locational spread


 Company points (Salesman, Area I Regional Offices, Head Office)





 Dealer points

 Storage points

 Rake points

b) Multi-point system of sale

 Direct from factory to dealers / consignees.

-  Sale through warehouses on delivered basis to dealers and their consignees
-  Sale to farmer through company depots
-  Sale through warehouses on ex-warehouse basis to dealers and their consignees
-  Sale from railway rake point to dealers and their consignees.

c) Large-scale and multinational warehousing in off-season and in case of inter-state sales.

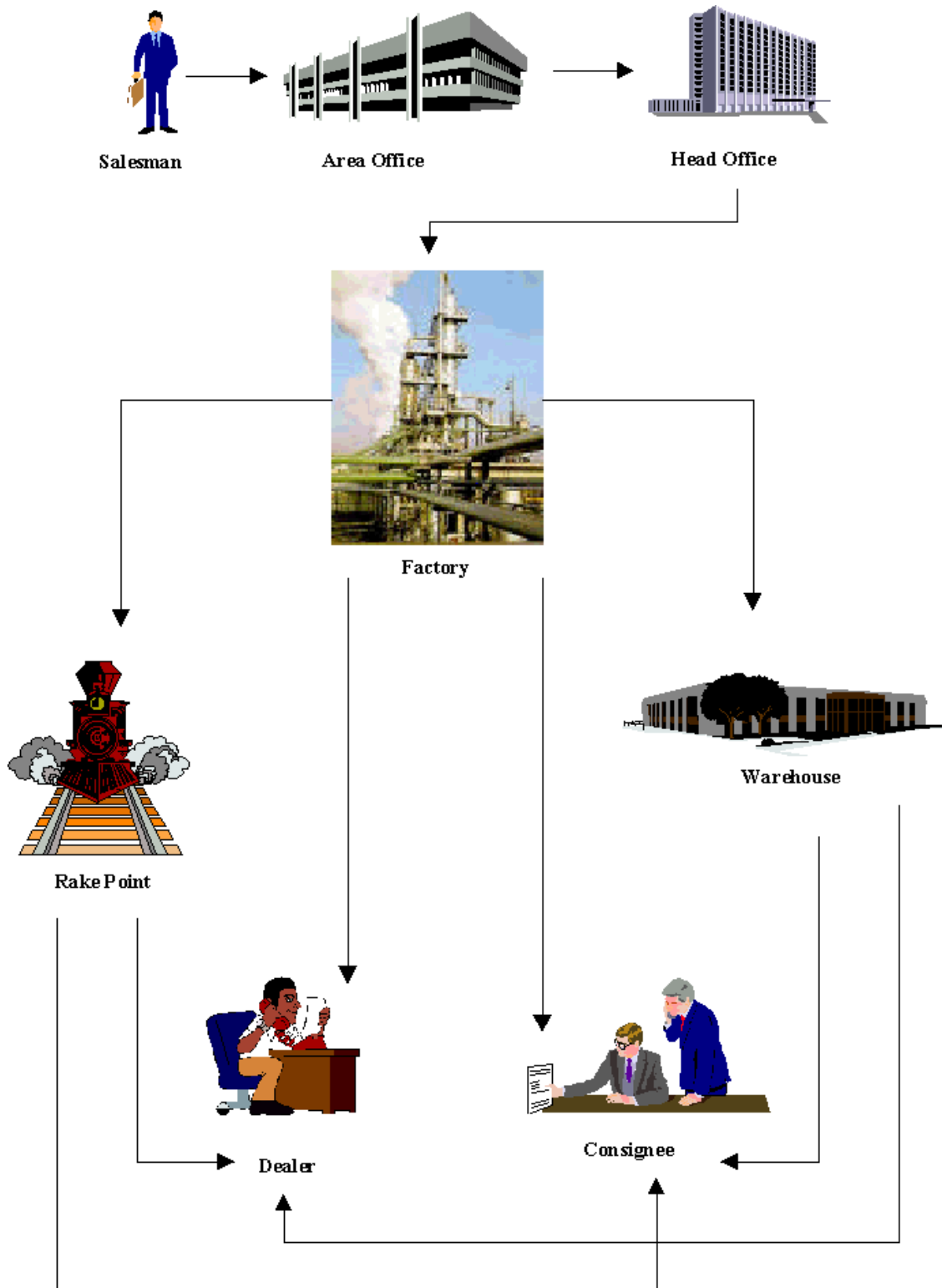
d) Multi-product (Urea, AS, CAN, DAP, MOP, Complexes, SSP), high volume, low margin business.

e) Subsidy management and accounting

f) Multi-locational payment/collection centers, each location of customer not having facility for payment by local cheques, handling of payment receipts, deposition of payment instruments, accounting of PIS, transfer of funds, bank reconciliation etc.

g) Periodical and exhaustive reporting under the provisions of ECA.

Multi-Point System of Sale



h) High degree of farmer's educational promotional needs, limitations in providing farm advisory services to individual farmers.

i) *****

j) Spread of customer base to remote and interior locations not having proper communication /connectivity.

k) presence of several competing firms, necessitating personal contact with dealers for soliciting business, collection of payments, etc., (highly manpower intensive marketing system).The above factors have led to the adoption of IT support of varying degrees by fertiliser companies, ranging from Accounting module to ERP. However, most Fertiliser Marketing organisations continue to remain IT-savy at a moderate level covering despatches, sales, accounting and MIS modules. Market research assignments are farmed out by most companies.

Recently, FAI has commissioned a website at their New Delhi office to enable its members to access varied nature of vast data, which we have been generally getting through "Fertiliser Statistics" and other monthly publications. FAI and even the Ministries of Agriculture and Fertilisers have resorted to the use of E-mail for paper-less and yet faster communication. Within the fertiliser industry, the use of E-mail has become quite popular during the last few year. This has yielded considerable saving in cost of communication. Fertiliser industry has, thus, been responding well to these fast changes in the IT enabled communication environment.

The last couple of years have witnessed breathtaking developments - not directly in Fertilizers Marketing but in the area of Agriculture - where a good number of private portals / websites have been commissioned providing a vast range of information pertaining to agri-inputs, agri-products and related technology. Some addresses are as follows:

- 1) www.agritech.com
- 2) www.agrichem.com
- 3) www.krishiworld.com
- 4) www.jkisan.com
- 5) *****
- 6) www.agriwatch.com
- 7) www.forindia.com (search engine)
- 8) www.apeda.com

Emerging IT Needs in Fertiliser Marketing

There has been a myth prevailing over a long time that Fertiliser Marketing is not much subjected to competition. Despite regulation and partial controls, there are 8-10 players in each market and products are substitutable and are of generic kind. These are some factors which lend quite a degree of competition in Fertiliser Marketing. In a product segment which faces substitutability and is of generic type, coupled with low margins, what bring in the competitive edge is through differentiation in terms of services, customer response, etc. It is in these spheres that IT applications find relevance.

IT has gone much beyond computerisation and, coupled with extensive connectivity, has made it an unavoidable element in the business management process. Fertiliser industry with its own dynamics and characteristics has been responding to IT revolution on a selective basis.

There are very clear and strong signals of fertiliser industry getting into total decontrol and market-driven environment. price, distribution and import-related controls would get fully dismantled and the industry would be required to face intense competition both from domestic segments and imports. It will call for a radical shift in the mindset of the Fertiliser Marketing man to respond to these imperative changes in the market place and one would expect IT to play an important role in the following areas:

a) Cutting down time-lag between order booking by dealer and its execution. At present in most companies, orders are booked manually or through faxes / telephones, which are then passed on factory where delivery challans are prepared to execute the orders.

b) Some companies have succeeded in computerised recording of Customer Order at Area Offices and their transfer through modem to factory for execution. Factory in turn, is able to transmit the status of order execution back to Area Office. This enables the Fertiliser Marketing man to provide quick response to the customer regarding the supply status.

c) Customer would also expect faster information regarding prices and terms, statement of account, credit notes and debit note adjustments, etc.


d) Just-in-time (JIT) management of stocks at all levels. One of the ingredients could be to operate warehousing agencies, be it private or state-owned, having computerised operations and linkages with their clients. It is heartening to observe that a couple of fertiliser companies have already succeeded in connecting their warehouses with factory and marketing offices through modem / VSAT.

e) Capability to identify stocks to facilitate faster movement elsewhere to meet urgent requirement.


f) Cutting down "collection cycle time".

g) Faster transfer of funds to achieve most effective funds management.

h) Capability to provide faster services to farmers:

 Soil test analysis report.

 Farm advice, transfer of technology.

 Interactive communication mode to address specific queries of farmers.

i) Reduced manpower to achieve lean and flatter organisational shape.

IT in Fertiliser Imports













After partial decontrol of Phosphatic and Potassic fertilisers, many fertiliser companies have entered the field of fertiliser imports and volumes of fertiliser imports have also substantially increased. While prior to decontrol all imports were canalised. We have now at least a dozen major fertiliser companies directly handling imports of DAP and MOP. The volume of imports of these two fertilisers, which was 15.70 lacs and 14.28 lacs te respectively in 1993-94, has gone up to 33 lacs and 29 lacs te during 1999-2000.

With so much of competition coming into the area of management of fertiliser imports, it becomes necessary to have a comprehensive database covering imports prices at various points of time, sources and availability of products, port operation costs, freight rates, exchange rate fluctuations, etc. so as to be able to take correct and timely decisions

pertaining to imports of fertilisers. Scope and applications of IT in management of imports does not stop only at this stage but also extends to documentation of port operations involving the despatch and sales accounting system on the same lines as it is done at the factory level. Thus, the same software package which is used for own-manufactured product can be extended to a computer system to be installed at the port having connectivity through modem / Internet with various marketing offices. Some fertiliser companies have already established this kind of IT network for handling imports.






Futuristic IT Application in Fertiliser Marketing

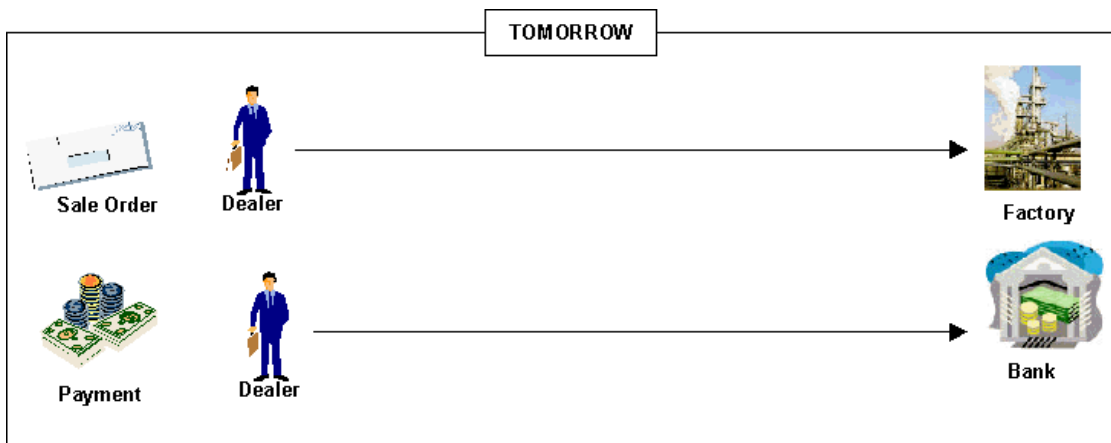
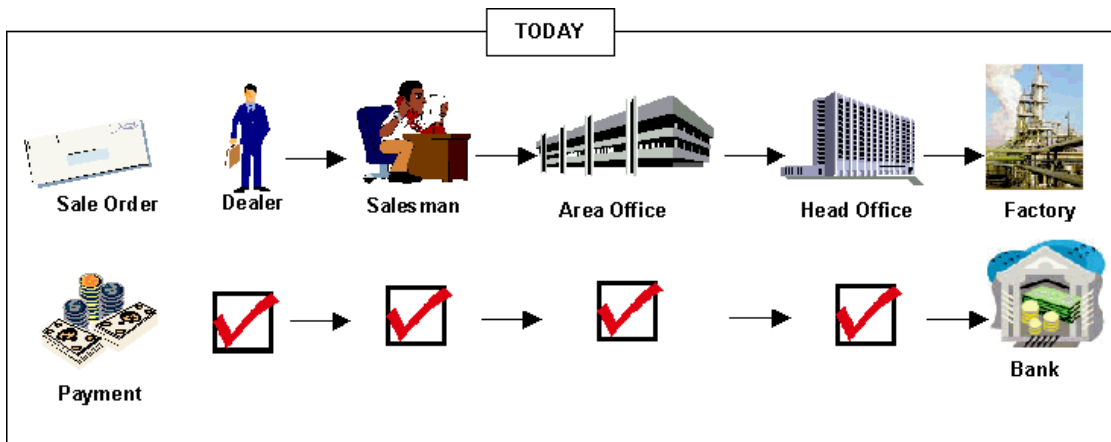
With Quantitative Restrictions going off under the WTO arrangements, competition in fertiliser industry shall come from beyond the Indian shores. Speed in decision-making, empowerment of the salesman, faster and quality services to the dealers and even farmers shall form the key elements of a winning strategy. In the process, one could visualise the following IT applications in Fertiliser Marketing:

-  Salesman carrying a laptop-printer to dealer's shop
-  Booking the order through computer
-  Issuing a copy of Sale Order to dealer
-  Transmission of the order to Area Office/Factory through Internet
-  Accessing order execution status from the factory.
-  Generation of invoice and PIS on computer.
-  Generation of payment receipt to dealer
-  Generation of credit and debit notes based on authorisation from HO through computers
-  Generation of customer account
-  Receipt of stock in godown
-  Issuance of stocks through delivery challans
-  Stock reconciliation

Salesman thus could be fully empowered to carry out business faster and provide comprehensive services to dealers.

As a part of the B2B environment, we could also expect the dealers to be linked through computers to the salesman / Area Office. We visualise dealers to be operating as follows:

-  Booking orders on computer directly with the factory
-  Accessing order position
-  Making payment and transmitting PIS details to Area Office
-  Accessing invoice raised by Area Office
-  Accessing the statement of accounts from Area Office



We can also visualise a Payment Gateway for banking operations whereby transfer of funds from collection accounts to main C/C account can be achieved instantly through Internet.

Fertiliser Marketing organisation would be expected to service the farmers either directly or through the dealership network for which private portals may come up. Farmers then may be able to access their soil test reports, advice regarding crop specific fertiliser doses, cultivation practices and also specific advice pertaining to improvement in soil health, management of pest attack, prices of crop produce in various markets, new crop varieties, their characteristics, yield potential etc. Can we visualise that, like STD booths, we may have Internet booths in far-flung areas and the farmers would be able to access the agri-related websites to seek whatever information they may need and that too in the local language? One sees a great potential for this kind of development during the next decade. A Fertiliser Marketing organisation which seizes the initiative in these potential service areas has a chance to stay ahead of the competition.

For achieving the above vision, we, however, need to look at the present infrastructure in a very critical manner so that the same could be upgraded lest the IT entrepreneurs get frustrated on account of lack of adequate infrastructure. Connectivity within the country in terms of coverage and speed is very low at the moment. The whole purpose of IT support would get defeated if the generation/transaction of information becomes slow and remains confined to only a few. This is more critical in the Fertiliser Marketing segment which has a vast rural spread where even the quality road linkage is not available at all the places. There is, however, hope that through the network of cable operators who are present in far distant villages, attempts could be made to achieve wider connectivity. The dealers and farmers will have to go through a major paradigm shift wherein the computers are not perceived as something beyond their capability; the dealers and farmers should be able to befriend the

computer environment which could be achieved by ensuring the presence of the IT network and also education to the prospective users. As far as the next generation is concerned, this objective is already being achieved by introduction of computer education right at the primary education level in many parts of the country. What is simultaneously needed is a big and rapid investment in creating infrastructure both by government and private entrepreneurs to match the aspirations of the new generation.