

Challenges before Inventory management in Pulp and Paper Industry

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SUMMARY

Inventory Management today is challenged as perhaps never before. The ability of Inventory Management to accept and answer the challenges and to achieve its objectives especially in the critical days to come is of special significance. An attempt to undertake a broad survey of the horizon before us and examine the dimensions of the problems in Inventory Management for achieving material productivity.

We have crossed many centuries—from stone age to space age. Some may designate the present age as Automation age! We might have set our feet on the moon but down in this part of the earth: ask any one who is committed to management of materials, no matter where he works or in what capacity, he will testify that the present age is one of wastage and shortage, not conservation.

Today, the paper industry is facing a war 'a resource war' of major dimensions! This industry is suffering from scarcity of Forest Raw materials, some important chemicals, coal, and oil, etc. There is an around increase in all input materials recording all time high with a big threat that this unpleasant upward trend in prices is likely to continue in the days to come more severely, mercilessly and menacingly. Added to this, this industry is subjected to control—a declared control on production and an informal one on sale price.

In paper industry for every one rupee worth of paper sale materials consumption accounts to 60 paise. The other two major areas of one rupee sale are profit and wages. The cost explosion has already resulted in increased consumption of materials. The inflation had its own impact on increase in wages. If the sale price of paper is not increased proportionately to the increase of material consumption, well, a natural consequence of this would be a steady erosion in the profit area. This, what I would term as "corrosion of profit". This poses a big challenge and demand on effective utilisation of capital. Afterall, the health and

growth of this industry is very much dependent on the effective utilisation of capital and this in turn very much depends upon the quality and commitment of inventory management more than any other single internal factor. This has led to a reassessment on the control aspects of inventory. This lays greater importance to the urgent need to eradicate the frustrating influences and impediments that affect the control aspects.

Of course, there is certain amount of confusion even among many executives about the concept and possibility of control on materials. This confusion is, no doubt, understandable. In a business environment, increasingly dominated by scarcities and uncertainties, exposed to inflation and interferences, the aspect of control on materials has become more complicated and difficult.

The problem of Inventory Management today is not what it was a decade ago. The importance laid down for better material management in early sixties was aimed at ensuring supplies of imported components and arranging for the scarce foreign exchange. After Indo-Pakistan war in 1965 the theme of material management was shifted to import substitution and developing indigenous market. But the consequence of credit squeeze in seventies made money scarce and Tandon Committee suggested inventory ceiling. This brought inventory control more active and new awareness for

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optimising the material requirements. Today, the theme and primary concern of inventory management is to identify KRA (key resulting areas) and exploit them to the best advantage of the industry. As rightly projected by a study report in States "Material Management as text book organisational entity is a failure; Material management as a pragmatic functional concept is a success". Indeed at no time the man responsible for materials is puzzled and perplexed as he is today with questions before him such as,

Is inventory an asset or liability ?

Is concept of inventory a solution or a problem to production ?

Is control on inventory a myth or reality ?

Is function of inventory merely a function of service or a function of profit too ?

How then to strike a line between the two conflicting considerations i.e. the consequence of having a material when it is not required and the consequence of not having a material when it is required ?

Well, what is inventory, after all ? It is money; money in the guise of stocks—stocks like parts, pipes and paints. It is money every industry has to keep and pay something to keep. It is money, like any other, prone to devaluation. Because it is money, it is to be disciplined, it is to be controlled. As in the case of manufacturing which contributes to profit by creating utility value of form, or marketing which creates utility value of ownership, so too inventory management contributes to profit by creating utility value of time and space. This creation of utility value of time and space calls for an inventory organisation with an imaginative approach and scientific control. It is indeed heartening that in recent years a new wave of activity has emerged, as a distinct management domain, as important as manufacturing or marketing and this activity is very much concerned with and confined to the managerial functions of materials. Well, the increasing importance of inventory control is a pointer to this.

What control can we have when most of the materials are in seller's market ? What control can we think of when we don't get even our minimum requirements ? Let us take the case of coal. What control can we suggest for this ? This is not a small item. Power and fuel alone in paper industry account for 20% of the cost of production. In the absence of coal, usage of Furnace oil which is the only alternative today is very uneconomical.

Paper Industry is basically an energy consuming industry. For a modern integrated pulp and paper

industry, the requirement of steam and power per tonne of paper is 11 tonnes and 1500 KWH respectively. Power shortage is a perennial problem and because of this some mills have gone in for captive thermal power generation requiring more coal. The unpleasant truth is we don't receive even the rationed quantity of coal allotted to mills, not to speak of poor quality of coal. The coal requirement for this industry is 26 lakh tonnes per annum. This means we need 250 to 260 wagons a day to lift the coal to various mills.

But we don't get even 150 wagons a day and many mills have to go in for road transport with very high prohibitive transport cost. How ridiculous it looks to transport coal from Talchar to Tamil Nadu by road, particularly when we are passing through oil crisis. Why such things should happen? Railways complain that the coal is not available even when wagons are sent for loading. But Coal India point out their accusing finger on Railways saying due to non-availability of wagons coal could not be lifted though coal is available in abundance. Press reports say that coal output has gone up from 104 million tonnes to 114 million tonnes last year and that 10 million tonnes of coal lying in coal pits could not be transported for want of wagons. This is one area—a sick area breeding sickness to all industries. A host of factors ought to be examined in this regard, to analyse the impact and influence it has on effective management of Inventory.

I would not be far wrong if I say that even after over 30 years of planning, our Rails do not deliver goods. It is a sad commentary on the performance of goods traffic by Rail as only 1.9% increase has been recorded in Rail goods traffic between 1965 and 1980. One of the ills for this poor show by Railways is non-availability of wagons. Only 5 lakh wagons are in use out of which 11% of them are reported to be sick. Against a demand for 25000 wagons per year only 10000 to 12000 wagons are added. The other problem is the unproductive use of wagons. The turnout of wagon in India is 13 days as against 3.6 days in China and 5 days in USSR. One important reason for this poor turnout is the waiting time and the speed of goodstrains. It is said each wagon's running time per day is 5 hours to 10 hours only and speed of the train is approximately 20 KM per hour in our country. It is interesting to note that in China, importance is given for transportation of goods by rail whereas in our country it enjoys only a secondary importance. The ratio of goods traffic by rail to road in 1977-78 was 68:32 as against 89:11 in 1950-51. I am afraid, that unless we take urgent steps to set right some of these basic ills and improve the per-

formance of goods traffic by rail, the managerial function of materials will be reduced to mockery. I have covered the above issues in the hope that these will provoke discussions in the context of the subject of today's Sessions.

Let us now examine the control aspects of Forest Raw Material. The Forest Raw Material alone accounts to 25% of our cost of production. The annual requirement of Forest Raw Material for this industry is around 50 lakh tonnes and this is expected to go upto 85 lakh tonnes by the end of 1990. It is high time the captive plantation is permitted for paper mills to meet out the growing demand for Forest Raw Materials. State Government should consider entering into long term lease for hard wood also which in turn will ease the crisis to a great extent.

Since the control aspects of forest resources is with the State Governments, there is a very strong case for this industry's involvement in the long term development of forest and plantation programme by Government. Otherwise, how is it possible for this industry to plan their requirements with confidence? Since the Government is the dominant factor in deciding forest raw materials, the management of Inventory is almost replaced by management of relationship with Government. The depletion of bamboo has already forced the mills to go in for hard woods.

Bagasse is a very potential Raw material of paper industry. To encourage use of bagasse the Government has rightly given exemption from excise duty for paper produced out of which bagasse should be 75% of raw material. The problem is again availability. In India though we produce 150 million tonnes of Sugarcane, only 50 million tonnes of Sugarcane is used for manufacturing sugar. This means only 15 million tonnes of bagasse is produced. This important raw material of paper industry is now being used as fuel for the Boilers by Sugar industries for their captive consumption of steam! If all the 15 million tonnes of bagasse is made available for making pulp, well, we can produce 2.5 million tonnes of paper! This is possible only if coal is made available for sugar industries. This has again brought us back to our bitter experience that throws a big question:

How to get extra coal and wagons?

To cater to the needs of this industry, the forest raw material has to be supplemented to a significant extent by use of agricultural residues like bagasse, cereal, straws, etc. and waste materials such as waste cotton, waste paper, waste hemp, etc.

In India the recovery of waste paper is very low. The use of waste paper must make economic sense as it has manufacturing cost advantages. This assumes greater importance in the context of energy crisis as the use of waste paper in the place of bamboo/wood saves energy consumption to the tune of 60%.

The planning and procurement of waste paper, free from contamination, is possible only when a demand is created and an organised approach by this industry is made.

I may share with you another type of problem Inventory Managers are confronted with. Take the case of Sodium Sulphate. This is an important chemical required for Recovery Plant. This chemical is a byproduct of Rayon industry. The total requirement of this chemical for this industry is around 80,000 tonnes per annum. This chemical alone has suffered a steep increase in price to the extent of 500% on 1977-78 price line! Of course, the other problem is non-availability. This chemical which is already in short supply is being exported! Well, what justifiable logic can there be for this? What kind of planning and profitability can we project?

Another point I would like to share with you all is about the attitude of Government which has an adverse effect on Inventory Management. Two years before Government permitted this industry to claim set off for input materials attracted by Tariff 68. Afterall, this industry could claim set off for just half a dozen materials only. The point is we could not claim set off for few other items-like wire that come under Tariff 68. Let us take wire. Wire is an absolute must for making paper. The value of consumption of wire by this industry exceeds 4 crores. The wire price is also maintaining an upward trend like many other materials. We could not avail this concession for this item for a simple reason that this is not acceptable as input material as per the technical interpretation of Government notification. In my view, I am sure you all will agree with me, the norm for declaring a material as input material for a paper industry should be based on the existence of an input output relationship. This industry should take up this matter seriously with Government and get concession.

Well another important factor is control on price of concession paper. The havoc of cost explosion clubbed with this control has caused considerable damage in capacity utilisation. The production of last year was just 10 lakh tonnes as against installed capacity of 16 lakh tonnes and estimated production of 13.8 lakh tonnes. Because of the gap between

demand and supply, paper was imported. The Government that is willing to pay Rs 7,500/- per tonne for imported paper is unwilling to raise the price of concessional white printing even to the cost of production. The cost of half a dozen input material alone exceeds Rs 3,500/- fixed by Government for concessional white printing. Let us take bamboo and wood, coal and furnace oil, caustic lye and chlorine, sodium sulphate and sodium sulphide lye, felts and wires, burnt lime and Rosin. These materials alone account for more than Rs 4,000/- All these problems have reflected on the capacity utilisation, which in turn, has an adverse effect on inventory management.

The per capita consumption of paper is very much linked to the economic activity of a country. In India the per capita consumption of paper is less than 2 kg whereas in China it is 8.6 kg. If we look at the developed economies of some other countries we will know how per capita consumption of paper is very important for socio-economic growth. In USA the per capita consumption is 257 kg, 190 kg in Japan and 118 kg in UK and 38 kg in USSR. The twin fronts we have opened against illiteracy and stagnant economy emphasise the need to link and plan more properly the blue print of this industry vis-a-vis the overall economic growth of the nation. One of the recent bulletins of Paper and pulp division of UNO has forewarned the possible shortage of paper in the world in the coming decades. Hence, a shortage of paper in the world looms large and developing countries like India cannot afford to ignore this approaching catastrophe. The National commission on Agriculture had estimated that before the next two decades the demand for paper in our country will be around 347 million tonnes. To cope up with the demand, we must not only achieve the optimum utilisation but also should go in for additional installed capacity. Paper Industry is basically a capital intensive industry. The capital required per tonne of paper today is Rs 15,000/- as against Rs 4,000/- in the sixties. There has been a steady decline in the growth of this industry. The growth rate has fallen from 11.7% in the sixties down to 3.7% at the end of the seventies. The important reason for the fall both in this industry's growth and in capacity utilisation is mainly attributable to the crippling control and failure of infrastructure.

Well, in the midst of these surcharged atmosphere what Inventory Management can do to ease the problem and make the industry grow? Possibly we may adopt to new conditions taking into consideration inflation, infrastructure failure and excessive Government regulations and taxes.

Improving the Inventory Turnover Ratio can increase productivity. We may take a lesson from Japan where by improving Inventory Turnover they have reduced the cost and boosted their exports. The poor inventory turnover is bound to have a cancerous growth in the area of profit. In paper Industry we are inventorying over Rs 150 crores, which includes lazy stock of about 50 crores.

The Inventory carrying cost in paper industry is around 30% and this means we are unnecessarily spending Rs. 15 crores every year on non-moving items.

The most important aspect for achieving a faster inventory turnover ratio is breaking down the departmental barriers and disciplining the flow of materials at every stage right from planning to product at point of sale. Better co-ordination, rational and systematic planning and scientific control, adoption of value analysis technique are some of the ingredients for the successful inventory turnover ratio. Of course no formula can substitute common sense. Another important aspect for effective inventory control is Zero defect programme. Both Japan and USA have produced wonderful results by adoption of Zero Defect Programme. The then President of USA said "Zero Defect Programme offers timely support for the objectives of our determined effort to eliminate waste wherever it occurs". From the inventory management point of view Zero Defect Programme could be of immense use producing immediate results. We can organise suppliers conference similar to our dealers conference. We can invite vendors of vital supplies for a meeting with a view to exchanging ideas and problems and create an atmosphere that vendors feel that their organisation is an extension of our mill. The involvement of vendors of important materials with a sense of participation in our economic activity will make Zero Defect Programme more successful. In USA more than 10 million organisations are adopting this programme successfully. Why not we make a beginning in our mills?

Another important technique this industry can adopt for effective inventory management is value analysis technique. VA technique can produce many magic wonders. After all, to quote Drucker, "Results are obtained not by solving problems but by exploiting opportunities". VA exposes the area of opportunities and aims at ensuring better value for money by means of cost prevention, cost reduction, improved reliability and performance. Unnecessary costs must be unearthed and curbed and this must be a continuing process for achieving better results. Besides VA technique the application of MBO, process and product development, source development also produce results in reduction of cost of

materials through innovation. To quote Drucker "objectives are needed in every area where performance and results directly and vitally affect the profitability of business". We should have cost effectiveness budget alongside our annual estimates and achievements of cost effectiveness as an integral part of the plans. It is time this industry seriously takes up standardisation and specification for immediate results. Specification is one area where there is lot of scope for improvement. In deciding upon the specification, care should be taken to ensure that the specification do not act restrictively or would mean difficulty in procurement and high incidence of material cost. Specifications should be based on the functional characteristics and should not be a reproduction of particular supplier's specification which would impair evaluation of the various suppliers products and thus restrict the options. Tolerances should not be harsh as to affect the procurement and push up the costs. Cost is a fact and incurred for specific purposes. If the purpose is not served, it is no more a cost but a waste. Effective procurement, source development, vendor development are some of the tools for successful inventory management. If I may echo Oscar Wilde "a cynic is a person who knows the price of everything and value of nothing". The quality of Inventory Management depends upon the quality of Inventory team. As elegantly and graphically expressed by Praxy Fernandes

"We want Storekeepers not mere keepers. In addition to Inventory Managers we want inventive Managers. We want Materials Managers and not materialistic managers—we want Purchase Officers and not 'per chance' Officers".

The root cause of Inventory Management problem is also attributable to the attitude of Management. The question is are we going to accept Inventory Management as service function only or as profit centre also. This is more a motivational problem. Should we compute the expenses incurred for supplying materials and allocate the same for providing the service or should it be taken as an outlay made to earn profit?

One school of thought stresses service aspect heavily. In the words of Donald E Farr who powerfully advocate, the function of material management as function of service, "Operationally it becomes a service function parallel in importance to manufacturing, marketing, engineering and finance basically established to assist them in their operations". It is because "too many unrelated people have independent control over some phase of material cost with no central control exercised". It also lays greater importance to the role of Material Management only to service function—because the end product

is only service. But the other school of thought views the Material Management function differently. It emphasise there are KRA in the whole Material Management function and once these areas are identified and exploited the end result would be profit! Dean Ammer who stresses the Material Management functions as profit centre list out four criteria for a profit centre; cost incurred capital employed, add value and pricing. IM function is very much concerned with the first three since they too add value by creating utility value of time and space. The profit centre approach makes materials management people work for the company objective of profitability.

As rightly said by Donal P. Brennan of International Paper Company "the conomy has changed more radically than the people who are managing it". How true it is! What is needed today is a change in the attitude of both the private management and Government. Since we are wedded to socialistic pattern of society Government regulations and enlargement of controls are inevitable. But the question is, are we in true sense, contribute to economic performance? In our country more than 40% of people live below poverty line. We have got a moral obligation to the society to make the scarce capital more productive.

Prof. Walter Canon in one of his papers on medicine presented 40 years ago said how we all wonder when a doctor could simply point out to a person and say you will die exactly 45 days from now two hours after new moon sets. And exactly after 45 days the man was claimed by death! And this has happened time and again! Here no trickery is involved. Let there be no mistake. It was not the Voodoo doctor who had killed the individual. It was the individual himself. That is to say "the will to die" has replaced the "will to live" at precisely the point that individual accepted the predicament of death as reality. Well the interesting point we may derive from this is people can be programmed to die. But its mirror image is equally true. If people can be programmed to die they also can be programmed to live! This economic witch doctors who willed the fateful programme can be found in all the organisations—both Government and private sectors.

I think I have discussed fairly in detail about the problems and profit areas in Inventory Management. In the existing economic climate the decision making of Inventory Manager do influence the profitability of the mill. To quote Drucker again Economic performance is the very reason and

specific contribution of any business enterprise. The Inventory Management has an important role in directing resources to results. This calls for a dynamic inventory management and let this be our inventory commitment.

Let us not forget, in all our paper mills

Low profitability is the problem
and Material productivity is the solution
Material scarcity appears to be an impediment
Effective utilisation seems to be the remedy
Capital availability throws a big challenge
and **EFFECTIVE CONTROL ON INVENTORY**
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