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The Dilemma of the Warehouse Manager

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Abstract

The case discusses about the day today challenges of monitoring and ensuring the availability of fertilizers at various warehouses in various consumption destinations. The case highlights the common phenomenon of fertilizers running out of stock and trucks not being received with replenishment in time and logistics costs requiring to be monitored periodically.

The case commenced with a narration of a telephonic call being received from the Depots about the alarming levels of low stocks and requiring urgent replenishment to avoid opportunity sale loss during the Kharif and Rabi Season.

The case narrated the existing arrangement of annual contract with the transporters for movement of fertilizers and what the firm intended to do while finalizing the new contract for the next few years. This phase of the case brings out what one has to keep in mind when a new contract is getting negotiated and covered aspects such as budgeting, tendering process, negotiation of rates along with the terms and conditions etc.

The entire case highlighted the pressure a warehouse manager has to go through in his functional area of day to day operations so that a student can get a feel of this functional role.

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“The dilemma of the Warehouse Manager”

Mr. Prasad, the Distribution Manager at the factory was a worried man as he just received a call from Davengere- Depot Manager that the fertilizer stocks are depleting as the Rabi Season has begun and if the replenishments were not received in a weeks' time the local farmers may opt for the competitor's brand. He was worried not because the fertilizer stocks were not available but his problem was not getting the trucks in sufficient numbers to move the fertilizer's to Davengere.

'Davengere' was an important destination for the company because it was one of the destinations of higher consumption of their brand of fertilizers.

As he attended this call there was another telephonic call from his boss All India Distribution Manager expressing his anguish over the increasing transportation cost on per ton basis compared to previous years? (Exhibit-1)

He immediately schedules a meeting with the transporters who have been struggling to mobilize the trucks in sufficient numbers at the existing contracted rates which was still valid (but is due for renewal in about six months' time).

The dilemma

Now, Mr. Prasad had a task in hand with pressure from Depot's on one hand seeking stocks to be replenished on time, pressure from the transporters on the other hand who needed to be convinced to position the trucks on time in sufficient numbers at the existing rates. To cap it all the explanation he had to give to his boss- the All India Distribution Manager who was worried about the increasing trend of the transportation cost.

About the Company

The company was a leading fertilizer firm based in Andhra and had a very good market in South of India.

The fertilizers were normally moved to various destinations by road and for certain limited long distance destinations by rail mode.

For the road movement, the company had entered into a contract with about 8 transporters through a tendering process and allocated the various market destinations (constituted as zones) to these transporters. The rates per ton of fertilizers moved to each of these destinations from the factory gate were indicated in the contract. (Exhibit-2). The factory Distribution manager would then coordinate with the transporters on a daily basis. He would request for various numbers of trucks to various destinations based on the input received from the marketing team and arrange for dispatch of the goods. Based on the quantity moved the transporter gets paid on a fortnightly basis based on the contractual rates/ terms.

These past data together with the marketing plan for the next year were considered and a budget was prepared which forms the basis for the ensuing year. This budget will clearly establish the intended quantities planned to be moved from the factory to various destinations and the cost involved forming the basis for transportation budget. The linking of the marketing plan and the past data helps in improving the reliability of the budget exercise as it takes into consideration the various factors like seasonal variation of off take/ lifted by the various regions/zones. (Exhibit-3). This budgeted cost was used for strategic purposes to control costs on account of logistics

An attempt on the past data revealed the following;

- The demand for fertilizers were high during the Kharif and Rabi season. Kharif season is between July and Oct which is based on south west monsoon while the rabi season happens between Oct and March i.e. during the winter months. The study of the past data revealed a correlation existing between the Kharif/Rabi seasons and the offtake of the fertilizers from the depots.

Kharif	48% of the total Production	June – Oct
Rabi	52% of the total production	Nov-April

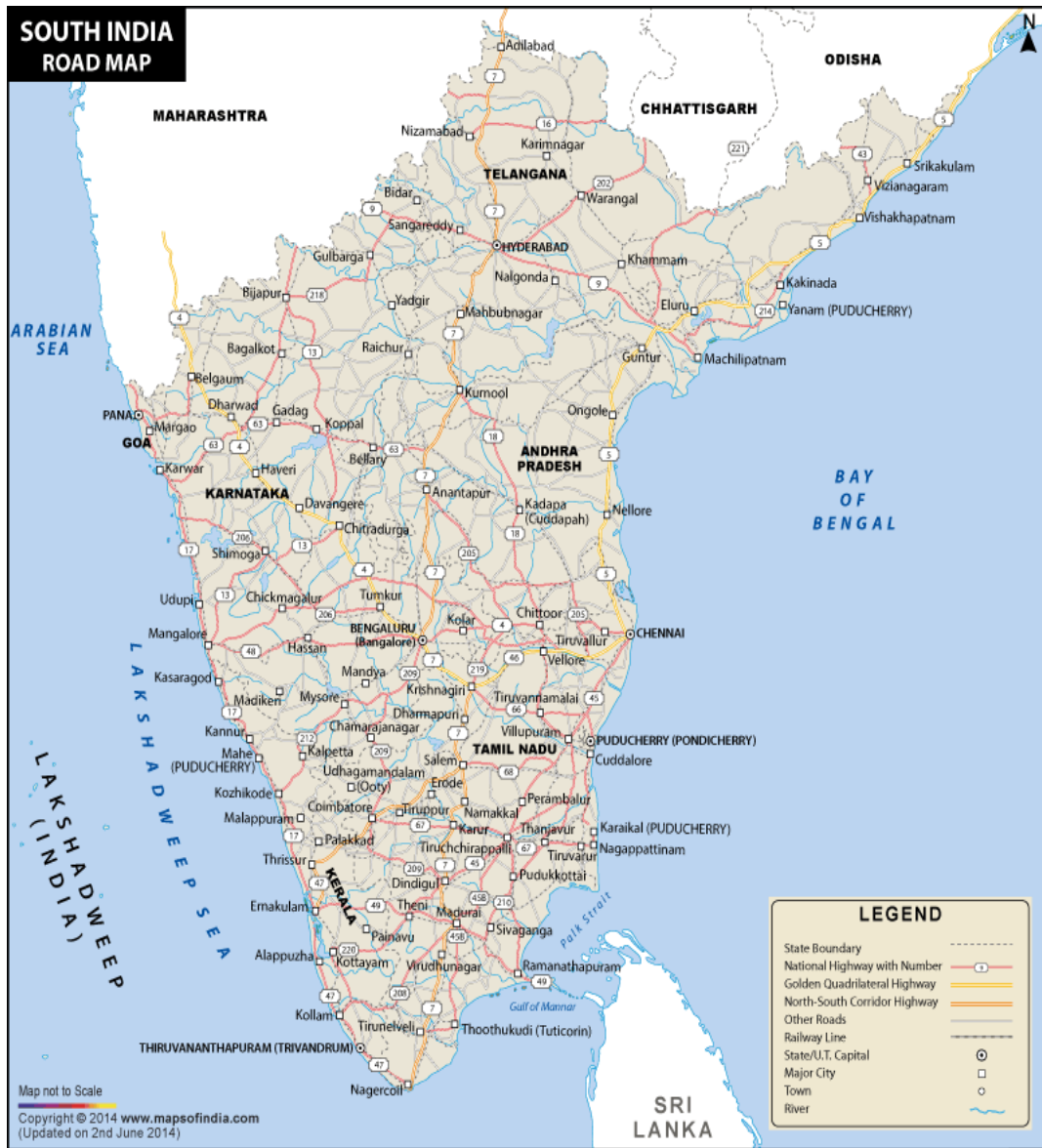
The above pattern was also in line with the study by Ministry of Fertilizers which also indicate that the consumption of fertilizers was in the ratio of 48 % during Kharif and 52% during Rabi season.

It also revealed that the season commenced with the sowing activity around June /November and harvest happened around Oct/April during Kharif. and Rabi periods respectively.

Season	Sowing	Harvest	
Kharif	June	Oct	Autumn
Rabi	Nov	April	Spring

- The months between March and May saw a dip in the off-take of fertilizer as they were mainly for summer crops not requiring much of fertilizers.
- It was also seen that the availability of trucks was difficult between February and May as the truckers preferred to move mango's (from Andhra) which gave them a lucrative margin than fertilizers. This partial coincidence of the season led to non-availability of trucks which in turn led to lower stocks or stock outs of fertilizers in the depot.
- The freight rates during these months reached peak level and hence the trucks in sufficient numbers were difficult to get during these periods. When trucks

were not available in sufficient numbers the stock levels in the depot reached alarming levels. A rough estimates of lead times for various regions are as given below;



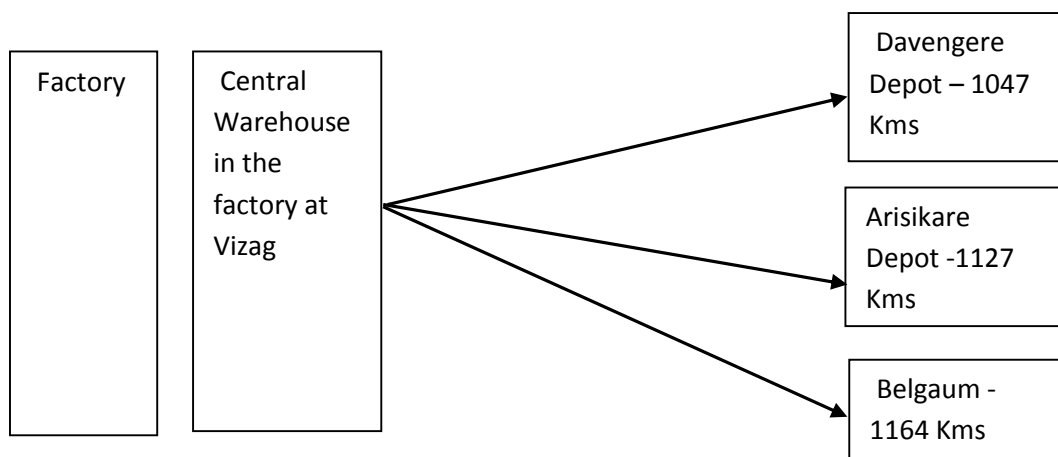
Central Warehouse at the factory	Depots in the South	Depots in the North	Depots in West
Lead time to supply from the central Warehouse at the factory	7 days –for depots in Andhra, Telangana & Tamilnadu.	9 days For depots in Orissa/Chhattisgarh	12 days For depots in & Karnataka

- Moreover, the depots have a limited storage space, roughly estimated to accommodate about 1 ½ months consumption only whereas the offtake was about 2 months’ consumption leading to stock-outs.

Rough estimates of the storage capacities of some of the important destinations are given below which is based on the past year’s data:

Davengere Depot	Arisikere	Belgaum	Hubli
32 days	31 days	30 days	34 days

- The lead time for the factory shipment to reach the depot was roughly estimated to be around 7 to 12 days which the warehouse manager is attempting to bring it down to around 6 to 10 days.
- A sample diagrammatic chart is given below to describe the routine flow of the distribution process from factory to various depots by taking Karnataka as an example.



The factory over the last few years had undertaken certain revamp steps for performance improvement while simultaneously going for some capacity additions. The fertilizer plant which had 500 ton/day capacity in 2000 is now operating at 2000 ton/day by 2015. (Exhibit-4). This was basically because the company sought to expand its market share especially in Karnataka.

The contract was normally for a period of one year but in the last tender they made it valid for a period of two years with a provision for 3% increase at the end of first year. This was done basically to reduce the paper work and at the same time to ensure that the rates take care of the inflationary factors.

Since the validity of a transport contract was for a year or more and during this intervening period the fuel prices go through a lot of revision either upward or downward. The transporters were frequently complaining about the upward revisions in the fuel prices which is making an impact on their daily cost of operations. During

one of the meetings it was resolved to consider their demand favorably and worked out a formula to take care of the volatility of fuel prices. An in built mechanism was built into the contract to take care of impacts of revisions in fuel (Diesel) prices either upward or downward using a formula which assumes that the truck gives a mileage of 4 kms/liter of diesel and the base rate of diesel per liter was as prevailing at the time of fixing the rates of the contract are also indicated as the base rate. Any increase or decrease from that base rate was used to revise the rates for each of these destinations and paid accordingly.

These transporters were serving the company for many decades and were found to be very reliable and very rarely they fail in their contractual obligations. However, there were instances of period in which some transporters found wanting in their performances were removed from the contract and replaced with the newer ones. This has helped to some extent to check the possibility of transporters forming cartels and taking the company for a ride.

For the fertilizer's moved through rail mode the company had engaged a freight forwarder who would coordinate on behalf of the company with the railways in requesting the wagons for dispatch as and when needed. On confirmation of the date of positioning of the railway wagon of the required number, the fertilizers would be loaded from the factory and moved the same to the railway yard and unload the same temporarily and again load the same into railway wagons once the wagons were positioned in the platform. For this service the freight forwarder was paid on a tonnage basis as and when the railway movement took place. Over the years slowly this activity saw an upward trend. Currently about 8% of the total output is dispatched through rail mode. The current movement of fertilizers by rail are mainly to destinations in Orissa apart from a few destinations in Karnataka where the potential for rail movement seem to be feasible.

Keeping the long term interest, the company had also proposed a CAPEX proposal suggesting an internal railway line inside the factory so that it could bring the railway wagons inside and load the wagons. It was assumed that this would eliminate or reduce the need for the engagement and or reduce the scope of the contract currently with the freight forwarder. This arrangement would be helpful in many other ways as given below;

- Too much of handling and thereby the cost could be minimized.
- Much of the time was currently wasted in coordinating with railways in ensuring the availability of wagons in sufficient number and then move from factory to railway yard and then to loading. This would be reduced if the wagons were positioned in the factory premises itself.
- The scope and content of the freight forwarding contract would undergo drastic changes in scope and content resulting in overall reduction of freight charges.

Tendering process

Based on the budgeted estimates a set of tendering documents were prepared by the company and sent to various potential transport contractors with the usual terms and conditions accompanying the same. (Exhibit- 5)

The eligibility criteria for the transporters were established by the company which included their experience in this field, their financial soundness etc. The existing transporters would all get the opportunity to participate in the tender unless and otherwise their past performance was not to the satisfaction of the company.

The documents give indicative quantities to be transported to various destinations the company plans to move so that they could indicate the rates accordingly. The tender would also have stipulations like security deposits (EMD: Earnest Money Deposits), to ensure compliance of the contractual provisions, due dates for submission etc.

The contract also had provisions to penalize the transporter for non-fulfillment of contractual terms. There were occasions when the transporter had failed to provide truck within the reasonable time and the company resorted to engaging the truck/s from the market at the market rates and moved the goods to meet urgency and recovered this high cost incurred from the transporters pending bills or by adjusting against the security deposit. There would also be negotiations before the contracts were finalized and awarded.

Billing cycle

Once the contracts were released the distribution Manager from the factory would coordinate with the respective transporters for day to day movement of fertilizers to various destinations. Transporters would then have to position adequate trucks as requested and get the goods moved and delivered at the respective destinations and an acknowledgement was obtained for the safe delivery made in the destination warehouses. They were then attached as supporting documents along with their bills for payment by the factory. Normally they were paid on a fortnightly basis so that they get paid twice in a month as large sums were involved and their funds should be available for circulation for further transportation work.

Questions?

1. What can be done to avoid stock outs in the Depots at least in the long run?
2. If you were to be the Distribution Manager what would be your approach during the scheduled meeting with the transporters?
3. What strategies can be thought of by the Factory Distribution Manager Mr. Prasad to control the overall transportation costs?
4. What improvements can you suggest from the current logistic system the company is following? Justify your suggestions.

Exhibit-1 - Trend of Transportation costs for the last five years - 2011-2016

Period (Apr-Mar)	Overall Transportation cost – by road (rate/ton) in Rs	Transportation cost – by Rail (rate / ton)
2011-12	230	200
2012-13	233	202
2013-14	237	205
2014-15	266	220
2015-16	272	240

Graph:

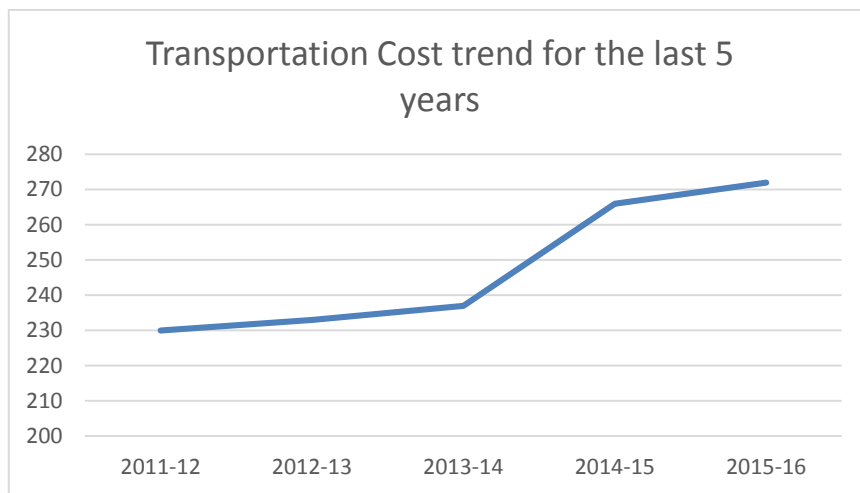


Exhibit-2 - Sample Format for the rates per ton applicable for various destinations for the period 2015-2016. (by road)

S.No	Destination	Rate /Tonne
1	Arisikare	240
2	Belgaum	230
3	Belur	320
4	Chikmagalur	440
5	Davangere	380
6	Hubli	310

Exhibit-3 Budget format (2015-16)

Budget sheet (Karnataka)

S.No	Destination	Last Year Quantity(in M/T)	Rate /Tonne	Estimated Value (in Rupees)
1	Arisikare	5600	240	13,44,000
2	Belgaum	4000	230	9,20,000
3	Belur	2300	320	7,36,000
4	Chikmagalur	3400	440	14,96,000
5	Davangere	12230	380	46,47,400
6	Hubli	7300	310	22,63,000
	Total	34830		1,14,06,400

Budget sheet (Kerala)

S.No	Destination	Last Year Quantity(in M/T)	Rate /Tonne	Estimated Value (in Rupees)
1	Kottayam	1200	530	636000
2	Palakkad	1300	470	611000
3	Alwaye	1100	512	563200
4	Calicut	1350	520	702000
5	Trichur	900	496	446400
	Total	5850		2958600

Budget for Andhra

S.No	Destination	Last Year Quantity(in M/T)	Rate /Tonne	Estimated Value (in Rupees)
1	Cudduppa	5400	260	1404000
2	Kakinada	7200	60	432000
3	Rajamundry	6400	70	448000
4	Anantapur	3400	300	1020000
5	Vijayavada	5200	126	655200
	Total	27600		3959200

Budget sheet (Tamilnadu)

S.No	Destination	Last Year Quantity(in M/T)	Rate /Tonne	Estimated Value (in Rupees)
1	Tanjore	1050	410	430500
2	Trichy	700	405	283500
3	Kumbakonam	1400	388	543200
4	Chidambaram	1250	370	462500
	Total	4400		1719700

Overall Budget sheet –By Road

S.No	State/Zone	Estimated Value (in Rupees)
1	Karnataka	11406400
2	Kerala	2958600
3	Andhra	3959200
4	Tamilnadu	1719700
	Total	20043900

Rail Mode

S.No	Destination	Last Year Quantity(in M/T)	Average Rate /Tonne	Estimated Value (in Rupees)
1	Orissa	3200	220	704000
2	Madhya Pradesh	2800	280	784000
3	Partial Quantity moved by rail from the among the existing destinations moved by road.	1800	240	432000
	Total			1920000

Budget Summary – 2014-15

S.No	By mode	Value (in rupees)	In %
1	By road	3,14,23,600	91.69
2	By Rail	28,46,200	08.31
	Total	3,42,69,800	100

Exhibit-4 Plan Capacities trend (last 5 years)

Year	Plant Capacity (ton/day)	Production volume for the year
2011	500 /Day	1,66,500
2012	500/day	1,71,000
2013	500 /day	1,68,000
2014	2000/day	552000
2015	2000/day	606000
2016	2000/day	668000

Exhibit-5 – Tender Format and the terms and Conditions

To

ABC Transports,

Visakhapatnam.

Sub: Tender for the transportation of Fertilizer's from Factory at Vizag to various destinations for the period 2016-17 (April-March)

Tenders in sealed covers are invited for transportation of fertilizers in bags from our factory at Vizag,AP to various destinations as indicated in the schedule attached; The rates should be quoted per tonne basis. An indicative quantity against each destination is given for your understanding and to quote the rates accordingly. However, there is no guarantee that quantities hold good for the current/future period as well.

The last date for receipt of the sealed envelope with rates and EMD of Rs one lakhs is DD/MM/YYYY.

The EMD should be payable at Vizag by way of a demand draft. Cheques are not accepted.

Authorized Signatory

Encl.a.a

Rate Schedule: (Karnataka)

S.No	Destination	Last Year Quantity(in M/T)	Rate /Tonne
1	Arisikare	5600	240
2	Belgaum	4000	230
3	Belur	2300	320
4	Chikmagalur	3400	440
5	Davangere	12230	380
6	Hubli	7300	310

Rate Schedule: (Kerala)

S.No	Destination	Last Year Quantity(in M/T)	Rate /Tonne
1	Kottayam	1200	530
2	Palakkad	1300	470
3	Alwaye	1100	512
4	Calicut	1350	520
5	Trichur	900	496

Rate Schedule: (Andhra)

S.No	Destination	Last Year Quantity(in M/T)	Rate /Tonne
1	Cudduppa	5400	260
2	Kakinada	7200	60
3	Rajamundry	6400	70
4	Anantapur	3400	300
5	Vijayavada	5200	126

Rate Schedule: (Tamilnadu)

S.No	Destination	Last Year Quantity (in M/T)	Rate /Tonne
1	Tanjore	1050	410
2	Trichy	700	405
3	Kumbakonam	1400	388
4	Chidambaram	1250	370

Terms and Conditions:

The rates as per the attached schedule is to be filled up and sent in a sealed envelope within the due date.

Each tender submitted should be accompanied by a DD for Rs one lakh only taken from a nationalized bank and payable at Vizag. On successful bidding this EMD will be adjusted against the security deposit for 20 lakhs payable for a period of one year. No interest is payable for the deposits for the duration of the contract and EMD will be refunded for those whose tenders were not accepted.

The price quoted per ton is exclusive of loading at the factory and unloading at the receiving depot as the same will be done by us. However, in case of emergency the same are to be carried out by you at a mutually acceptable rates.

Any loss in transit or damage to the goods carried will have settled by you and the same are adjustable against the running bills or from the security deposit.

Transit insurance is under your scope.

All the trucks should have a valid statutory documents the vehicles should have a fitness certificate with validity for the duration of action.

The drivers should have valid driving license (heavy duty license) and unauthorized persons like the cleaner etc. are not to be allowed to drive the truck.

The rates finalized will be based on the diesel prices prevailing as on 1-4-2016 and any upward or downward revision in diesel rates are applicable for computation of the rates in the schedule. For this calculation, it will be assumed that the fuel consumption will be 4 kms/litre of diesel as the norm.

No claim in the rate schedule will be entertained for fuel price increase or decrease of less than 0.50 paisa per litre.

The goods are to be delivered within four days from the date of loading and an acknowledgement for the safe delivery is to be obtained from the depots with the seal

affixed on the same which are to be submitted along with your bill for effecting the payment.

Payments will be made on a fortnightly basis and hence the bills are to be submitted twice a month on a continuous basis.

TDS as applicable will be deducted at source a certificate to that effect will be issued for each of the financial year.

The rates finalized are valid for the entire duration of the contract (currently one year) unless and otherwise revised. If the services are found satisfactory the company reserves the right to extend it for a further period of one year with a marginal increase of rates by 3%.