



SmartDG system

A case study

Abstract

Oil pilferage and its effect on profitability of business

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Pilfering:

According to internet pilfering is defined as “to steal especially of small value or in small quantities”

As the passage of time pilfering has now been realized as a deterrent to profitability in small business as it reduces profitability by about 2%. In order for businesses to maximize its profit avoidance of pilfering must be given the necessary priority.

Factors leading to pilferage:

1. *Wrong entries on tally card*

Now tally card is used for:

- a. Actual quantities of items in stock
- b. To provide evidence what is held in stock at any point of time

Entering process: This by the organization involves the physical counting stage to enter the quantity received on tally card. This entry is also recorded in the book for reference which contains:

- . Title
- . Date Received
- . Quantity Received
- . Date & Time entry was made

2. *Receipt, Inspection & Storage* not done or performed in a proper Manner

3. *Issuing oil on retail:* Chances of pilferage in this is very high due to Man made error

As per study the average loss due to fuel pilferage per diesel generator \$1,250 per annum which sums up to a global average of approximately \$2.5 Billion per month

A SmartDG monitoring system provides an innovative solution and better understanding of the performance of the devices and their energy/fuel consumption, also it provide a insight into the fuel saving, operational efficiency that too on web based application or mobile. The reports getting generated through it can be viewed from anywhere and anytime as it is performing real time analysis.

Points to ponder which suggests your organization needs a SmartDG monitoring system:

1. Your diesel bill is a surprise:

If you're monthly diesel bill is a surprise package for you then for

Sure you are in need of a monitoring system. It will give you the status of fuel consumption and total run hours, which helps you in calculating average spent and thus setting budget accordingly.

2. You suspect for fuel theft:

Is there any leakage in fuel tank?

Is someone trying to steal our fuel?

To find out or to keep a check you need a monitoring system

3. Real time analysis:

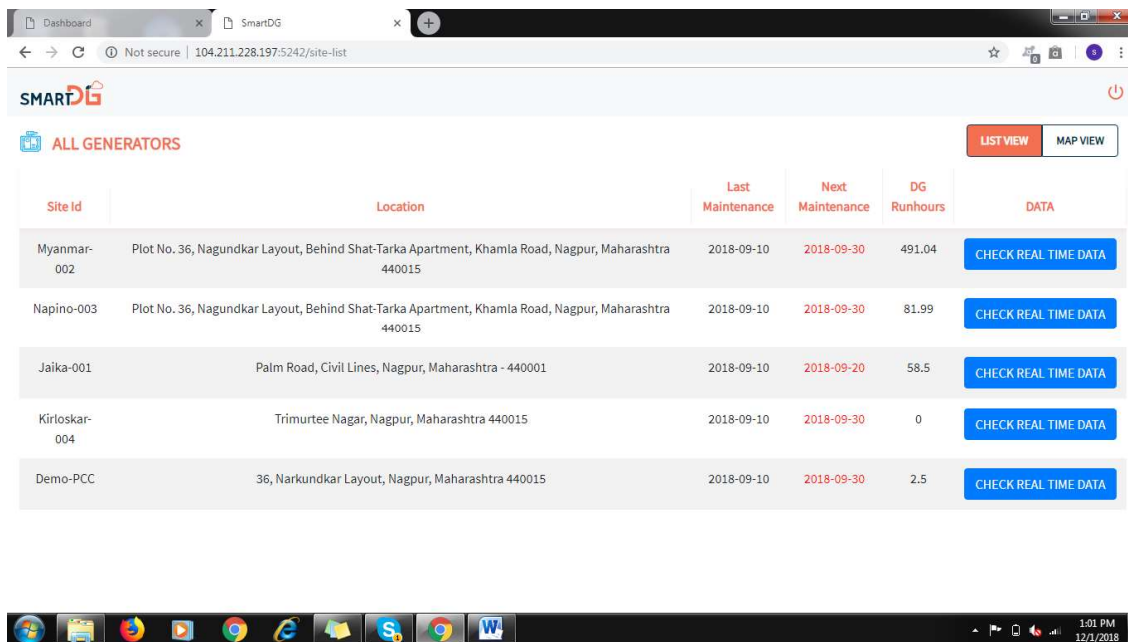
There are various parameters one can monitor like:

- . Total fuel filling
- . Today's fuel filling
- . Last fuel filled
- . Current fuel level

The above along with monitoring will give real time notification alerts over e-mail & mobile by means of web and mobile application. Also above will also serve as an inventory management, hence you will get to know what is happening in real time anywhere anytime.

4. Central location monitoring:

Various organizations face the problem of central monitoring system whose sites are spread along vast geographical area, this is when our dashboard will help.



The screenshot displays the SmartDG dashboard interface. At the top, there's a navigation bar with the SmartDG logo and a power icon. Below it, a section titled 'ALL GENERATORS' includes 'LIST VIEW' and 'MAP VIEW' tabs. The main content is a table listing various generators with their details and a 'CHECK REAL TIME DATA' button for each.

Site Id	Location	Last Maintenance	Next Maintenance	DG Runhours	DATA
Myanmar-002	Plot No. 36, Nagundkar Layout, Behind Shat-Tarka Apartment, Khamla Road, Nagpur, Maharashtra 440015	2018-09-10	2018-09-30	491.04	CHECK REAL TIME DATA
Napino-003	Plot No. 36, Nagundkar Layout, Behind Shat-Tarka Apartment, Khamla Road, Nagpur, Maharashtra 440015	2018-09-10	2018-09-30	81.99	CHECK REAL TIME DATA
Jaika-001	Palm Road, Civil Lines, Nagpur, Maharashtra - 440001	2018-09-10	2018-09-20	58.5	CHECK REAL TIME DATA
Kirloskar-004	Trimurtee Nagar, Nagpur, Maharashtra 440015	2018-09-10	2018-09-30	0	CHECK REAL TIME DATA
Demo-PCC	36, Narkundkar Layout, Nagpur, Maharashtra 440015	2018-09-10	2018-09-30	2.5	CHECK REAL TIME DATA

5. You want to reduce the maintenance cost:

On the basis of our SmartDG reports you can easily schedule the timely maintenance checks and hence further reduce the unexpected wear & tear.

Why someone should buy this??

>Who will get benefitted most:

Telecom companies owning telecom towers like Vodafone, Airtel, Idea etc

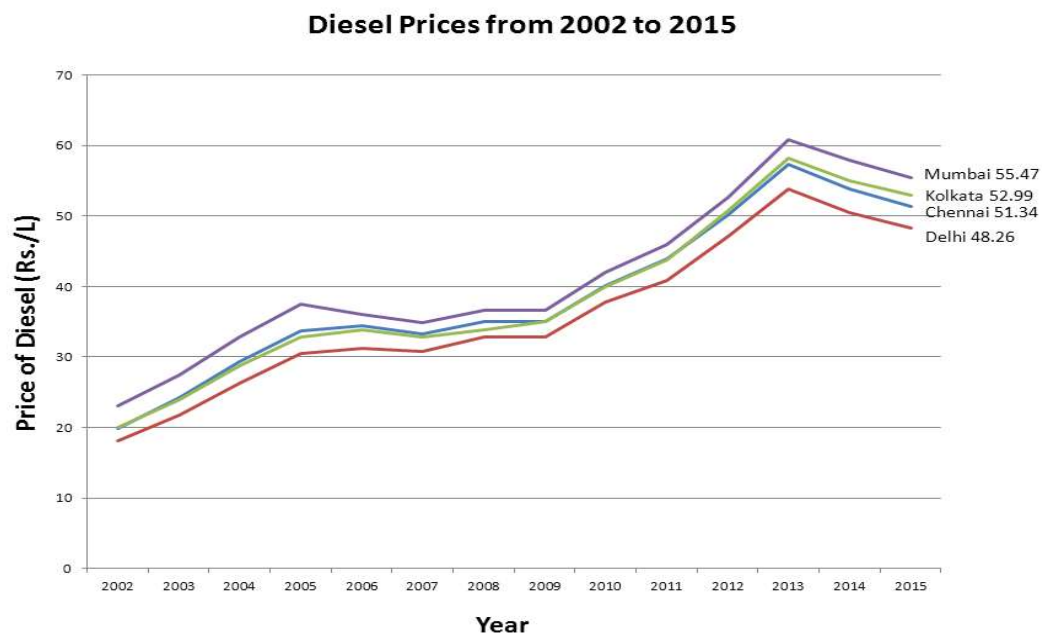
Telecom infrastructure providers like Indus Towers, Ascent Telecom TowerVision

>Factors affecting their profit:

- . Price competition
- . Operational losses majorly due to diesel generators & diesel Pilferage

>What can they do

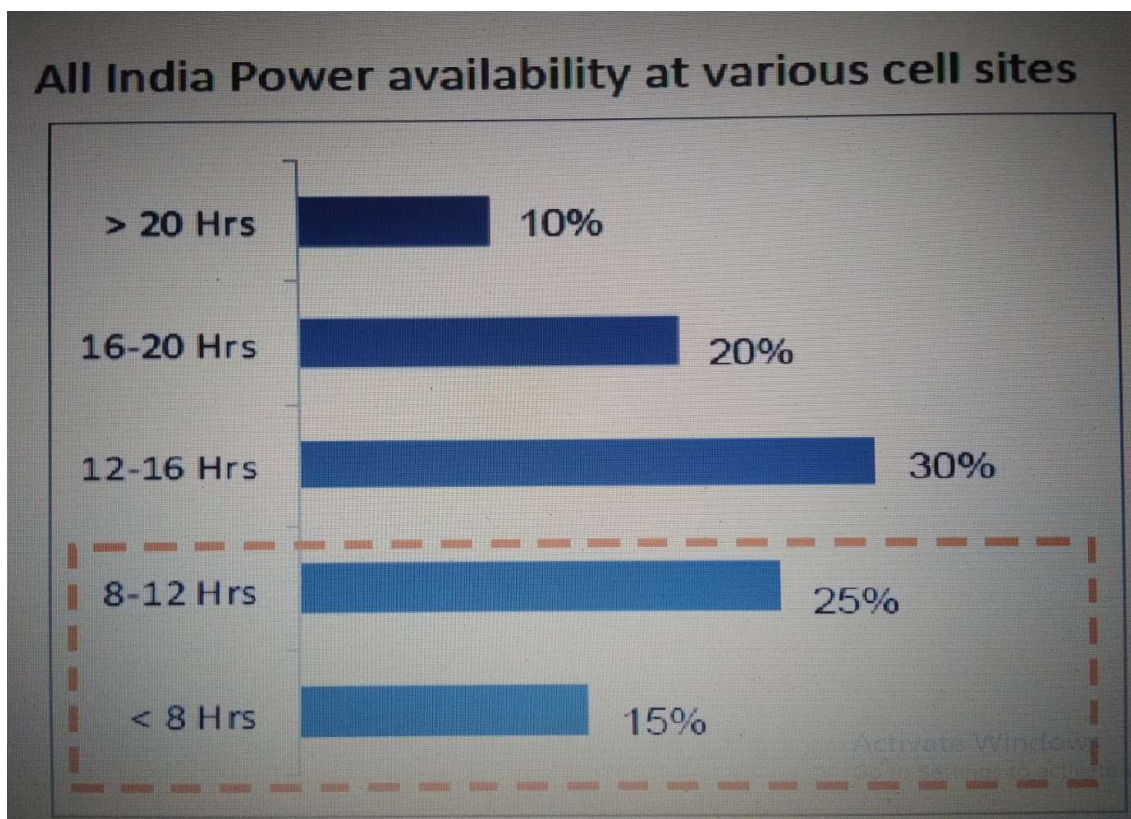
While very little can be done to tackle competition, but one can stop *diesel thefts* to save 15-25% spending on diesel.



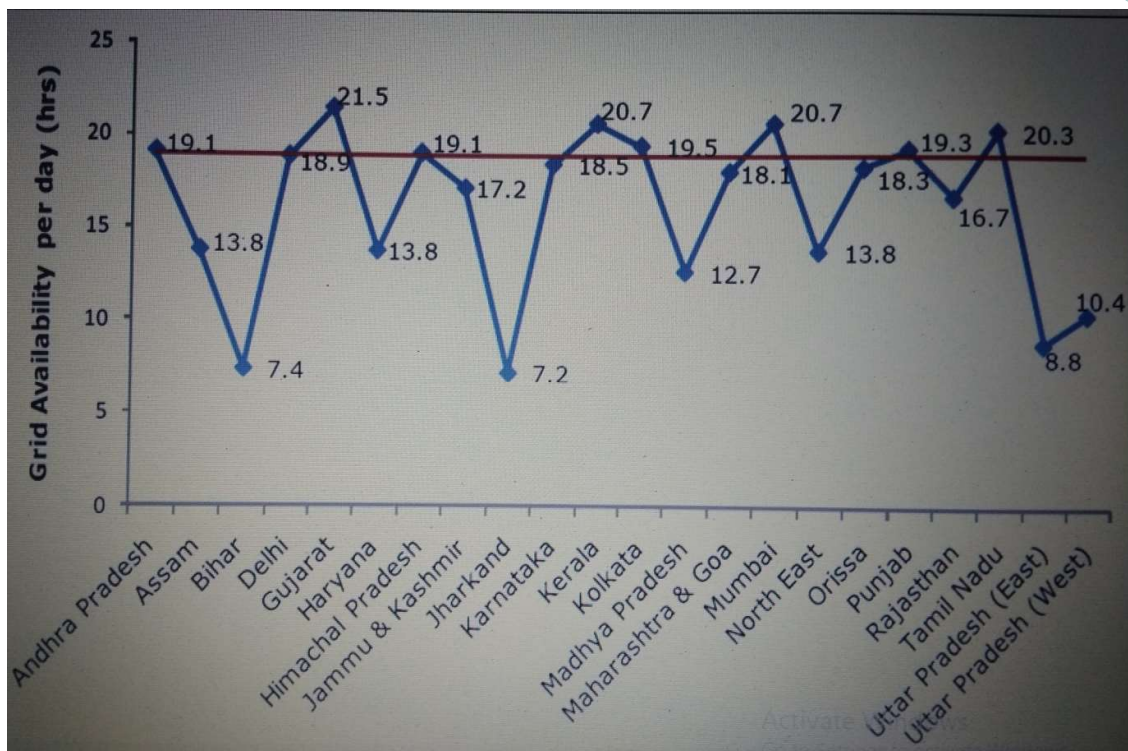
Some stats to consider.....

>TRAI (Telecom Regulatory Authority of India) has indicated an average fuel consumption of *9,000 litres diesel litre every year per tower* with 8 hrs of operation by diesel generator sets.

>On an average 50-70% mobile towers in India face electrical grid outages in access of 8 hrs a day.



Also grid availability per day in hrs sorted according to the states is as follows:



How money is getting lost:

Average hour power outage	= 6 hr
Per hour consumption of DG set	= 3 litres
Daily consumption of DG set	= 18 litres
Monthly consumption of DG set	= 540 litres
Additional 15% requirements due to fuel theft	= 80 litres
Total monthly diesel consumption	= 620 litres
Monthly outflow (Rs72/litre)	= Rs44,640
Monthly loss (15% of above)	= Rs 6,696
Yearly loss in pilferage	= Rs 80,352

There are some times when there is 18 hrs of power cuts!!!

Also at some place diesel pilferage is as high as 25%

Just imagine!!!!!!!!!!!!!!!!!!!!!!

>Even with conservative calculation Rs 60,000 per year per Telecom site are lost due to improper fuel management

>If the grid power fails for more than 10 hrs it can easily shoot up to Rs 1,00,000