

Technology Consulting Logistics Analytics Solutions





Logistics sector: Shifting patterns

Transportation and logistics are currently confronted with many challenges, which bring risks as well as opportunities. Customer expectations are increasing, and both individuals and businesses expect to get goods faster, at low or no delivery cost. With manufacturing becoming more customised, the burden of the logistics industry has increased. To meet customer expectations, there is a need for maximum and intelligent use of technology, from data analytics to automation and the 'Physical Internet'. This will lower costs, improve efficiency and the opportunity to make genuine breakthroughs in the way the industry works.

Let's look at a few scenarios where analytics plays a crucial role in solving some of the issues.



Those who are slow to explore digitisation and data analytics may find it difficult to compete.

Most companies are expecting to strengthen their digital offerings to customers by using big data analytics to offer services to external customers, digitising their existing products or by developing new digital products.

Hazard point analysis

Rash driving by drivers and the bad state of roads cause accidents and breakdowns. This leads to a massive loss of money, time and reputation.

Solution approach

- Record geo-coordinates for incidents like overspeeding, harsh braking, harsh manoeuvring and sudden acceleration using GPS devices installed in fleet.
- Use geospatial clustering algorithms to find 100-m zones where a lot of incidents are occurring.



Results

- Geo-coordinates of hazard points
- Consigner-consignee specific hazard points
- Incident-specific hazard points (e.g. overspeeding hazard points)



Benefits

Receive route-specific travel advisory based on hazard points.



Reduce accidents by alerting on approaching hazard points.



Save money by reducing material damage.



Reduce vehicle wear and tear.



Driver analysis

Some drivers have a habit of rash driving, which leads to material damage. Thus, it becomes imperative to penalise bad drivers and incentivise good ones.

Solution approach

- Analyse drivers across various dimensions like number of incidents committed, distance travelled, fuel economy, safety score and driver proficiency.
- Use an advanced clustering algorithm to segment drivers into bad drivers, good drivers, reckless drivers, etc.



Results

- Driver insights across different dimensions
- Driver segments based on types of incidents being committed
- Driver segment profiles
- Driver scorecards with driver-specific KPIs



Benefits

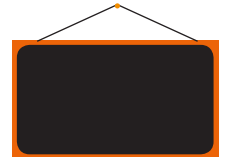
Identify drivers who are performing well.



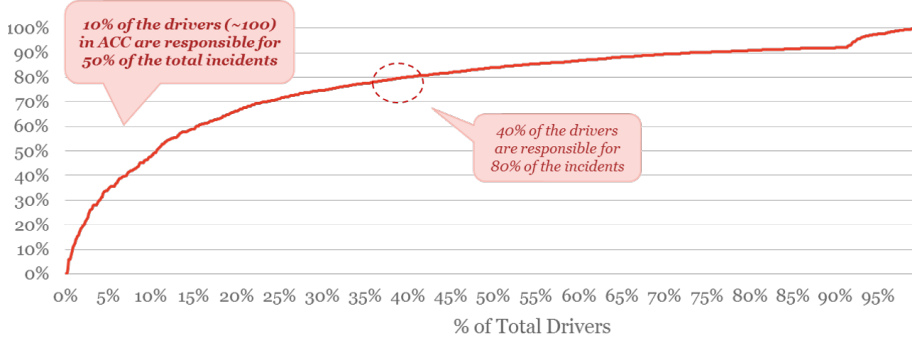
Identify drivers who are performing poorly.



Use driver segments to give customised training to drivers.



Identify which drivers to incentivise.

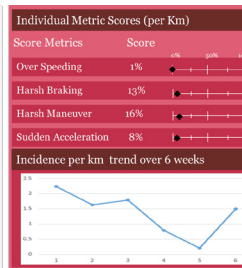
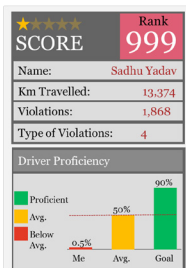


Fast and Furious		
Sno.	Driver	Vehicle No.
1	DEEPI	KA499575
2	SADHU JADAV	WB23A0924
3	JAGMOHAN PURTY	JH04B3086
4	ANANT KUMAR DANTA	OR178498

Bad Drivers		
Sno.	Driver	Vehicle No.
1	AMARJIT SINGH	JH04A7756
2	MUNNA ANSARRY	JH04A5890
3	SONA YADAV	JH04A8935
4	SREEKANTH	KA14M202

Reckless Drivers		
Sno.	Driver	Vehicle No.
1	VIJAY KUMAR	MP99H1763
2	FINTU MANDAL	WB23B0340
3	RAJU	JH04AM638
4	RAJU	MH04GR1855

Safe Drivers		
Sno.	Driver	Vehicle No.
1	MAGA	MH24M9987
2	MOHAMMAD	MH24AB549
3	KHAN	MH24AB3089
4	IMRAN	KA12A3160



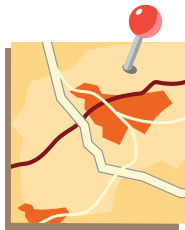
Source: PwC analysis

Route analysis

Some routes are inherently dangerous due to bad road condition/terrain. Many incidents occur on such routes and the chances of accidents are very high. Hence, it is very important to identify these routes.

Solution approach

- Analyse routes across various dimensions like number of incidents, length of route and number of trips along the route.
- Use an advanced clustering algorithm to segment the routes into bad routes, good routes, dangerous routes, risky routes, etc.



Results

- Route insights across different dimensions
- Route segments based on types of incidents being committed
- Route segment profiles

Benefits

Identify good routes.



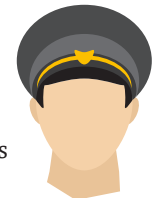
Identify risky routes.



Use alternative routes for risky routes.

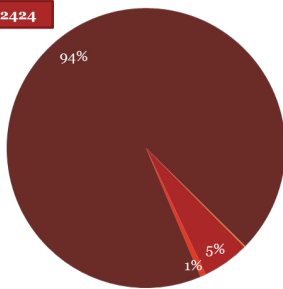


Map good drivers to risky routes.



Percentage of Routes

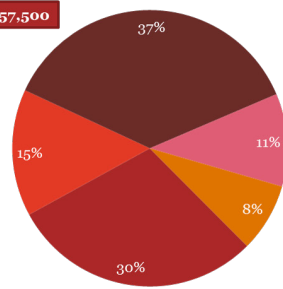
Total: 2424



Bad Route Very Bad Routes Good Routes Dangerous Route Risky Routes

Percentage of Incidents on each of the Routes

Total: 57,500



Bad Route Very Bad Routes Good Routes Dangerous Route Risky Route

Sno.	Route Category	Routes	Over Speeding	Harsh Braking	Harsh Manuever	Sudden Acceleration	No. of Incidents	% of incidents
1	Bad Route	132	104	7	17	1	16,983	30%
2	Very Bad Route	16	492	14	23	5	8,548	15%
3	Good Route	2273	5	2	2	1	21,096	37%
4	Dangerous Route	1	5128	419	248	458	6,253	11%
5	Risky Route	2	1992	120	69	130	4,620	8%
Total								100%

Source: PwC analysis

Vehicle turnaround time

In today's competitive market, logistics companies are worried about the turnaround time for their goods. They are eager to analyse the amount of time spent by trucks at various locations.

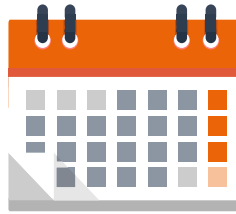
Solution approach

- Use GPS data, sales data and geo-codes data to track truck movement.
- Analyse the time spent by the trucks at:
 - Plant
 - Depot
 - Customer
 - Transit



Results

- Truck turnaround time analysis
- Trip-wise truck turnaround time



Benefits

Check time-wasting by transporters.



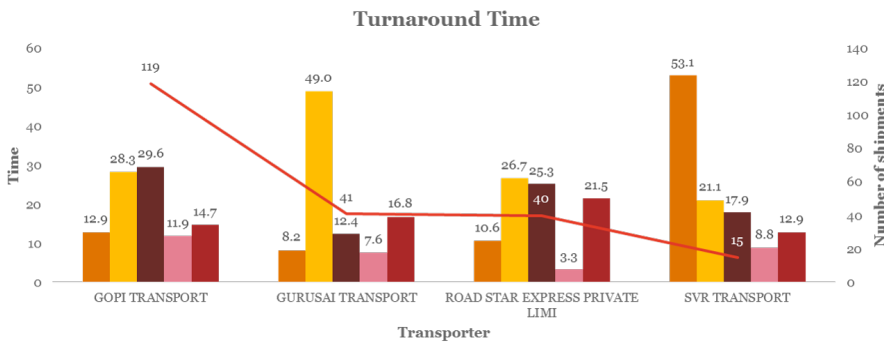
Reduce time spent at plant/depot by analysing pressure points.



Compare transporters based on turnaround time.



Ensure better cost negotiation with transporter based on time.



Halting hotspots

Some drivers and transporters engage in dishonest activities by stopping/ rerouting before reaching their destination. These malpractices lead to a loss in revenue and increased delivery time and need to be checked.

Solution approach

- Use GPS data, sales data and geo-codes data to track truck movement.
- Identify points of nearest approach to the destination by using appropriate geofence for the destination.

Results

- Geo-coordinates for the halting hotspots

Benefits

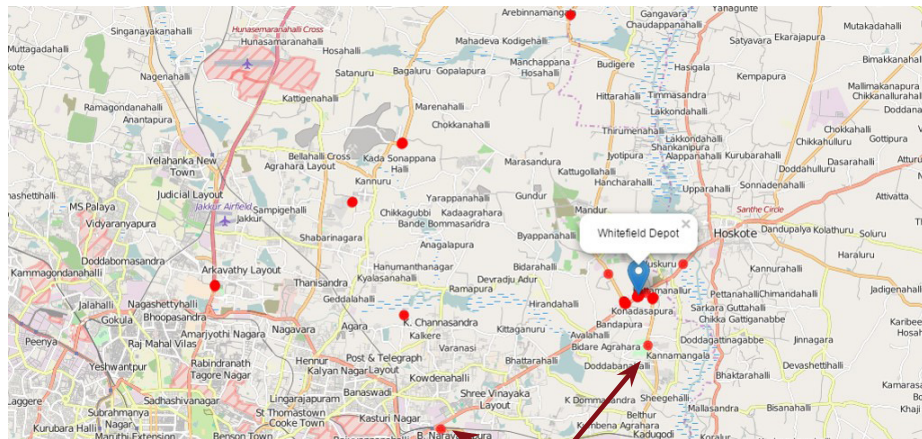
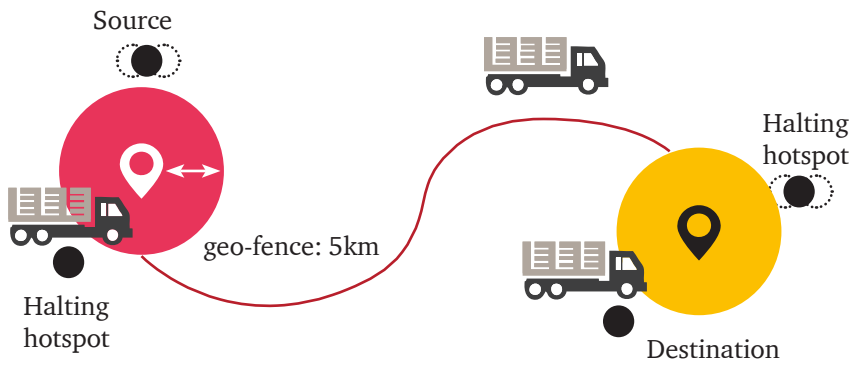
Check malpractices.



Improve visibility and safety of goods.

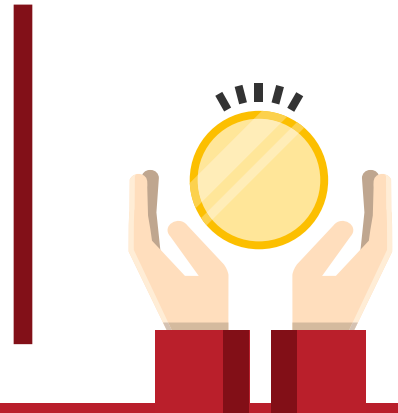


Ensure better cost negotiation with transporter.



Halting hotspots near the destination

PwC can help you deal with all of these and other challenges through the use of analytics, so that you have information quickly and accurately, and in formats that will enable you to make meaningful business decisions in real time.



Why PwC?

Strong logistics sector expertise

PwC consultants have a proven track record of working with leading logistics providers in India and have strong domain knowledge in the T&L space.

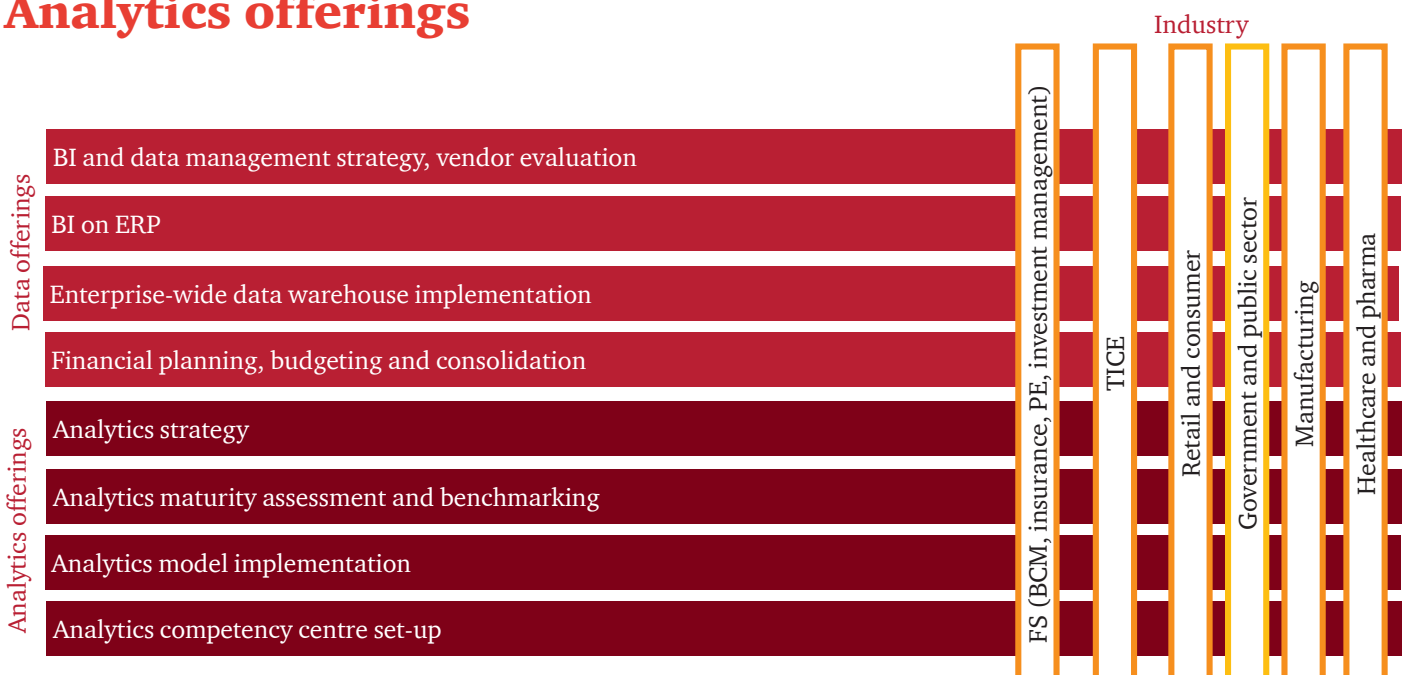
Scalable, flexible and cost-effective offerings

Our analytics solutions can be customised as per a logistics provider's specific needs across areas.

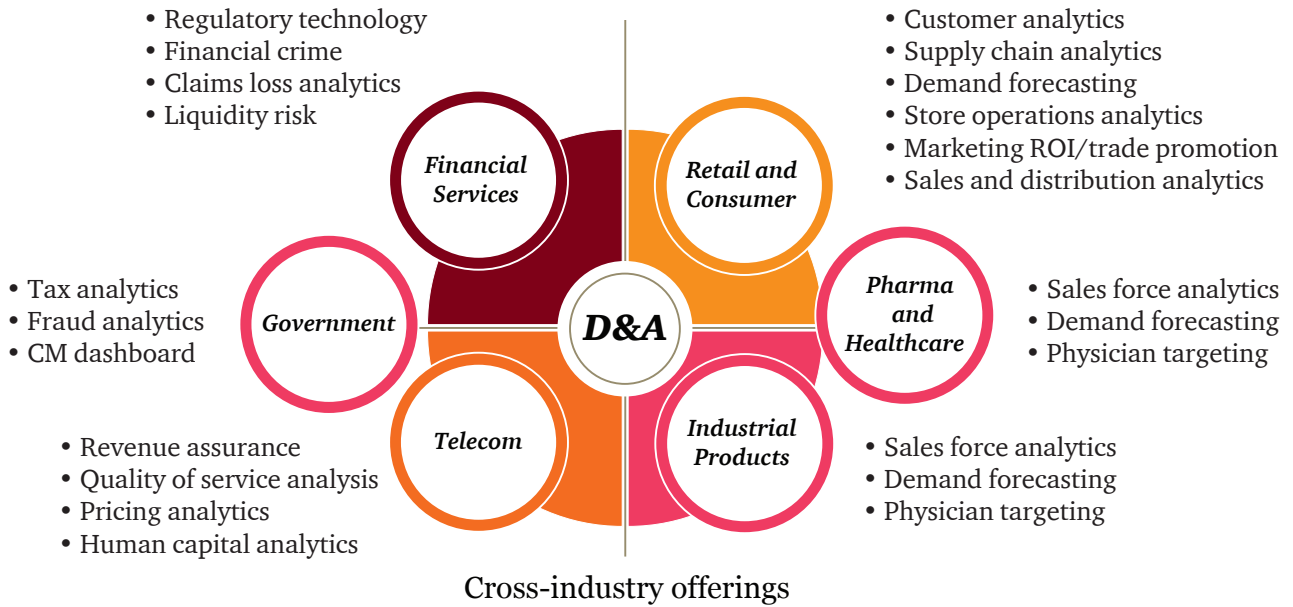
Cutting-edge technology

We have expertise in implementing logistics analytics through leading market tools by aligning them to the client's technology landscape.

Out Data and Analytics offerings



Data and Analytics key industry-wise services



- *Big data strategy and implementation*
- *Data management*
- *BI and data management strategy*
- *Vendor evaluation*

- *Social media analytics*
- *Master data management*
- *Financial planning, budgeting and consolidation*
- *Analytics competency centre set-up*

For more
information,
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Notes

Notes

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