Technology Disruption in FMCG Sales & Supply Chain
In a growing economy, typically classified as a Developing and Emerging market, General Trade plays a crucial role and the neighbourhood store is a key stakeholder of the FMCG supply chain. In such supply chains, FMCG companies employ Distributors as a sales & distribution partner, to ensure continued flow of its brands from the site of manufacture to the retailer, from where a shopper picks the products.

Each distributor services retailers in a fixed frequency, on a fixed day of the week with a fixed number of salesmen. Orders received are fulfilled at an N+1 or N+2 or Same-Day SLA through a trucking system which might be fully owned, part owned and part rented (or a mix). The system assumes fixed quantum of demand with a predictable occurrence. This key “assumption” enables the distributor to manage the logistics of demand fulfilment with manual intuitive route planning. However, the assumption leads to fundamental inefficiencies in delivery beats design, because of a fundamental shift in FMCG buying by retailers.

In this 3-part Knowledge Series, we shall cover the key decision nodes that impact a company’s Revenue and Supply Chain Costs, and how technology is disrupting the entire FMCG Value Chain.
Beat Plan (also referred to as ‘Permanent Journey Plan’) is a day level route plan made for field sales/marketing personnel to make visits to a number of stores at a predefined frequency. A beat plan defines whom to visit, when to visit, based on the company’s priorities on stores category/segment.

These visits can be made for sales order collection, visual merchandising, etc. Locus provides automated sales beat plans to optimize the mobile workforce for increased profitability, resource efficiency, and time savings. Locus AI and Deep Learning engine ensure highest levels of resource efficiency to reduce human dependency and scope of errors.

**The flow of sales beat:**
Here is how the flow of sales beat works for FMCG products:

DAY 0
Salesman from a particular distributor go on the ground to collect orders. Distributor places the order of the retailer with the FMCG company’s central warehouse directly.

DAY 1
Distributor receives the order from the FMCG company.

DAY 2
Packing is done based on Foods/Detergents/Personal Products etc. at the distributor’s location.
Delivery is made to the retailer.

Most of the retailers are part of this 2-day process called N+2 model. Because of this model, the distributor has to hold the stock for a very short span of time.

Retailers are important partners of the supply chain in FMCG industry. And even though there are almost 40 lakh FMCG retailers in India, there is hardly any overlap in areas between distributors.
I) Constraints at various distribution channels

An area sales head needs to use different distribution channels in order to strategize his sales beat plans. Fundamentally, the area head needs to strategize his beat plans for two legs: Primary and Secondary.

At the primary level, the area head simply needs to take care of the point to point dispensation from the manufacturing unit to the distributors. The basic needs of the distribution are the visibility of resources and optimum utilization of the vehicle fleet.
At the secondary level, the motive is to supply the goods from the distributors to the retailers. This is where the FMCG players use the push or pull strategy. For the secondary leg, the area head needs to take the following parameters into account:

1. PLG (Price List Groups)
   FMCG companies often club their customers based on the revenue these outlets generate. It is important to ensure that the best salesmen are allocated more revenue generating outlets.
2. On-ground constraints
There are multiple on-ground constraints that can affect the permanent journey plan of an area sales manager. Factors like public holidays, absenteeism of salesman, fuzzy outlet address and seasonal variations should be taken into account before finalizing the beat plans.

3. Salesman condition
The distance covered by the salesman, fatigue experienced and the mode of commute all play a vital role in the success of a sales beat plan. Special skills or experience of the salesman can play a huge role in increasing the revenue of a sales beat cycle.

4. Load balancing
The area sales manager needs to ensure fairness based on sales value, the number of retailer visits, kms travelled and time spent on the road.

5. Vehicle constraints
Mapping vehicles to a specific category of products and specific geographical regions is also the part of the planning process.
II) Constraints or challenges in field force planning

Challenges arise when organizations create their own routes i.e. conventional routes which are based on local knowledge, intuitive belief, assumptions for deliveries and collecting orders, etc. Managing these along with multiple delivery hubs, varying fleet capacity and the constraint of time. This often leads to underutilization of certain assets and resources and negatively impacts return on investment.

An area sales manager needs to figure out the priority stores, the sequence of store visits, ensuring that all orders are captured from the stores and that these orders are then fulfilled. The different channel types that are used for on-ground sales complicate the matter further. Different kind of stores like medical stores, general trade, supermarkets and kiosks all have different kind of needs. Depending on the demand and the region, these stores need to prioritized and served.
For covering maximum outlets in minimum possible time, FMCG companies often try to answer the Travelling Salesman Problem. (Read: TSP)

The problem statement of TSP is: “Given a list of cities and the distances between each pair of cities, what is the shortest possible route that visits each city and returns to the origin city?” The number of possible routes grows exponentially when the number of stops is increased. For only 10 cities there are over 180 thousand combinations to try!!

If we were to optimize the logistics of a travelling salesman, the present day application of it has the most monetary pressure on it than ever in history. Add to this, the real-world constraints like salesman fatigue, interval breaks, traffic conditions etc. and you have got yourself a problem, that is impossible to comprehend.

However, in addition to the notorious Travelling Salesman Problem, companies are always tackling other sets of challenges:

- Incorrect Location Data
- Ad-hoc Constraints
- Prioritizing Stores
1. Incorrect location data
Fuzzy, incomplete and incorrect addresses of the retail outlets is a major issue while planning for field-force. This leads to inefficiency as well as wastage of resource time.

2. Ad-hoc constraints
In the real-world scenario, there are a lot of constraints that the area manager has to keep in mind. Certain salesman have an affinity for certain areas, a few specialize in sectoral products, others have personal contact with certain retailers. The area sales manager needs to consider all these parameters into account, before delegating a region or a store to the salesman.

3. Prioritizing Stores
Naturally, every store won’t be of the same business value for an organization. A few supermarkets can order a large volume of goods, similarly, stores with a history of being loyal to a certain brand are ranked higher in the hierarchy by the same brand. The area manager needs to ensure that his higher valued customer orders are fulfilled first and that they are serviced regularly.
Locus FieldPro
Beat Optimization for higher sales productivity

Why FieldPro for Beat Optimization?

- Increase in sales serviceability ratio: 12%
- Reduction in beat length time: 20%
- Decrease in the total number of beats: 11%
# Key Features:

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<tr>
<th>Automated beat plans</th>
<th>Historical data consideration</th>
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<td>Optimized sales beat plans for mobile workforce leading to increased profitability, resource efficiency, and time savings.</td>
<td>Takes historical salesman data into account, such as experience, total revenue generated, the assortment of goods sold, and familiarity with the stores.</td>
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<tr>
<th>Outlet classification</th>
<th>Non-overlapping clusters</th>
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<td>Locus’ algorithm takes into account business rules such as type, category and classification of outlets based on revenue, SKU stream sold and historical performance.</td>
<td>The non-overlapping clusters created for each ‘defined group’ ensures zero mirror beats in the output.</td>
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<th>Salesman scores</th>
<th>Geocoding engine</th>
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<td>Individual-level salesman scores to monitor performances based on historical data.</td>
<td>Simplifies and converts ambiguous addresses into exact geographic coordinates through “EVA” (Engine for Validation of Addresses).</td>
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<th>Automated retail fulfilment</th>
<th>Beats accounting for real-life constraints</th>
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<td>Traffic prediction, road constraints, and factors like outlet timing for unloading are considered for optimal daily dynamic route planning for retail fulfilment.</td>
<td>Mimics and improvises factors like fatigue, time of day, seasonality, revenue targets etc.</td>
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