Ecommerce has created a boom for many small parcel carriers. But with growth comes the hard fact that the old way of doing things isn't good enough anymore. For Speedy, a courier based in Bulgaria, normal daily tasks like capacity planning had become inefficient and costly at a time when optimization and speed were needed most.

Finding a solution required a forward thinking approach - one centered on technology and the ability to use the data already available within their logistics operation.

Speedy's story

Speedy is a division of DPD Group that moves over 16 million parcels annually with 700 company vehicles and over 100 inter-hub truck lines. The company has experienced a rapid increase in growth with the increase in ecommerce volumes. This means the demands on Speedy's already complex logistics network for efficiency and faster service to customers have increased as well.

Speedy was smart and understood the role technology would need to play in accommodating the company's fast growth. Their daily planning operations and pricing strategy are based on a lot of moving parts – things in the past that had always been done manually and by "feel". The problem was Speedy had little access to data or tools to support the type of objective decision making their operation desperately needed.

One prime example of why capacity planning is so difficult is to consider the impact Speedy's daily fluctuations of 10-15% in parcel volume put on their planning function. Another constraint is the fixed expense of company-owned trucks. This means the ability to maximize equipment utilization is important, but so is getting that capacity to the right locations where it's needed. Another challenge is not having company assets available where capacity is needed. This means expensive third party subcontractors sometimes have to be used – always at a premium cost and only if they are available.

An additional side effect of this growth was an inability to price customer's parcel volume accurately. Speedy was unable to accurately assign cost by customer, especially for non-standard sized items. Speedy saw their reactive method of planning capacity and developing pricing wasn't working. The process needed to be fixed.

The fix

Searching for a solution, Speedy identified Transmetrics as the partner to help achieve their goals. Transmetrics would allow Speedy to effectively estimate its loading factor, forecast future volumes, and price their services more efficiently.

Working together, the solution was developed and implemented in three phases:

1 - Data Cleansing and Loading – Using three years of shipment history, data was assembled through a process of cleansing, enriching and restructuring it to make analysis possible.

2 - Analysis – Rules and restrictions were established on key parameters, including load factor. These were compared against past data to identify trucks with low loading factors and other problems, like hub-handling problems (where loading instructions were not followed). This created a methodology to test assumptions, establish benchmarks, and set a plan to move forward.

3 - Integration into Transmetrics' Forecasting and Optimization Module – Putting the information to use, the forecast was then applied to a future capacity planning model. The output was a calculation of the the most cost-effective ways for transporting the predicted volumes without impacting delivery performance and service expectations.

The results were dramatic

Speedy realized an immediate reduction in line-haul costs and increase in loading factor from the start. There were additional benefits as well. Having accurate benchmarks established better internal accountability for loading efficiency by their warehouses. Speedy now knows what can be fit on a truck, and can measure warehouse performance based on those models.

"Thanks to Transmetrics we've already reduced linehaul costs by 25% and seen a 37-38% increase in loading factor. Using Transmetrics' reporting system, we can measure the efficiency of our fleet and set correct KPIs for our warehouse team. In total, our linehaul efficiency is now over 96%," says Alex Petkov, Board of Directors for Speedy.

This newfound insight also led to other unexpected results. Most impressively, it has made the identification of money losing customers easy and allowed Speedy to re-price contracts with those customers.

"We have also been able to drastically improve our pricing accuracy with Transmetrics' tools thanks to the ability to now accurately measure the delivery expense of each parcel," continues Petkov. "This has enabled us to identify low or negative margin customers and adjust our pricing accordingly

Better loading has also decreased the incidence of damages. Before Transmetrics, Speedy lacked the tools to properly plan capacity. In the past, capacity planning was done in terms of rough pallet estimates, now it's done on the actual package level.

The benefits will continue to accrue for Speedy. As more data is gathered through future shipping, it will enable continuous improvements of network performance, increase network resilience, and future planning flexibility.

Summary table:

The challenges:
- considerable pressure on the planning function even with 10-15% daily fluctuations in parcel volume;
- need to maximize equipment utilization due to fixed expense of company-owned trucks;
- need to have company assets available where capacity is needed to avoid using expensive third party subcontractors (always at a premium cost and only if they are available);
- inability to accurately assign cost by customer and to price customer's parcel volume accordingly.

The solution:
- descriptive analytics was used to identify the **right loading factors**;
- predictive analytics was used to **produce accurate forecasts** of shipping demand to **calculate the the most cost-effective ways for transporting the predicted volumes** without impacting delivery performance and service expectations;
- prescriptive analytics was used for the **continuous monitoring and improvement of network performance** and helped to increase network resilience, planning flexibility and prevent underperformance during peak seasons.

The benefits:
- reduction in line-haul costs by 25% and increase in loading factor by 37-38%;
- ability to now measure the efficiency of the fleet and set correct KPIs for the warehouse team;
- ability to identify low or negative margin customers and adjust the pricing accordingly.