

VERIZON WIRELESS

STEPPING OUTSIDE THE BOX WITH BIG DATA

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Verizon Wireless is the largest wireless communications services provider in North America with more than 108 million retail connections, over 1,700 retail locations and revenues of \$87 Billion. To service these customers, Verizon's forward supply chain ships roughly 20 million cartons per year.

Cartonization, the process for determining the number and size of shipping cartons per order, has significant financial and environmental impacts. However Verizon's partners in the forward supply chain have not been evaluated on cartonization efficiency. The Tauber team was challenged to measure and assist Verizon's partners in improving cartonization in the distribution centers (DC).

The team built a Python model to quickly assess carton fill rates and simulate the effect of business rules on cartonization. A cluster analysis was performed to determine if additional carton sizes would improve carton fill rates. The team also analyzed the DCs' operations to identify potential process improvements. Through this analysis, the team identified opportunities to reduce void space, which drives shipping costs and corrugate use.

In conclusion, the team identified several recommendations, including:

- Metrics for benchmarking and cartonization throughout the forward distribution network
- Standardization of DC processes to reduce shipping costs
- A business case for shared value by renegotiating DIM shipping rates

Implementing these recommendations are projected to save more than 5% in shipping costs and result in a reduction in the use of more than 300K boxes annually, which translates to 2,200 trees, building an environmental and financial business case for more efficient operations.