

Goldilocks and the Three Dispatchers: Quantifying the Impact of Dispatcher Management on Truck Driver Performance

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Motivation / Background

Though crucial, the freight industry faces compounding challenges: a driver shortage, low driver utilization, and high driver turnover

Low utilization

- Studies show only 59% of allowable 11 driving hours are used
- Roughly 6.5 driving hours per day

Scarcity and Turnover

- Estimates of 160k drivers short within the next 8 years
- Near-constant turnover of drivers is industry standard

59%
hour utilization

160k
drivers short
within 8 years

Truck drivers are both underutilized and scarce

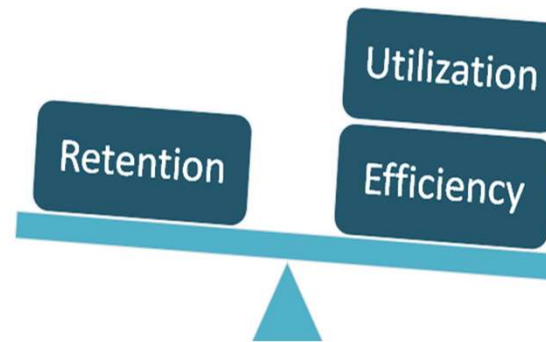
Key Question / Hypothesis

Do freight carrier **dispatchers** have a meaningful impact on the 3 key metrics of driver success:

- **Utilization** - The % of available driving hours used
- **Efficiency** - The average miles driven per day
- **Retention** - The % of drivers who remain with the carrier

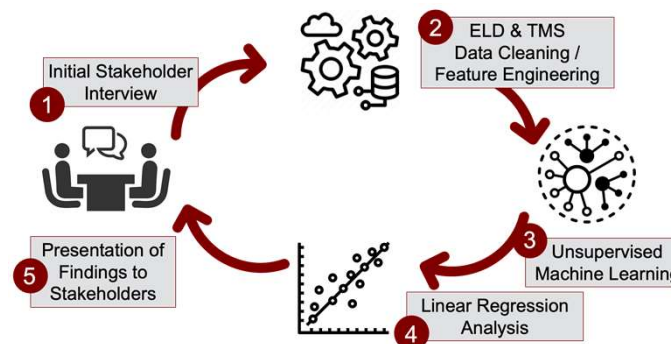
Relevant Literature

- Correll, D. (2019, October 21). Is There a Truck Driver Shortage or a Utilization Crisis? Medium.
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- Keller, S. B., & Ozment, J. (1999). Managing Driver Retention: Effects of the Dispatcher. Journal of Business Logistics, 20(2), 97–119.

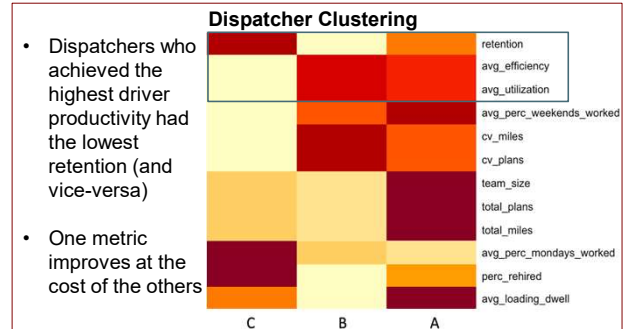


Uncovering the trade-off

Methodology – Quantitative & Qualitative



Results



Utilization and Efficiency Regression Models

- Reveal significant features:
 - **Weekday driven:** Mondays (-)
 - **Coefficient of variation:** of miles / plans distributed within a team (+)
 - **Team size:** (+)

Contribution

- Show that dispatchers impact the key metrics of driver performance
- Identified and quantified the driver features that impact these metrics
- Reveal the inherent tradeoff in driver performance - retention does not trend with productivity. Carriers must prioritize management needs
- Identified managerial levers carriers can use to improve performance

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