
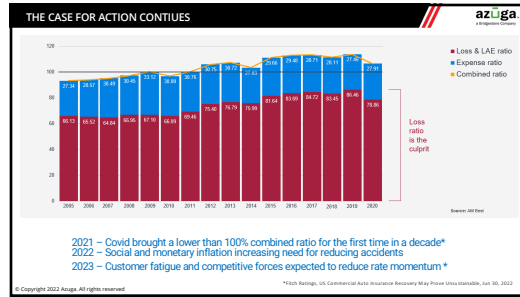


The Time Is Now!
Driving Change: Telematics and AI in Commercial Auto



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1



2

BUT... COMMERCIAL AUTO TELEMATICS PRICING AND SEGMENTATION WORKS


PHLYTRAC PILOT RESULTS

DRIVING BEHAVIOR	REDUCTION*
HARD BRAKING	98%
HARD ACCELERATION	97%
SPEEDING	69%
SPEEDING > 15 MPH	89%

5-Years Production Results Published by Philly May 2020 (Pre-covid lockdown)
 Over 55,000 PHLY customer vehicles, more than 600 million miles traveled
 Fleets with PHLYTRAC have seen a 19% reduction in loss frequency

*RESULTS BASED ON 18 MONTH PILOT


3

QUESTIONS WE CONSIDERED 

- Why does commercial auto's incurred losses continue to exceed estimates and reserves?
- Why does risk underpricing continue?
- Why has UBI had ubiquitous adoption in personal lines insurance but slow adoption in commercial auto?
- Why do approaches that only recommend telematics often fail?
- What is working and why should it matter?

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4

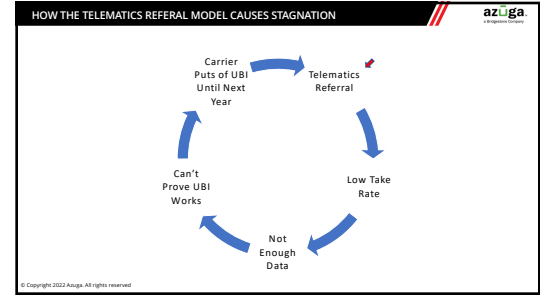


Why no ubiquitous adoption of telematics in the commercial auto market?


The commercial auto insurance industry has been hampered by anecdotal failure concerns leaving much of the responsibility to risk management recommendations for fleets "to do the right thing."

Lack of data has prevented progress!

5



6


SUFFERING FROM ANALYSIS PERALYSIS? 

- Establish your own telematics or use what's out there? The great debate!
- Where do we start and is this our biggest priority for the year?
- We have gotten away with raising rates, why worry?
- Stuck on rebating concerns?


What is your company's reason for not advancing?

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7


WE ARE IN A NEW ERA AND THE EVOLUTION HAS BEGUN 

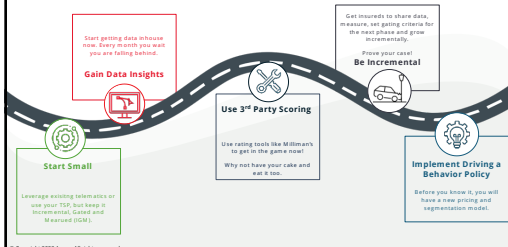
We are the forefront of a significant evolution in the commercial auto insurance market

InsurTech 1.0	InsurTech 2.0	Mainstream Carriers
<p>Direct to customer did not have much appeal in commercial auto</p> <p>Adoption was poor</p> <p>Not enough specialty knowledge</p> <p>Timing was an issue</p>	<p>More specialty understanding</p> <p>More adaptive sales models</p> <p>Bigger focus on data</p> <p>Learned much from InsurTech 1.0</p> <p>Timing is right</p> 	<p>Carriers like Philadelphia insurance have been at commercial auto telematics for 8 years</p> <p>Philadelphia forced other carriers to start looking telematics</p> <p>Some top 20 carriers have been engaged in data projects for many years now, focusing on pricing and segmentation using telematics</p> <p>Multi-TSP data ingestion and harmonization is aiding in rapid advancements</p> <p>Telematics value proposition is much stronger than it was 4 years ago</p> <p>New commercial auto scoring and rating products, e.g., Milliman.</p>

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8

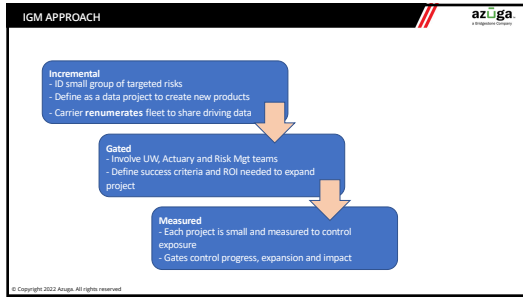
STRATEGY FOR GETTING THE ORGANIZATION ONBOARD 



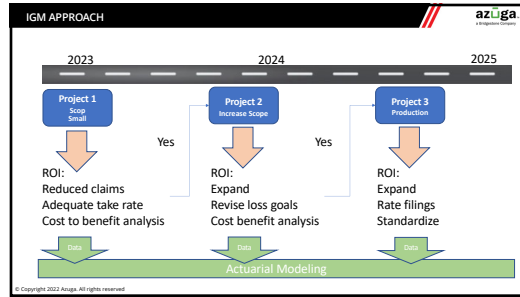
- Start Small**
Leverage existing telematics or use your TSP, but keep it incremental. Get and Measure (G&M).
- Gain Data Insights**
Start getting data in-house now. Every month you want you are falling behind.
- Use 3rd Party Scoring**
Use rating tools like Milliman's to get in the game now. Why not have your cake and eat it too.
- Be Incremental**
Prove your case!
- Implement Driving a Behavior Policy**
Before you know it, you will have a new pricing and segmentation model.

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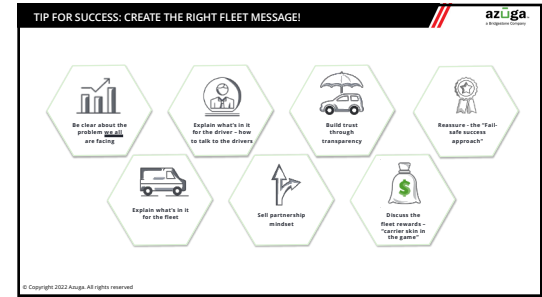
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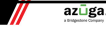



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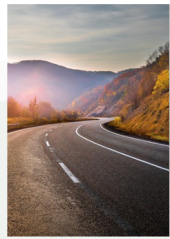
THANK YOU!

Intelligent Solutions For Commercial Auto Insurance



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13

How to get started with commercial auto telematics

March 14, 2023




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14

Agenda

Commercial auto UBI exploration

- Welcome/Introduction
- Options to get into market
- Data challenges
 - Data needed to build a score
 - Data needed to validate a score



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15

If you aren't already convinced, look at the data!
 Fits frequency 4X better than traditional rating variables

Increase pricing accuracy

- Traditional Model* has 1.4x higher frequency for worst decile vs best
- Adding Telematics Score has 6x fit across deciles
- Corrects under/overpricing errors in current rating
- Provides more accurate data for traditional ratings variables, such as garaging ZIP and radius

*Based on best one letter, used your vehicle type data information only

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16

Let's assume I'm convinced. What do I do?
 What are the options and obstacles?

Option 1 – Develop your own program:

Get Data (Participation Discount) → Build Score (Enough data? Is data representative?) → Go to Market with score

Option 2 – License a third-party score:

License (How do we validate?) → Go to Market → Get Data → Build Score

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17

There are many challenges to navigate with the data.
 Commercial auto insurance is hungry for improved pricing based on data.

How do I deliver accurate, sophisticated rating needed to compete profitably?

Many Divergent TSPs

50 Divergent regulators

Changing market

- OEMs
- Different devices

Telematics Service Providers:

- Allogis
- OnoTab
- Samsons
- KeepTruckin
- Wadstreet
- Xcube
- Teata
- Platform Science
- Verizon Connect
- Lytx
- EquipmentShare
- InTouch GPS
- PeopleNet

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18

Addressing some of the challenges with the data

Challenges	How addressed
Data challenges <ul style="list-style-type: none"> Insurers have limited access to telematics data but have claims data. Telematics companies have limited access to claim or validated crash data, but have the telematics data 	azūga <ul style="list-style-type: none"> Partner for multi-TSP ingestion
Regulatory challenges <ul style="list-style-type: none"> In many states, insurers need to file actuarial support for the rates, including telematics-based risk scores Most UBI models are based on personal auto data. Commercial is much more diverse in exposure and behavior 	<ul style="list-style-type: none"> Advisory organization Milliman AccuRate Fleet

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19

How much data do you need to build a score?

Telematics score for pricing commercial auto

110,000
vehicles

275M
trips

2.7B
miles driven

10,000
crashes

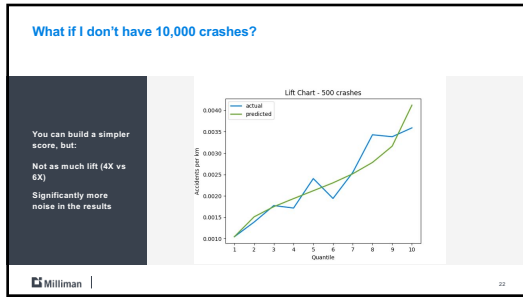
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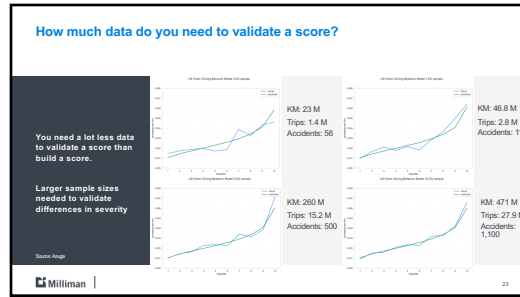
Telematics score is validating well

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21



22



23

Getting started

Gather data <ul style="list-style-type: none"> Telematics pilot VIN matches with TSPs Claims/crashes 	Assess data <ul style="list-style-type: none"> Sample size to build vs. validation/buy Selection of relativities and consideration or correlations with other rating variables Pricing/filing strategy 	Implement <ul style="list-style-type: none"> Rate (and model?) filings Implementation in premium calculation – IT integration or underwriter input?
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24



25


Executive Summary

- Challenges**
 - Normalizing
 - Frequencies of data
 - Big data
- Data science use cases**
 - Operation types
 - Driver turnover
 - Safety platform
- Driving results**
 - Margin, behavior change, customer experience

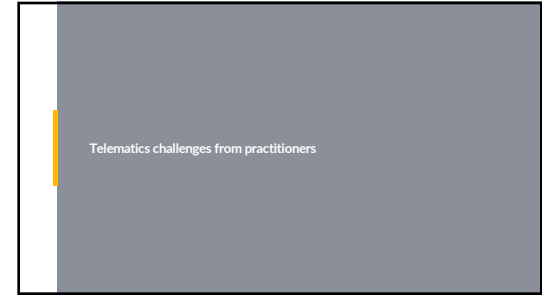


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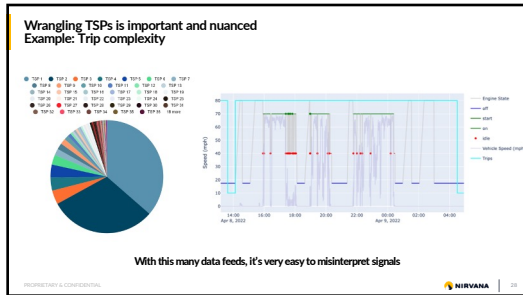
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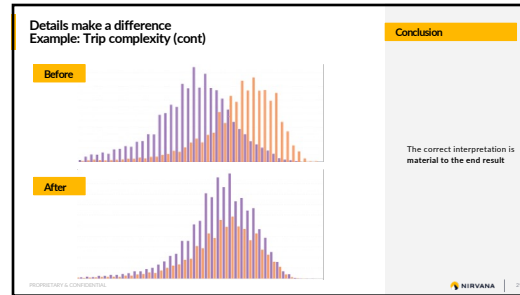
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27



28



29

Dealing with inconsistent data features

	TSP 1	TSP 2	TSP 3	TSP 4
Frequency	20/sec	1/sec	1/min	1/5min
GPS	x	x	x	x
Odometer	x	x		
Events	x	x		x
Engine log	x	x		
Grain	Raw	Raw	Raw	Summary
Sampling	Static	Dynamic	Static	Dynamic
Etc...				

Considerations

- Start simple
- Try mapping higher information scores to lower levels of information
- Hierarchical score framework
- Ensembling framework

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30


Handling telematics (big) data

Answer these questions

- Does your group have internal capabilities to create and connect to a **multitude of APIs**?
- Have you designed data intake with **automatic retries** and audits features to help diagnose problems?
- Do you have raw storage capabilities for **terabytes / petabytes** of information? Do you have a query engine that can scan at high enough speeds for this scale?
- Do you have distributed processing that **auto scales** and **does not compete for resources** with other services?


Tips

- Define and create data layers. Raw data should be left alone as much as possible
- Process the data in stages and be able to resume
- Have query controls. Runaway queries can cost \$\$\$\$\$
- If you are unsure how to proceed, find some help. People are out there expert in these problems

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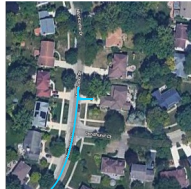
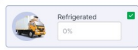
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Data science use cases

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Unique exposure / operational features

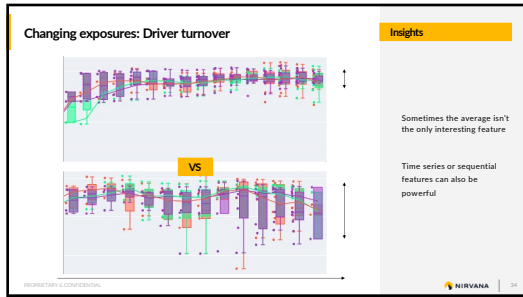



Tactics

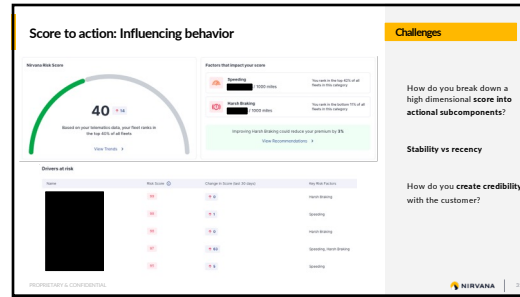
- Step 1: create labels
- Step 2: throw everything at it - **get creative at feature generation!**
- Step 3: use **unsupervised techniques** vs highly structured / parameterized methods

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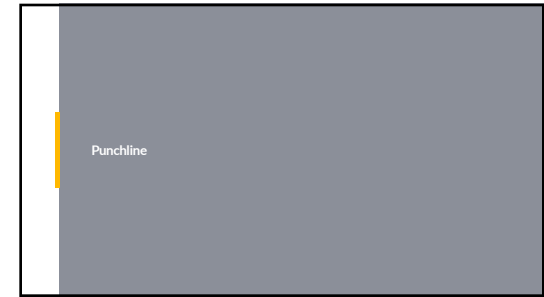
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34




35



36


The thorough use of telematics has made a positive impact on the business



Loss Ratio Improvement
Through disciplined UW enabled with validated and new information

Safety Improvement
Arming our customers with actionable insight to help their business

Retention Improvement
Increased level of engagement is making a difference on customer renewal rates

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37
