


Data Accuracy in Commercial Insurance

CAS Annual Meeting



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Agenda


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Explore the impact of misclassification on the business of risk transfer

- **Premise:** Level set an understanding of the information we will explore and our premise
- **ProMetrix®:** Overview and how it informs our discussion today
- **Empirical Findings** on data quality
- **Potential Impact of Findings** on carriers
- **Discussion of Solutions** to the issues uncovered

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Premise




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Premise for our dialogue today

- **Inconsistent data** persists in commercial underwriting in terms of **quality, reliability, & completeness**. The impact is significant.
- **Data sources:**
 - Premium paying clients
 - Distributors
 - Insurance company resources
 - 3rd party vendors
- **Solutions** are coalescing which may begin to improve data quality


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ProMetrix



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Overview of ProMetrix



- Level set an understanding
- Customer profile
- Field verified data
- Diagnostic tool – Portfolio Assessment

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Level set an understanding of ProMetrix

ProMetrix: Database, reports, analytics, and order platform (formerly SPI+)

- ~3.7 million field verified commercial building locations
- ~2 million from other sources
- ~26 million occupants and businesses
- Delivers specific loss cost for buildings and other key analytics
- > 150M automobile sightings per month
- > 5 million reports generated annually

Underwriting Markets Served:

- Commercial Property
- Businessowners
- Workers Compensation
- General Liability
- Commercial Auto

Customers:

- > 225+ insurance company clients
- 49 of the Top 100 Distributors based on revenue

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Customer Profile

Insurance companies

- Standard lines companies
 - Admitted business
 - National and regional footprints
 - Publicly traded, privately held, or a mutual
- Excess and surplus lines companies
 - Non-admitted business
 - National or regional footprint
 - Publicly traded or privately held
- Specialty companies
 - Niche focus

We'll be sharing aggregate results of analysis we have been completing across the insurance company segments related to their data accuracy

Distributors

- Agents and brokers
- Wholesale brokers
 - Managing General Agents (MGA's)
 - Managing General Underwriters (MGU's)
- Program Administrators

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Focus of Today's Discussion

- Client engagements have focused on Commercial Property until recently
- LOBs in development
 - General Liability
 - Commercial Auto
 - Workers Comp
 - Businessowners

Similar Characteristics in Business Process, preliminary observations on additional lines of business

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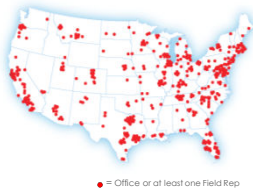
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Field verified data

National breadth | Local depth

- 550 F/T Verisk field staff with an average of 11+ years conducting property evaluations
- Property assessments performed for lenders, insurers, government agencies, and community hazard mitigation
- Experience working across all commercial property types



• = Office or at least one Field Rep

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Portfolio Assessment

- sophisticated diagnostic tool

- Snapshot assessment of book of business
- Analysis using both carrier and appended data

Portfolio Improvement	Portfolio Expansion	Portfolio Analytics	Portfolio Efficiency
<ul style="list-style-type: none">• Data quality assessment and verification• Building and business information verification• Risk profile• Identify risk factors• Benchmark characteristics against industry norms	<ul style="list-style-type: none">• Cross sell opportunities• New classes and/or geographies for expansion	<ul style="list-style-type: none">• Benchmark key property metrics vs. state or industry• Benchmark carrier loss cost, loss ratio, claim severity, claim frequency vs. peer group and/or vs. industry	<ul style="list-style-type: none">• Agency assessment• Loss control

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Scope of analysis

- All Commercial Lines
~ \$240B in Net Written Premium
- Commercial Property market size
~\$35B in Net Written Premium
~ 6.5M locations
- Analysis performed in database of ~3.7M field verified commercial property locations
- Analyzed ~2 million commercial property characteristics for variety of building types, sizes & locations
 - Hit rate ~65%

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Overage vs. Leakage

	Exposure	Premium
Overage	<ul style="list-style-type: none"> Net retention is higher than expected, impacting profitability and potentially reinsurance relationships 	<ul style="list-style-type: none"> Carrier lists a property as a frame construction building when it is actually a masonry building.
Leakage	<ul style="list-style-type: none"> Premium calculated on inaccurate PPC will not reflect true impact on exposure and most likely be <u>inadequate for risk assumed</u>. 	<ul style="list-style-type: none"> Carrier lists a property as a having a PPC score of 4 when it should actually receive a score of 8.

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Summary of Results

Summary - Portfolio Assessment Analysis

Rating Information	Analysis Identified
Construction Class	~40% of the carriers' risks had incorrect construction class
Protection	<ul style="list-style-type: none"> 15% of the carrier risk were listed in an incorrect PPC Many of the sprinklered risks received sprinkler credit when not warranted
Square Footage	<ul style="list-style-type: none"> ~80% of the carriers' risks had incorrect square footage. Percentage decreased as allowance for error increased, but there are gross mismatches
Limits	~75% of the carriers' risks had underestimated limit for Insurance to Value

20% Underpriced risks and related exposure mis-statement
 Adverse Selection
\$1.3B
 In annual premium leakage and related exposure mis-statement


14% Overpriced Risks
 Risk Retention Issues, and related exposure mis-statement

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Select variables reviews

- Construction
- Protection
- Square footage
- Insurance to Value



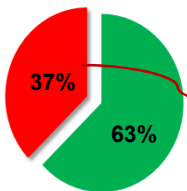
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Construction Class Analysis

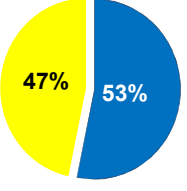
When compared to field verified data, nearly 40% of the records have incorrect construction class information

Verisk's Assessment of Carrier's Records



■ Verified Accurate ■ Incorrect

Inaccurate Records' Impact on Premium



■ Prem Overage ■ Prem Leakage

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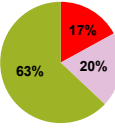
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Construction Class Analysis

Severity of Construction Class Mismatch

Verisk Construction Class	Carrier Listed Construction Class					
	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6
Class 1	27.9%	5.8%	3.7%	1.6%	0.1%	0.1%
Class 2	4.2%	13.7%	1.3%	2.1%	0.1%	0.1%
Class 3	3.0%	1.9%	10.3%	1.8%	0.1%	0.2%
Class 4	2.0%	3.5%	1.9%	9.4%	0.1%	0.2%
Class 5	0.4%	0.3%	0.2%	0.3%	0.7%	0.1%
Class 6	1.1%	0.4%	0.2%	0.4%	0.1%	0.8%

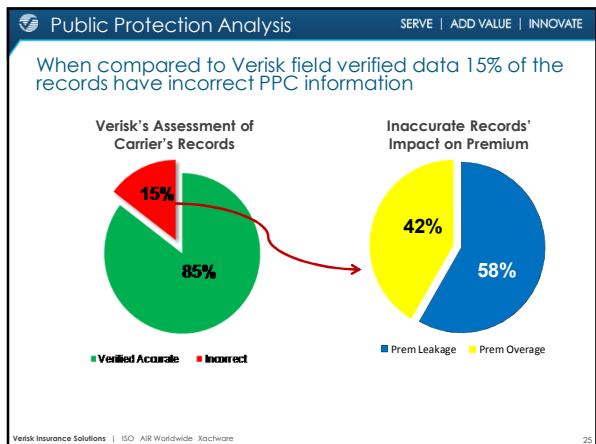
Impact on Premium

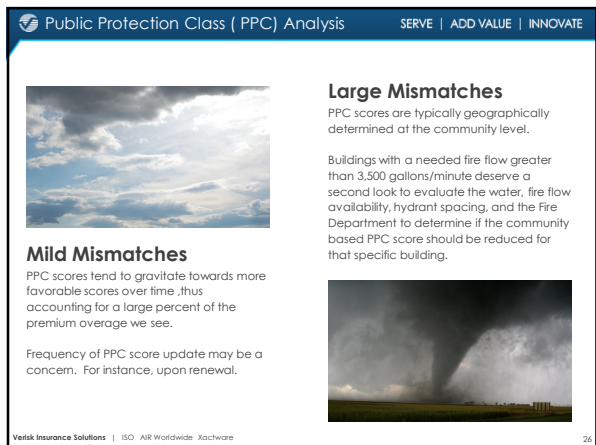


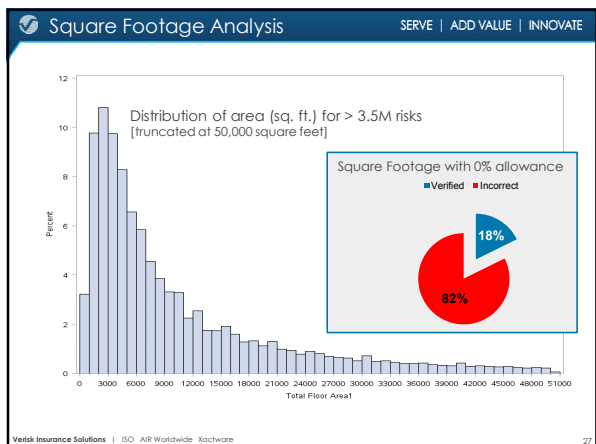
■ Premium Leakage ■ Premium Overage ■ Match

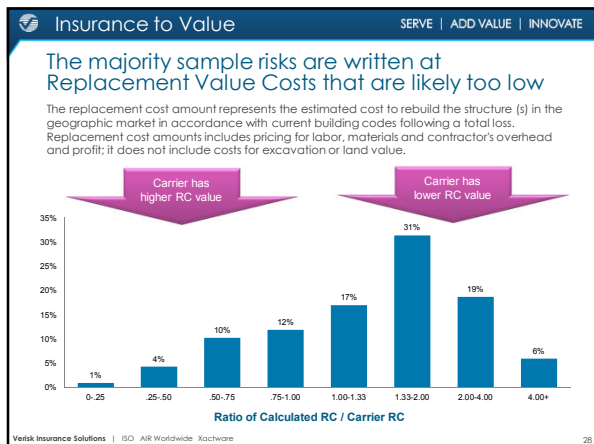
Construction class:
 Class 6 is the "better" construction class = lower rate or loss cost
 Class 1 is a "poorer" construction class = higher rate or loss cost

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Impact of misclassified data SERVE | ADD VALUE | INNOVATE

- Exposure
- Pricing
- Internal insurer information and data going forward
- Risk decision making
- Source of misclassification – systemic


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Exposure impact example SERVE | ADD VALUE | INNOVATE

<u>Bound Info on 1/1/2016</u>	<u>Claim on 3/3/2016</u>	<u>Impact of Misclassification</u>
<ul style="list-style-type: none"> • Occupancy – Commercial Real Estate - Motel • Construction – Joisted Masonry • Protection – Sprinklered structure • Public Protection Class – 4 • Values Insured - \$5,000,000 (Building and Contents) • Coinsurance – None • Annual Gross Written Premium (GWP) - \$5,000 • PML – 15% - \$750,000 • MFL – 60% - \$3,000,000 • Net Retention – 100% 	<ul style="list-style-type: none"> • Loss - \$3 million after deductible • Sprinklers response inadequate • Construction – Frame • Public Protection Class – 8 	<ul style="list-style-type: none"> • UW guidelines for a Frame risk call for a mandatory 50% cession to a quota share reinsurance facility. • In this scenario, net retention would be \$1.5 million versus \$3.0 million • Though nominal, lost ceding commission income

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Other LOBs we are exploring:
General Liability and Commercial
Auto




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NAICS Accuracy

40-50% of 2-digit NAICS is typically classified incorrectly

- ProMetrix has information on 26 million businesses
- Supported by manual verification by a strategic business partner



OR




Recent engagements evidenced over 48% of a business's 2-digit NAICS were classified incorrectly; 79% of 6-digit NAICS were incorrect.

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Commercial Auto - Visual Insights

Identify potential radius and territory mis-representation for each vehicle on a policy



- Over 150 million sightings per month
- Picture of the vehicle and license plate
- Date / time stamp
- Lat / Long
- Analytics to identify vehicles with potential radius and territory mis-representation

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SLIDE 37: Profitability - Exposure Assessment

- Exposure Assessment
 - Setting terms, conditions and rate
 - Validation of exposure basis
 - Risk survey or safety plans
 - Loss estimates and accumulation of risk
 - Capital allocation

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SLIDE 38: Profitability - Rate Adequacy

- Earned Premium base
 - Sustainability of a portfolio
 - Positioning in the market
 - Key financial ratios
- Distributor relationships
- Sustainability of the business

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SLIDE 39: Profitability - Reinsurance need & expense

- Aggregate limits purchased and their cost
- Individual risk retentions and the benefit to ceding underwriter
- Type of coverage purchased - following form versus carve out protection
- Allocation of treaty cost

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Additional impacts

Operations	Claims Administration	Regulatory Compliance
<ul style="list-style-type: none">• Re-work• Mis-coding• Cash flow<ul style="list-style-type: none">▪ Collection issues▪ Non admitted penalties to surplus• Allocation of resources	<ul style="list-style-type: none">• Application of coverage and reserve setting• Clarity among named insureds' and additional named insured's• Aggregate erosion• Efficient and compliant claims handling and adjustment<ul style="list-style-type: none">▪ Definition and/or application of "Occurrence"▪ Aggregate Erosion record keeping▪ Bad Faith▪ Ex Gratia Payments	<ul style="list-style-type: none">• Using appropriate Loss Cost• Claims payment completeness and timeliness• Achieving contract compliance efficiently• Achieving Broker or Agent Licensing standards• Condition of portfolio's for Market Conduct examinations

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Possible Solutions



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Solutions available today for Commercial Lines underwriters to improve quality

- Policy Life Cycle Solutions
 - Rate, Quote, Bind and Issue – develops consistency
- Consumption of 3rd Party data, replacing traditional sources
 - Embedding 3rd party data in the business process
 - Delivering data through Application Programming Interface (API) solutions
- Reduce distributor influence on data – bringing more focus to their efforts

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Considerations when using 3rd Party data

Proliferation of data and analytics can help streamline the underwriting process to achieve accuracy, scale and profitability

Potential methods to assess the **reliability** of 3rd party data?

- Depth & Breadth
- Source of 3rd party data
- Pre-verified by data supplier?
- Currency of the data
- Reputation and reviews
- Results of spot checks
- Use of for the data
 - portfolio vs. policy level
 - Marketing vs. Pricing
 - Intended use vs. creative application

Define your risk tolerance for reliability of data in advance – measure solutions against this value




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Embed reliable 3rd party data in the business process

Application Programming Interface (API)

- Market responsiveness - Speed
- Elimination of manual entry improves quality
- Improving underwriting productivity
- Agent friendly – time in their day



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Considerations when implementing API

- Match Rate
- Address, Business Level differentiation
- IT constraints
- Cost/Benefit
- Where is the "cut-off" when using analytics
- Automate Edits/Checks
- Minimizing #of vendors/Maximizing Quality
- Licensing commitment

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