



# Data Gathering

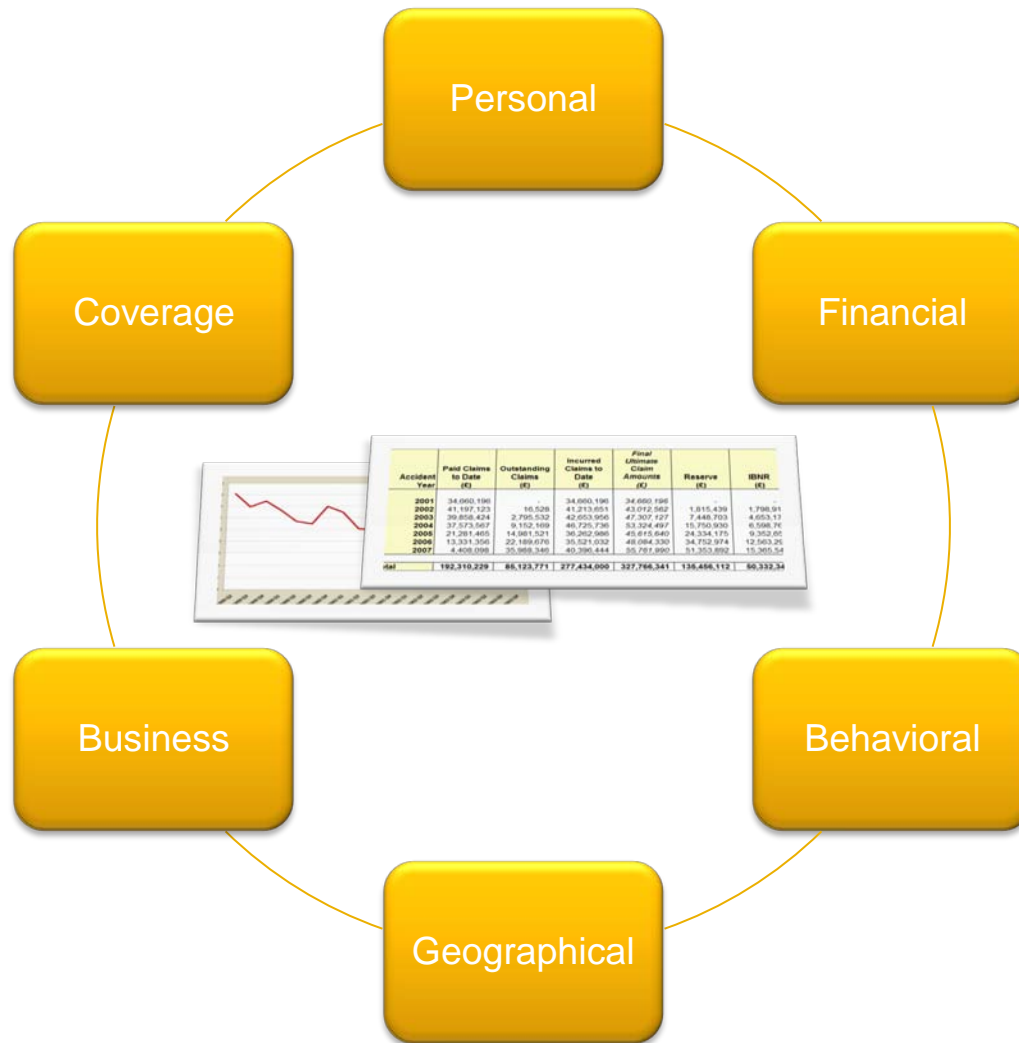
## Product Development Workshop

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# Agenda

- What are the actual risk drivers?
- What are some personal and commercial lines external data sources?  
How do they overlap?
- What do these sources offer?
- What are some implementation and other considerations?

# What Drives Risk?



# Internal Data

- Billing / payment plan data
- Premium audit / loss control data
- Underwriting application data/non-financial risk information {free form text fields}
- Quote system data
- Data from other lines of insurance
  - Personal auto data for an insured can enhance homeowners modeling
  - Workers comp data for an insured can enhance CMP modeling
  - In addition to the presence of additional products (e.g., “multiline discount), carriers can also use the tenure, payment history, claim history, deductibles and limits of those other products and the total number of policies

# Data Sources

- › Personal Lines
- › Commercial Lines

## Sources

**U.S. Census**

**National Highway Traffic Safety Administration**

**Experian Mosaic®**

**Applied Geographic Solutions**

**Carfax**

**Highway Loss Data Institute**

**FireSafe**

**PerilVision**

**Personal credit**

**Commercial credit**

**Occupational Safety & Health Administration**

**NCCI/ISO**

**Safety and Fitness Electronic Records**

**GPS tracking**

**U.S. News**

# Geo-demographic

- U.S. Census
  - Publicly available
  - Manipulation required
  - Potential predictors:
    - Median income
    - Education level
    - Average age
    - Occupation
- National Highway Traffic Safety Administration (NHTSA)
  - Fatality Analysis Reporting System (FARS)
    - Fatal accidents nationwide
    - County level
  - Potential predictors:
    - Hit & run frequency
    - Drug and alcohol-related accident frequency



## Geo-demographic (cont'd)

- Experian Mosaic ®
  - Segmentation based on population, household, income, labor force and metro area characteristics
  - Zip code level
- Applied Geographic Solutions
  - Models results from publicly available data
  - Data and map point files available
  - Databases include
    - Climate & Air Quality
    - WeatherRisk & QuakeRisk
    - CrimeRisk
  - Potential predictors
    - Average temperature
    - Precipitation
    - Air quality
    - Expected damage relativities
    - Indexes for hurricanes, tornadoes, wind and hail

# Vehicles

- Carfax
  - 20,000+ public and private sources, including DMV
  - VIN level
  - Potential predictors:
    - Severe problem indicator
    - Potential damage indicator
    - Number of owners
    - Average annual mileage
    - Odometer reading
- Highway Loss Data Institute (HLDI)
  - Relative average loss payments derived from historical data compiled from sponsoring companies
  - Make and model level
  - Potential predictors:
    - Injury, collision and theft score
    - Crash protection ratings



# Vehicles

- Safety and Fitness Electronic Records System (SAFER)
  - Safety performance of motor carriers
  - Based on data collected from state and federal systems
  - Potential predictors:
    - Federal safety ratings
    - Carrier crashes
    - Inspection summaries
    - Safety/Compliance reviews
- Vehicle operation using GPS tracking - Telematics
  - Fleet tracking services
  - Validate radius of operation
  - Ensure driver safety
  - Monitor driving style

# Personal Dwellings

- Structure Characteristics
  - Construction score by peril
  - Enhances peril rating
  - Addresses damageability and reparability
- Explore FireSafe
  - Refined fire peril scoring
  - Fire protection and weather related information based on data received from fire stations
  - Captures signal above Protection Class
  - General characteristics reflected:
    - Drive distance between home and fire station
    - Proximity to municipal boundary (water source)
    - Fire Station type



# Credit

- Personal credit
  - Industry standard
  - Business owner
- Commercial credit
  - Business credit risk and profiling
  - Additional data elements as predictive if not more than the score itself
  - Potential predictors:
    - Number and amount of lines of credit
    - Bankruptcies
    - Years in business
    - Trade lines with debt beyond terms



# Industry

- NCCI
  - Workers Compensation
- ISO
  - Personal & Commercial
- Supplier Relations
  - Manufacturing sub-sector
- Closed claims history for physicians
- SIC and/or NAICS
  - Refinement of commercial classes
- MarketStance



# Individual



- US News
  - Educational institute ranking
- Professional organizations
- Licensing and certification history

# Business

- OSHA
  - Occurrence of workplace injuries
  - Compliance and enforcement information available nationwide
    - Inspection detail
    - Violation history
- Oxford Life Cycle
  - Reflects status of business growth
- Better Business Bureau
  - Complaints



## Other Considerations

- Overlap of various sources
- Level of detail
- Applicable lines
- Frequency of updates
- Historic data
- Lead time
- Assembly of data
- Matching
- Geographic coverage
- Cost



# Implementation Considerations



- Extent of intelligence willing to disclose in public filings
- Level of underwriting sophistication
  - Scorecard
  - Selection of accounts for manual review
- Prioritizing marketing



# Summary

- Various non traditional insurance data sources available
- Value of sources dependent on current state of competitive advantage/disadvantage
- Predictive characteristics usually implemented through a combination of pricing, underwriting, claims and marketing