CAPTIVES *Unleashed*

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Tulsa, Oklahoma

WRCIC 2024
WESTERN REGION CAPTIVE
INSURANCE CONFERENCE, LLC

AI Concepts and Applications
A Brief Intro to AI CORE Elements and Apps
Two Types of AI*

Generative AI –

   ChatGPT, Gemini   (Ingest massive FIREHOSES of Data)

Analytical AI – Risk Data Analytics Models and Systems

   Multi-dimensional decision-tree based algorithm-driven analyses (Ingest claims and exposure data)

*Reference to **Gopi Kallayil, Chief Business Strategist, AI, Google**

(Strategic Advisor to Google's Largest 1,000 clients to help them optimize their implementation and use of AI)

in **Wharton Entrepreneurs Circle Meeting, Feb 22, 2024**

AI Concepts and Applications
A Brief Intro to AI CORE Elements and Apps

## Generative AI –
Insurance App Possible Example

Start-ups applying generative AI in **Assistive / Assisted** and **Co-piloting** App,

where they ingest discrete sets of data, like Claims Adjusting processes and reassemble

elements into a new model for analysis to allow (as an example) TPAs to utilize the model

to assist current staff and train and help new hires in successfully navigating the claims

management process.

AI Concepts and Applications

Analytical AI – Risk Data Analytics Models and Systems
Ingest claims and exposure data, Drive through decision trees

Decision-Tree Analysis

Frequency

Severity

Total Incurred
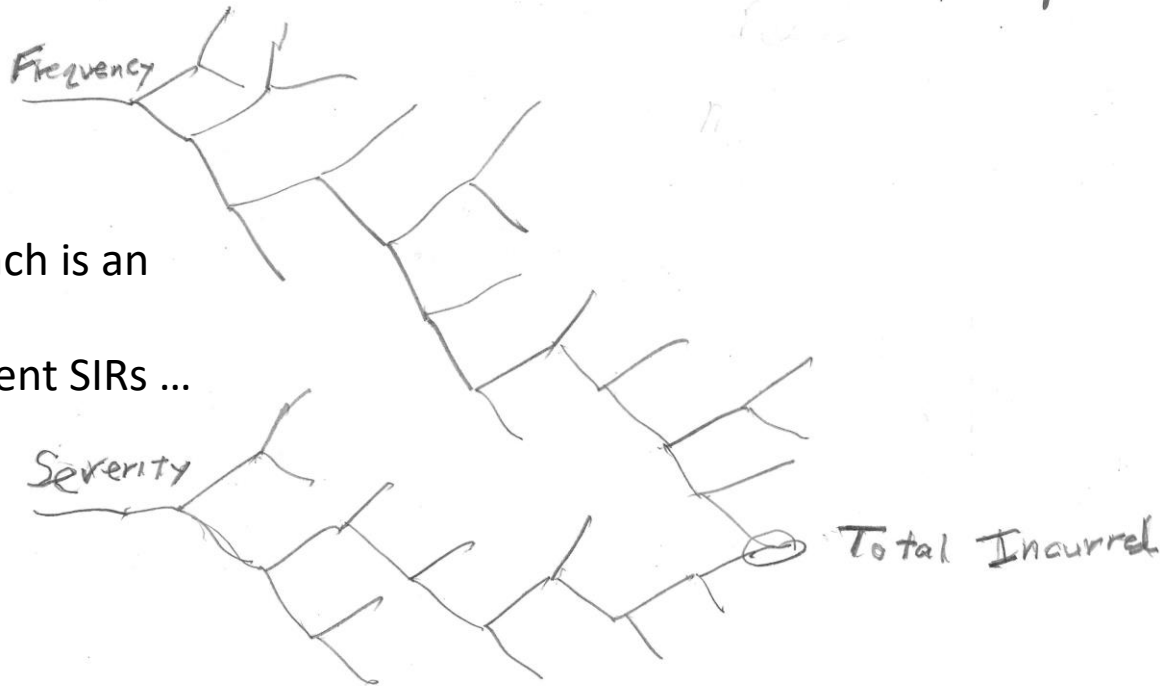
Each branch is an option,
like different SIRs …

Imagine 300 of these, or 1,000,
all in a fully integrated network,
even fully spacially integrated in any
conceivable manner, with any rotational
position or angle, and producing a
continuum of sample scenarios.
Then imagine the critical evaluation,
distillation and recommendations engine
to help make sense of it all.

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AI Concepts and Applications – A Brief Intro to AI
7 AI CORE Principles

1. Empower humans in designing AI to augment and elevate human intelligence and human work.

2. Prevent any biases.

3. Privacy by design.

4. Robustness, safety and security.

5. Accountability.

6. Transparency.

7. Sustainability.

Human-centricity is at the core of the AI ethics code, and sustainability is one of its key pillars.

AI-Assisted Data Prep and Data Ingestion

CARRIERS/ MGA's

Multiple Data Sources

Data Extraction

Claims analysis

USE CASES

Data Ingestion

Other document types

Policy Summaries

4
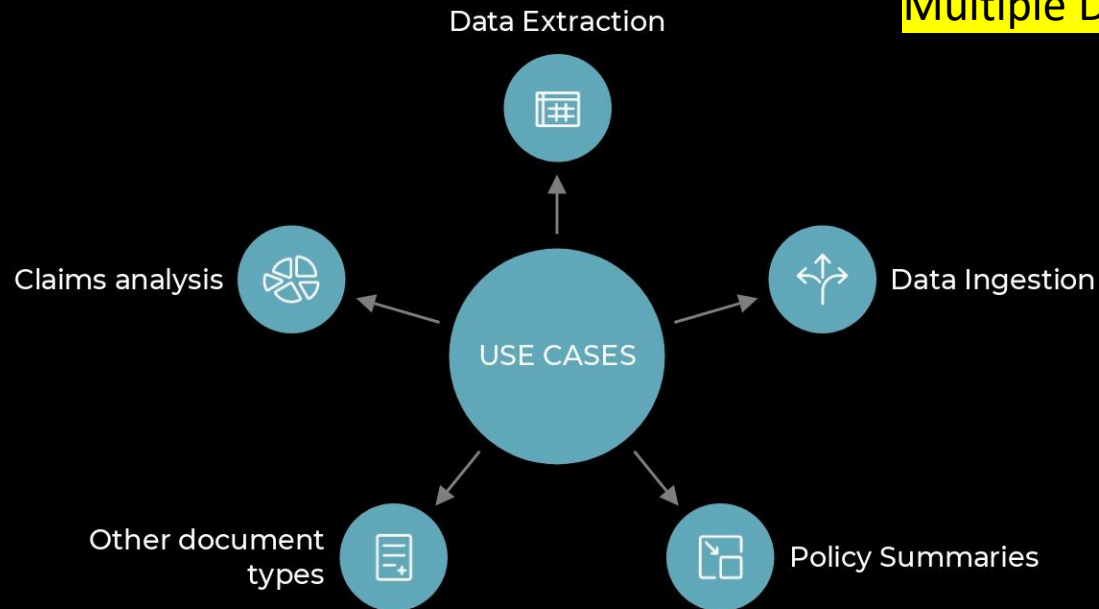
AI-Assisted Data Prep and Data Ingestion

Need AI-Assisted and Directed Capability to Scan Loss Runs in hundreds of different formats from multiple sources

- Insurers, TPAs, MGAs, Client Data sets in RMIS & other formats

- Need integrated Capability to Format Loss Runs Data for Analysis input into Excess Loss Analyses by SIR and Loss Development Analyses

- VENDORS EXIST to Satisfy these requirements

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- **PROJECTED LOSSES RISK ANALYSIS PROCESS OVERVIEW:**
- **Freq/Exposure = Freq Rate X Exposure = Frequency (# of Claims)**
- **Total Incurred Losses / # of Claims = Avg Cost per Claim = Severity**
- **Projected Total Incurred Losses = Projected Freq X Projected Severity**

For each multiple sets of assumptions, the AI-assisted risk data analytics model runs analyses for:

Freq, # of Claims **/** # of vehicles **=** Freq Rate of Claims

Projected Freq Rate of Claims **X** Estimated # of vehicles **=** Projected Freq # of Claims

Projected Freq # of Claims **X** Projected Avg Cost per Claim **=** Projected Total Incurred Losses

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Annual Loss Analyses Under Different SIRs & Other Varying Assumptions
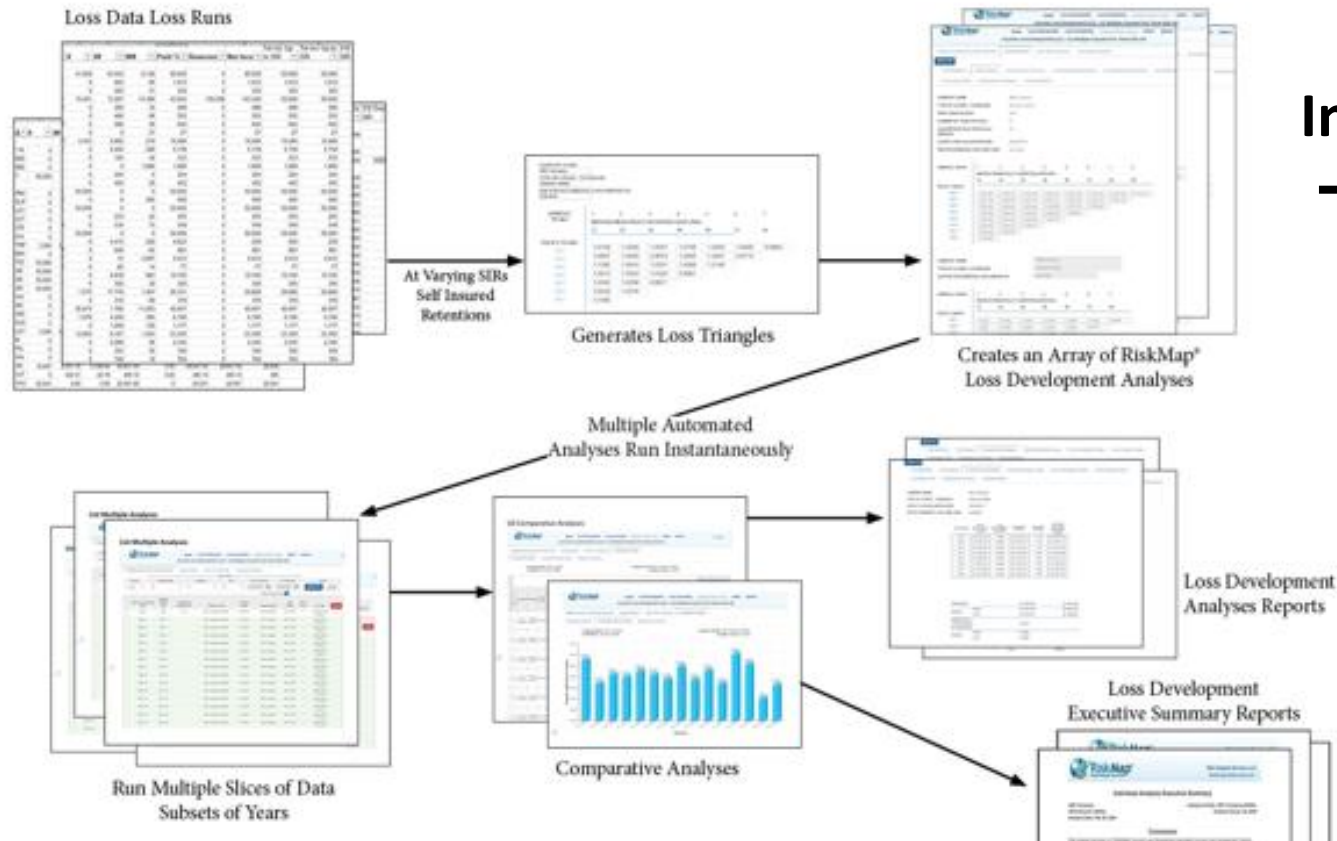
Ingested Loss Runs →
→**Excess Loss Analyses by SIRs**
→ **Loss Triangles for Varying SIRs**
→ **Loss Development Factors**
→ **Inflation-Adjusted**
Developed Losses

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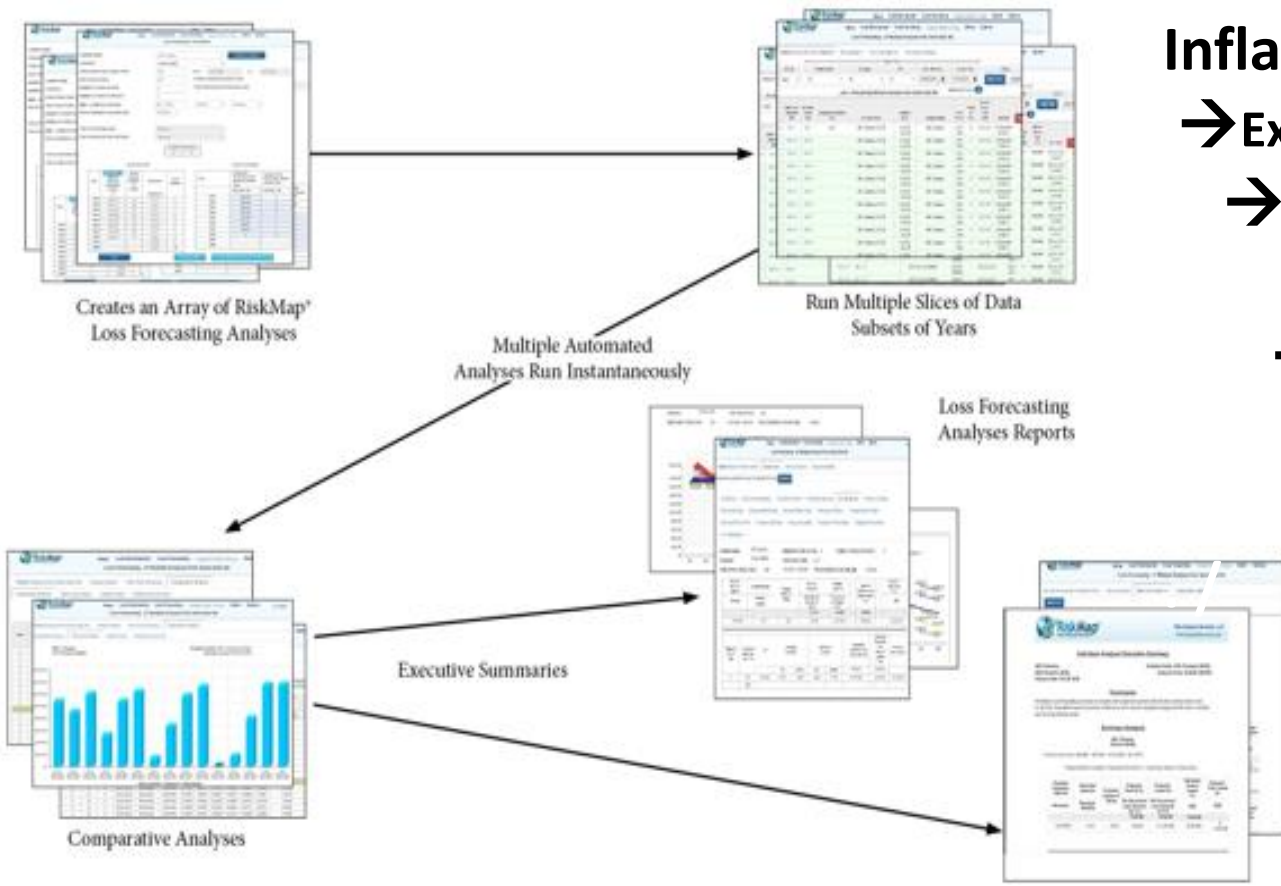# AI-Powered Multiple Iterative Loss Development Analyses
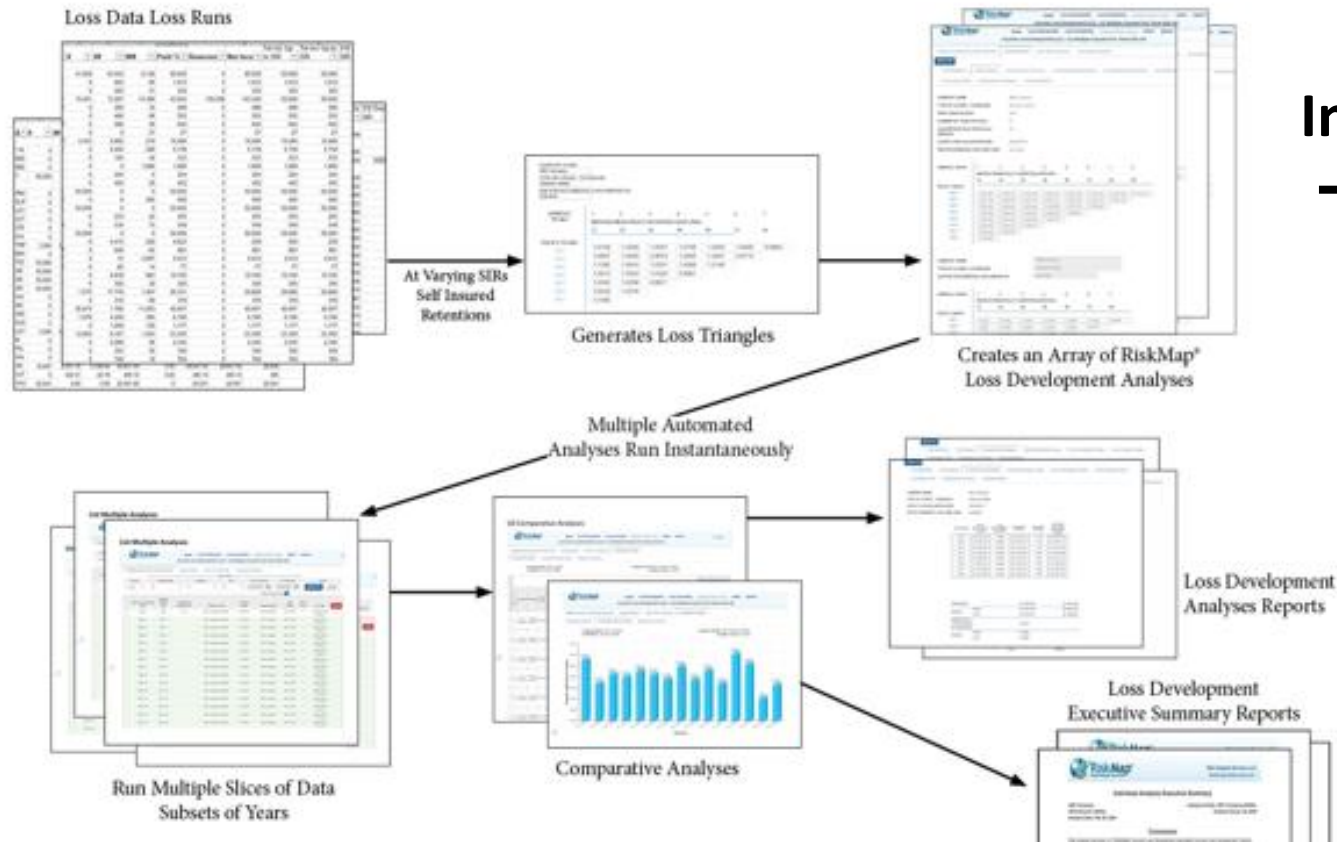
Ingested Loss Runs →
→Excess Loss Analyses by SIRs
→ Loss Triangles for Varying SIRs
→ Loss Development Factors
→ Inflation-Adjusted
Developed Losses

AI-Powered Multiple Iterative Loss Forecasting Analyses

Creates an Array of RiskMap®
Loss Forecasting Analyses

Multiple Automated
Analyses Run Instantaneously

Run Multiple Slices of Data
Subsets of Years

Loss Forecasting
Analyses Reports

Executive Summaries

Comparative Analyses

Inflation-Adjusted Developed Losses by SIR→

→**Exposure Data**

→ **Projected Frequency Rate per Exposure Unit**

(# of claims by Exposure (payroll, revenues, miles*)

→ **Projected Frequency (Freq rate x Exposure)**

→ **Projected Avg Cost per Claim(Severity)**

→ **Projected Freq X Projected Severity EQUALS:**

→ **Projected Total Incurred Losses**

***Exposure base depends upon type of coverage**

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AI Powered Losses Results – Common Conclusions & Recommendations

- Revise, Reduce Required Collateral]

- Optimal Retention Analysis

- Negotiate Reduced Reinsurance Premium through

- Effective Arbitrage for higher credit for increased retention than credibly expected projected additional incurred losses

AI-Powered and assisted Outcomes-Recommendations Engine

- Identify Opportunities for Increased Retentions where Premium Reductions Exceed Expected Additional Retained Losses

- Rigorous Analyses to Reduce Collateral Requirements

- Analyses to Support Risk Mitigation Strategies by Identifying and thoroughly and graphically documenting advangtages

AI and the captive Insurer

The rise of Algorithmic risk and AI risk, derived from the use of data analytics and cognitive-technology-based software algorithms, can and has caused loss to individuals and companies, which in turn has given rise to liability issues.

- Use of skewed data to make decisions has caused damage such as racial discrimination

- Faulty data can cause AI systems to give misinformation or disinformation causing harm

Captive insurers, having a long history of handling non-traditional risks for their parent company, have the capacity to manage complex and hard-to-predict risks arising from the rapid development and use of AI.

AI and the captive insurer

Captives can aid the parent risk managers in identifying, understanding and mitigating the developing AI risks:

    a. provide risk management services, i.e., analyzing algorithmic systems, identifying potential vulnerabilities, structuring business continuity plans and analysis to determine liability and causation claims.

    b. help implement risk mitigation strategies, such as improving data security measures, enhancing AI algorithms through systematic risk management

    c. Ultimately, a captive can help its parent to establish a long-term risk management strategy for AI and stay ahead of the emerging AI risks.

Captives can use AI to provide insurance coverage and/or insurance coverage structure tailored to the parent company to guard against financial losses from algorithmic errors, systems failures, and unintended consequences of AI decision-making.

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Perspective of the Captive Regulator

US and Europe regulators have begun to address the harm and damage that could result from the use of AI.

- In December 2023, EU Parliament and Council decision on Product Liability Directive that broadens the scope of liability and damages and eases the burden of proof in cases involving software risks including AI system.

- Also in December 2023, the NAIC adopted the Model Bulletin on the Use of Artificial Intelligence Systems by Insurers. Maryland Insurance Commissioner Kathleen A. Birrane, co-chair of the Innovation, Cybersecurity, and Technology (H) Committee stated that the bulletin sets clear expectations for state Departments of Insurance regarding the utilization of AI by insurance companies to help safeguard consumers, balancing the potential for innovation with the imperative to address unique risks.

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Perspective of the Captive Regulator

- Several states have enacted legislation protecting citizens from potential harm caused by AI.

- February 8, 2024, the White House announced the formation of the US Artificial Intelligence Safety Institute Consortium (AISIC) to ensure the safe development and deployment of artificial intelligence (AI).

Captive domicile regulators will be concerned about:

the accuracy of the results produced by AI systems and predictive analytics and whether they introduce unfair discrimination

the ability of the captive to efficiently manage claims and provide financial support to their parent groups to cover losses and liabilities.

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QUESTIONS

Any and all questions are welcome.

No question is too silly to ask.

THANK YOU!

Alan B Cantor
Risk Analysis Services LLC
acantor@riskanalysisservices.com
http://www.linkedin.com/in/alanbcantor
https://www.RiskAnalysisServices.com
310-922-1994
Santa Monica, CA

John M. Talley, JD
TAL Consulting, LLC
TALconsult7051@gmail.com
www.linkedin.com/in/john-m-talley-j-d-18131224/
www.talconsulting.biz
314-656-3632
St. Louis, MO