



## Actuarial Processes

Darren Robinson, Zhan Wang

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## Over the last 12 months, have you seen errors due to:

- Lack of time ?
- Incomplete or incorrect data?
- Spreadsheet links not updated?
- Spreadsheets on manual calc?
- Poor quality tech or peer review?

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We would argue, the underlying cause is the **under-use of technology**

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People and  
Technology

Our journey

Data supported  
Analysis of Profit



## Two mindsets within an actuarial process

### Routine Tasks

(accuracy / consistency)

- Extract data
- Check data
- Run projections
- Do calculations
- Extract results

### Investigative Tasks

(creative / problem solving)

- Reasonableness checks
- Investigate unusual results
- Explain the meaning of the results
- Explain the implications of the results

**What?**

**Why?**

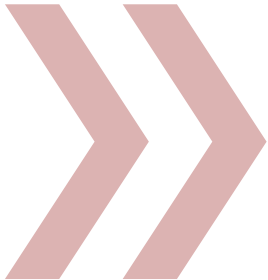


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# Technology

(managed by people)

# People

(supported by technology)

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## Our journey

- Large back-book (large volume of DAC)
- Six monthly valuations and monthly roll-forward
- Leading to:
  - complexity
  - reconciliations
  - inconsistent messaging
  - Poor staff engagement

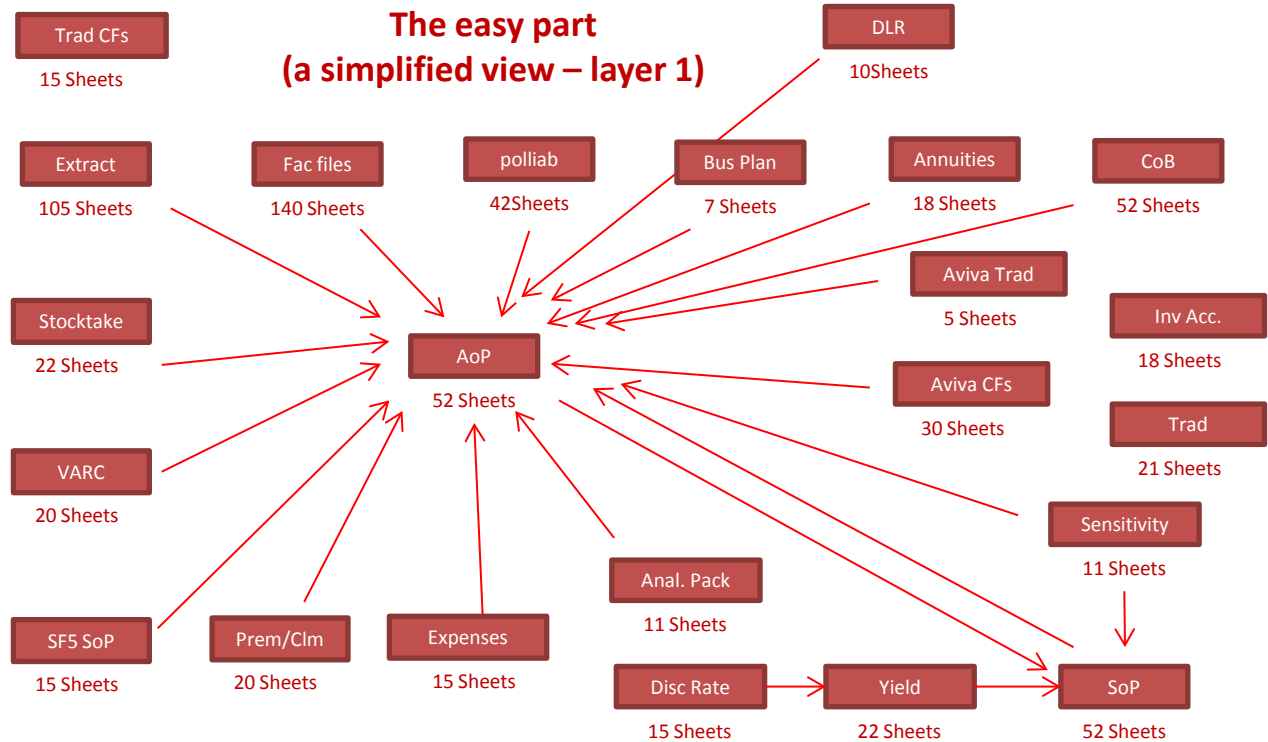




## The hard part

Prophet

## The easy part (a simplified view – layer 1)



*Simplicity from previous rationalisation*

*Complexity is borne of the dual process, the 200 RPGs and layering approach to building spreadsheets*

This process creates monthly cashflows for 1 million+ records projected for 50 years

This process consolidates results, determines and explains profit

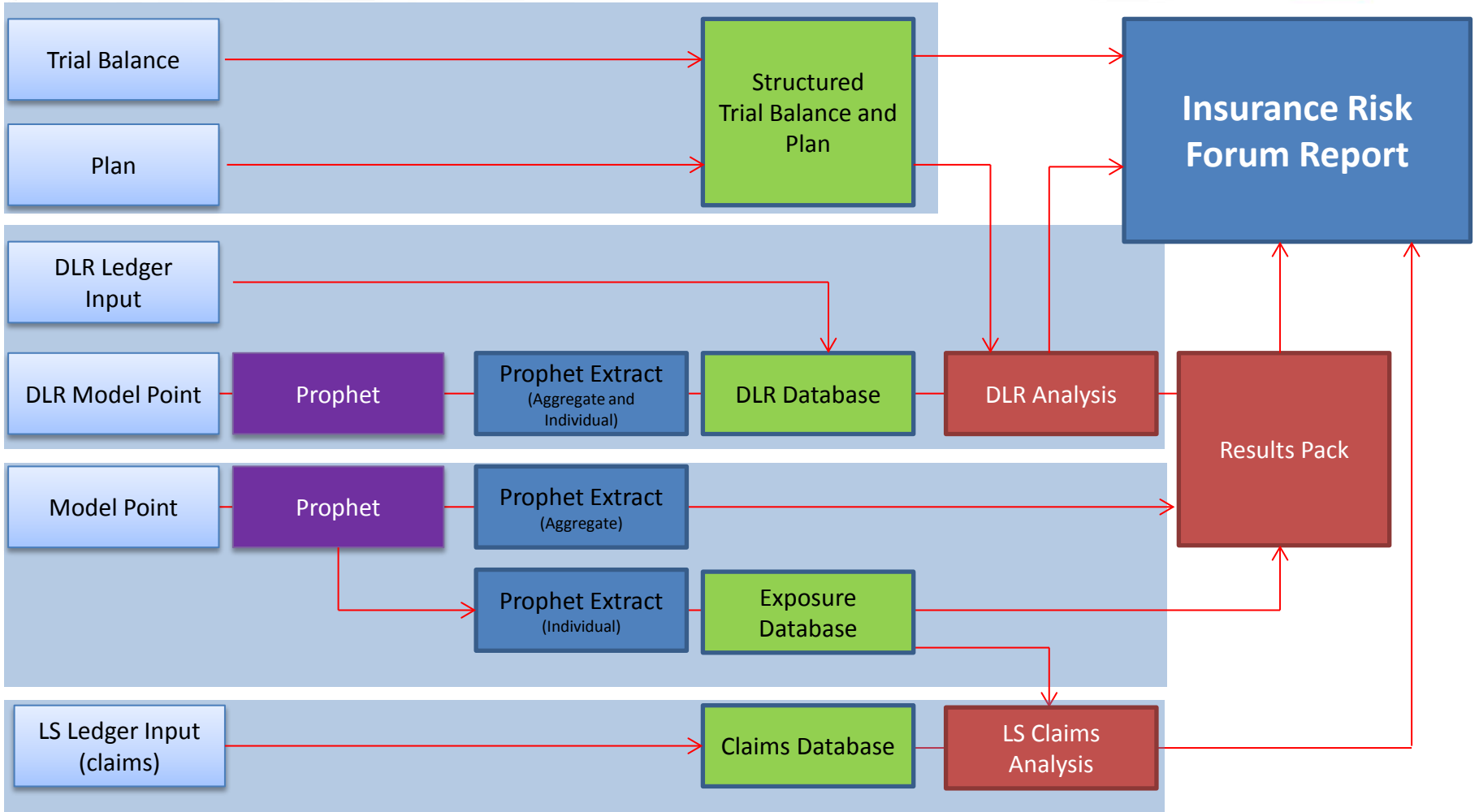


## Approach

Single process (removal of dual process)

Simplified process

Structured storage of data





The database could be used to show movements in premium, DAC and EV from month to month.

### Inforce Premium Movements

	Premium	DAC	EV
March 2014	x	x	x
Sales	x	x	x
Lapses	x	x	x
Increases	x	x	x
Decreases	x	x	x
Age re-rates	x	x	x
<b>April 2014</b>	<b>x</b>	<b>x</b>	<b>x</b>

The table shows opening premium, DAC, EV.

Movements are allowed for

To give the closing premium DAC and EV



## Inforce Premium Movements

	Premium	DAC	EV
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## Lapses

	Lapsed Premium		DAC	
	Actual	Expected	Actual	Expected
MLCI				
20-30	x	x	x	x
30-40	x	x	x	x
40-50	x	x	x	x
50-60	x	x	x	x
60-70	x	x	x	x
70+	x	x	x	x
<b>Total MLCI</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>
PPP				
20-30	x	x	x	x
30-40	x	x	x	x
40-50	x	x	x	x
50-60	x	x	x	x
60-70	x	x	x	x
70+	x	x	x	x
<b>Total PPP</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>
<b>Total</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>

For example, more detail can be sought on the lapses (shown).

Sales, with EV might be split by product and channel (not shown).

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Because the data is at a policy level, the data can be sliced by product, age group, gender, average premium size, channel, adviser etc

## Inforce Premium Movements

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<b>Total</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>



## Desirable Features - Process

- Transparent
  - Steps / code well documented
  - Easy to find where errors have occurred
- Should reduce key person risk
- Flexibility vs Robust / Controlled
- Facilitate reasonableness checks
- Error identification checkpoints



## Desirable Features - Populating databases

- Efficient
- Regular
- Reliable
- Auditable
- Adaptable





## Low Implementation Cost

Process Simplification, Databases,  
Automation and Reporting

- No upfront cost
- In house resources
- \$100k annual cost

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# Staff engagement

Staff engagement up 60%

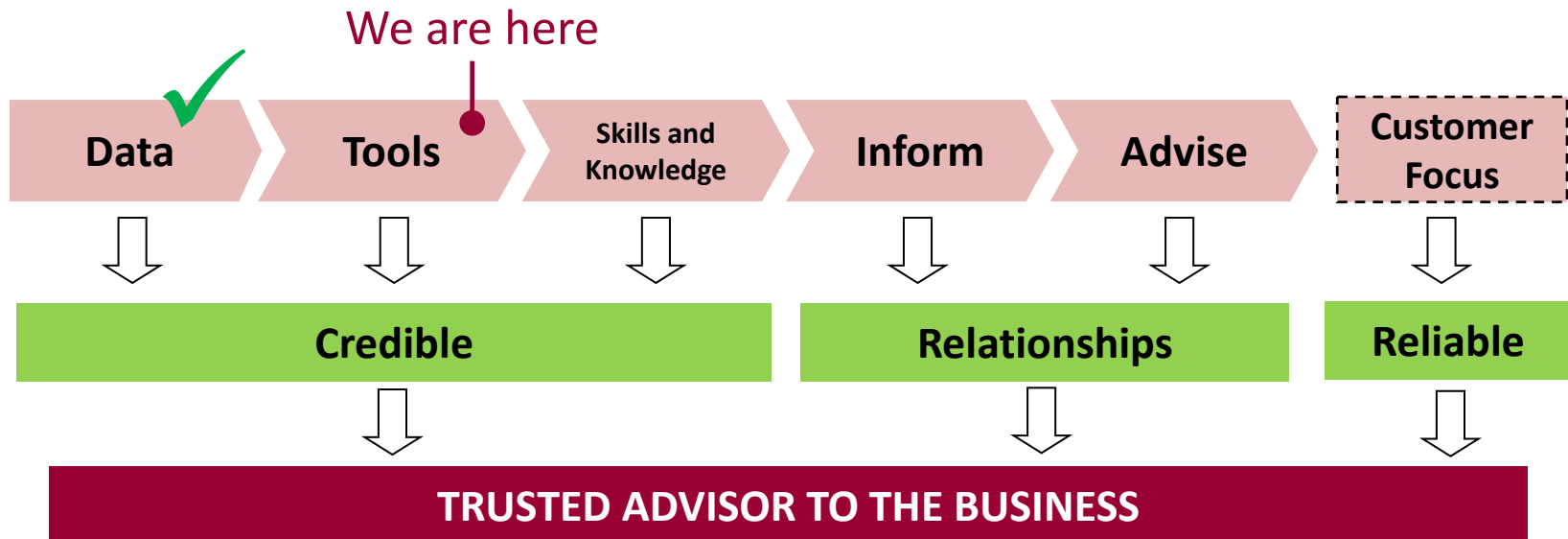


## Cultural Implications

- From rules based to **critical thinking**
- From detailed independent analysis to **holistic analysis connecting various areas** (connecting profit analysis to experience studies to capital to EV outcomes etc.)
- From analysis to **considered presentation and communication**
- From a spreadsheet focus to a focus on the **issues within and affecting the business**



## Cultural Implications





Information **Technology**



**Information** Technology



How do we **store and structure** information?



How do we make it **available to all**?



How do we best **use** this information?

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“Data is in high demand. But not as high as the people who can make sense of it.”

Actuaries Institute Rebranding Campaign



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## Discussion

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Movie was here