Science Fiction - Coming to an Insurer Near You

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Abi Holloway (Phoenix Group)
David Zhang (PwC)
## Your Presenters

### Steve Mills, PwC
- Leads PwC Data & Analytics practice in the North
- 20+ years experience of working in data and analytics
- Recent experience of working in AI and advanced analytics
- Lives south of Chester

### Abi Holloway, Phoenix Group
- Qualified actuary with 15 years’ with Phoenix Group
- 10 years’ experience within valuation reporting specialising currently in strategic projects delivery within Finance
- Lives in Birmingham following relocation from Liverpool

### David Zhang, PwC
- Qualified actuary specialising in life insurance
- 4 years’ experience with PwC, mainly working on life audits and AI projects
- Lives in Bristol and grew up up north in Nottingham
- Big fan of all things computer-related!
Part I – The AI Revolution
What’s happened with AI in 2018?
Automating repetitive, standardised or time-consuming tasks and providing assisted intelligence.

Increased demand for STEM skills to build new tech ecosystem.
Fundamental change in the nature of work. Humans and machines collaborate to make decisions.

Uniquely human traits (emotional intelligence, creativity, persuasion, innovation) become more valuable.
Adaptive continuous intelligent systems take over decision making.

The future of humans at work is questioned.
Build Trust with Responsible AI

Read our point of view ‘Accelerating innovation - How to build trust and confidence in AI’ for more information.

14 November 2018
Part II – The Robotic Workforce
What does a Software Robot look like?
What is RPA and the Robotic Workforce?

• Based on the notion of **software robots** as workers

• The robots completes tasks on the computer **the same way a human would**

• Best for automating high volume, repetitive tasks across multiple systems (e.g. “swivel-chair activities”)

14 November 2018
### What are the benefits?

<table>
<thead>
<tr>
<th>24/7</th>
<th>Scalability</th>
<th>Speed to implementation</th>
<th>Quality and compliance</th>
<th>Speed to delivery</th>
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<tbody>
<tr>
<td>Robots never sleep and can operate 24/7, allowing for continuous monitoring and work</td>
<td>The robotic workforce can scale to key, high-volume events e.g. year-end valuations.</td>
<td>Avoids invasive traditional system integration. Takes weeks or months instead of years.</td>
<td>Software robots can reduce errors and leave a digital audit trail for regulatory compliance.</td>
<td>Shorter cycle time and more accurate and timely reaction to demand.</td>
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<tr>
<th>Customer satisfaction</th>
<th>Value focused talent</th>
<th>Cost reduction</th>
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<tr>
<td>Increased customer satisfaction through a focus on quicker and a more integrated experience with fewer errors.</td>
<td>Priorities of the human workforce shifts to innovation, insights, and other business development activities.</td>
<td>Reduced costs on processes containing high volume, repetitive tasks.</td>
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# Software Robots vs Excel Macros

## Table of Comparison

<table>
<thead>
<tr>
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<th><strong>Excel Macros</strong></th>
<th><strong>Software Robots</strong></th>
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<tbody>
<tr>
<td><strong>How is it built?</strong></td>
<td>VBA coding</td>
<td>Drag-and-drop activities within visual flowcharts</td>
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<tr>
<td><strong>How does it fit in with existing systems?</strong></td>
<td>Must use existing software architecture and interactions</td>
<td>Can work with virtually any application and/or multiple applications</td>
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<td><strong>How transparent is it?</strong></td>
<td>Not very transparent – unless you’re very good at deciphering code!</td>
<td>Easier to read and understand due to flowchart-style presentation. Can be programmed to generate its own audit trail.</td>
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<tr>
<td><strong>How is it triggered?</strong></td>
<td>Triggered manually by hand</td>
<td>Usually includes a controller program so that robotics can be run according to a schedule.</td>
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<tr>
<td><strong>What is the scope of the automation?</strong></td>
<td>Usually automates one single task in one spreadsheet</td>
<td>Can automate entire processes across multiple systems</td>
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<tr>
<td><strong>Where is it stored?</strong></td>
<td>On a local machine / in the excel file itself</td>
<td>Can be stored on cloud to allow better scalability</td>
</tr>
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Most life insurers are familiar with BPA, with some beginning to explore the RPA stage.
David’s top three tips

1. Set up the right **ecosystem and culture** for robotics

2. A **collaborative effort** between IT and Actuarial

3. **Long term strategy** – e.g. roadmap for automation, Centre of Excellence, framework for assessing opportunities
Part III – The Phoenix Robotics Pilot
Background

Model Simplifications
Data Simplifications
Tactical Management Actions
Projects
One-off Adjustments

~ 200 Manuals

Simple Inputs/Presentational
Scaled Modelled Results
Simple Calculations
Complex Macros

Consolidated View

MG-ALFA

Reported Results
Why Use Robotics

✓ Remove Human Error
✓ Resource Needs Reduced
✓ Scalability
✓ Prohibitive Cost of Modelling Manual
✓ Strategic Solution
✓ Enabler for Strategic Projects
✓ Acquisition Ready
✓ Test Case for Phoenix
What we did

• When chosen to use Robotics wanted a specific model in which we would partner with external experts to develop the system with us
• Project in partnership between the Actuarial Reporting and IT teams within Phoenix
• Identification of manuals as good candidates for use of robotics:
  – Aim for around 75% of current population
What We Did

Clean-Up Exercise
- Remove hard-coded inputs
- Simplify links
- Remove links to Non-Excel Documents
- Formalise Inputs

~ 200 Manuals

MG-ALFA

Simple Inputs/Presentational
- Scaled Modelled Results
- Simple Calculations
- Complex Macros

Consolidated View

Reported Results

75% Target
The Solution

User triggers robot via Excel control sheet

Identify list of manuals to be updated

Start with 1st manual in list

Record manual as complete in control sheet

Save manual and move onto next in list

Log date/time of completion and send email to actuarial team

Refresh calculations and check for errors*

Open manual, update data links to latest sources

Check folder for existence of manuals and data sources*

*If an exception occurs, flag to actuarial team via email
Next Steps for Phoenix

• Run process live at the YE18 reporting valuation
• Extend use for all business and ad hoc runs
• New manuals arising since exercise to be inducted into Robotic solution
• Focus on “fixing” or simplifying the 25% of manuals not utilising the Robotic solution
• Formalise end state maintenance model with IT
• Extend use to other areas in Phoenix
  – MI production, Solvency Monitoring
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