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Automating retirement advice

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01 March 2019

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The customer problem
Humans not widgets
A modelling problem?
The role of actuaries

Financial advice – a cottage industry

"The practices of advisers today in giving advice are the same as they were 20 years ago."

Michael Wall – Regional MD London, 1825

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Customers need advice at retirement

Customer demand for advice at retirement

- Flexibility and choice post-pension freedoms
- Risk of costly mistakes

Limited advice capacity in the market

- Industry dominated by manual processes which limit scale
- Very low ability to invest to industrialise processes
- Unaffordable for many (c£3k+ upfront)

Weak digital advice landscape, so far

- Generally accumulation focussed
- Informed choice, not advice
- Retirement advice limited, journeys lack engagement

Challenge to drive capacity and reduce cost

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Industrialisation drives efficiency

	Limit option set, avoid be-spoking	Assembly line to increase productivity	Focus on labour-intensive tasks	Remove need to physically co-locate
Cars	“Any colour so long as it’s black…”	Factory line	Robotics Quality-assurance	Global production: parts, assembly, distribution

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Industrialisation drives efficiency

	Limit option set, avoid be-spoking	Assembly line to increase productivity	Focus on labour-intensive tasks	Remove need to physically co-locate
Advice	Key assumption this is possible	Deconstruct processes more granularly	Fact-find Para-planning Transaction Quality-assurance	Digital or telephony

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Memory game (find something to write with)

Bed

Rest

Awake

Tired

Dream

Wake

Snooze

Blanket

Doze

Slumber

Snore

Nap

Peace

Yawn

Drowsy

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Do you remember?

Bed

Blanket

Sleep

% of people who falsely remember

Source: Roediger, H. & McDermott, K., (1995), 'Creating False Memories: Remembering Words Not Presented in Lists', *Journal of Experimental Psychology: Learning, Memory, and Cognition*, Vol. 21, No. 4, pp. 803-814.

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Humans not widgets

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This is a surprisingly difficult problem

Behavioural biases

Advice is high friction

Retirement solutions are complex

Regulatory environment evolved for face-to-face

Traditionally, the adviser compensates for these

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Humans come with behavioural bias built-in

Choice-overload

Decision making compromised with too much information

As actuaries, can we judge the right level?

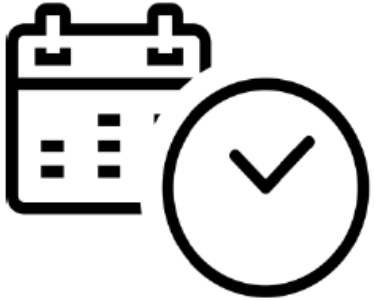
Over-confidence

Think they know more than they do (e.g. unrealistic downsizing)

How do we manage user disappointment?

Mental accounting

Treat money differently because of its origin (e.g. pensions v savings, inheritance)



Present Bias

Over-weighting immediate payoffs (e.g. caravan)

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Motivating through friction

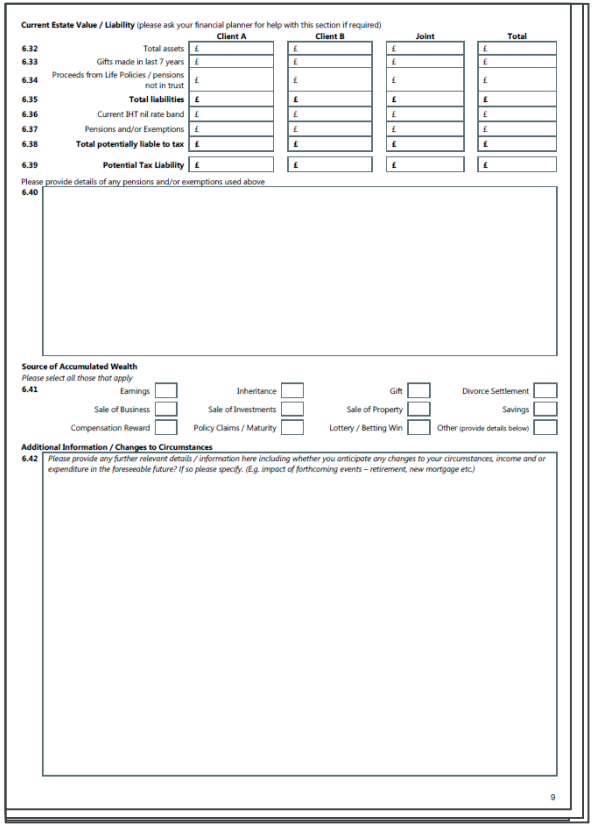
Digital is different

Making it easy (and look easy)

- Remove unnecessary steps (e.g. pre-populate what we know)
- Defer harder steps where possible (e.g. attitude to risk, terms of business etc)
- Treat attention as a scarce resource
  - Curse of knowledge
  - Remove visual clutter

Value exchange

- Showing the solution as it develops



Current Estate Value / Liability (please ask your financial planner for help with this section if required)

		Client A	Client B	Joint	Total
6.32	Total assets	£	£	£	£
6.33	Gifts made in last 7 years	£	£	£	£
6.34	Proceeds from Life Policies / pensions not in trust	£	£	£	£
6.35	**Total liabilities**	**£**	**£**	**£**	**£**
6.36	Current IHT nil rate band	£	£	£	£
6.37	Pensions and/or Exemptions	£	£	£	£
6.38	**Total potentially liable to tax**	**£**	**£**	**£**	**£**
6.39	**Potential Tax Liability**	£	£	£	£

Please provide details of any pensions and/or exemptions used above

6.40

Source of Accumulated Wealth

Please select all those that apply

6.41 Earnings ☐ Inheritance ☐ Gift ☐ Divorce Settlement ☐
Sale of Business ☐ Sale of Investments ☐ Sale of Property ☐ Savings ☐
Compensation Reward ☐ Policy Claims / Maturity ☐ Lottery / Betting Win ☐ Other (provide details below) ☐

Additional Information / Changes to Circumstances

6.42 *Please provide any further relevant details / information here including whether you anticipate any changes to your circumstances, income and or expenditure in the foreseeable future? If so please specify. (E.g. impact of forthcoming events – retirement, new mortgage etc.)*

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Managing cognitive load

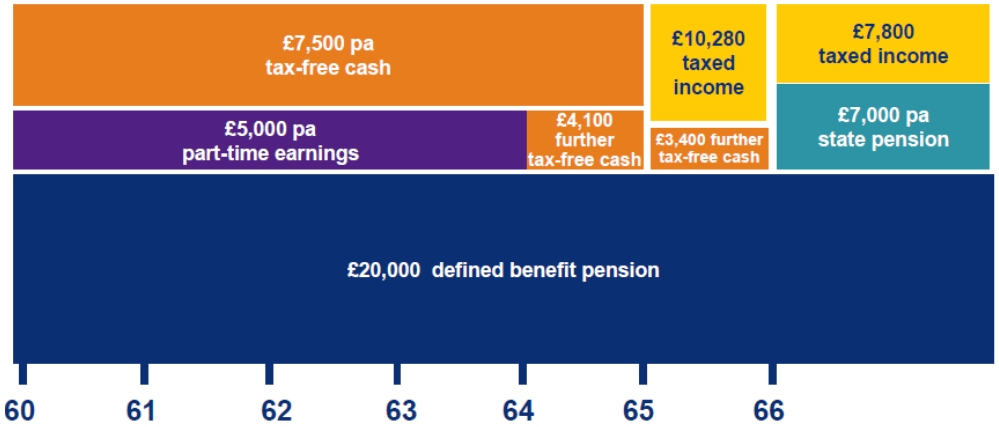
Retirement advice is highly complex

- Interaction between pensions, savings, other incomes
- Annuity v drawdown

Key principles

- Story telling – smaller steps, just-in-time
- Manage working memory
- Summarise and repeat

Test, test, test…



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Advice rules have evolved for face to face

Supporting the client through the fact-find	• When is this “leading the witness”?
Advice v guidance perimeter	• Value exchange => show the “solution” as it develops • When does this become advice?
Experience & knowledge	• How to ensure client has “the necessary experience and knowledge in order to understand the risks”?
Vulnerability	• How to assess digitally?

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Digital first or digital only?

Machines good at:

- Hard sums - quickly
- Drawing pictures, interactivity
- Following procedures

Humans good at:

- Sense-checking
- Explaining and assessing comprehension (& vulnerability)
- Creating rapport, encouraging & motivating

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Modelling – Anything new?

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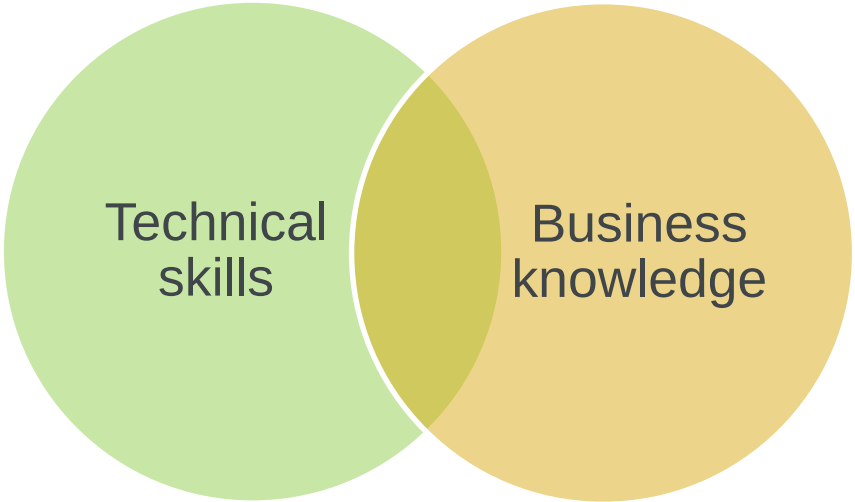
Modelling – Do actuaries have the skills?



Know what you are trying to model

- Do you have the right skillset?
- Advisers aren't normally good modellers and modellers don't usually know anything about giving financial advice

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Modelling – The Adviser's Craft

Know what you are trying to model

- The adviser's craft – Is the process well defined and complete before automation?
- Advice is often run as a bespoke service

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Modelling – The rules remain the same

Modelling needs to keep the significant features of real life and simplify everything else:

Know the key drivers

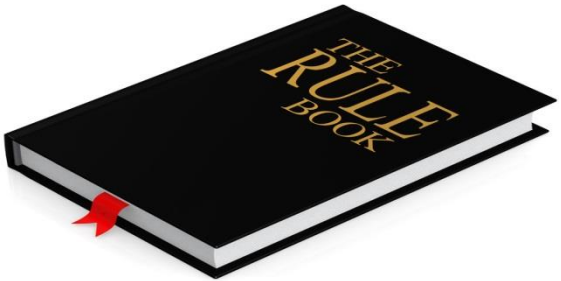
- Focus on the big things
- Here – tax / source of income, time horizon, fund choice, fees

Know your simplifications

- Approximate where necessary, check simplifications are not material
- Here – time steps, mortality

Know when the model breaks down

- Fail out when answers are wrong
- Warnings when answers look odd



Model Risk Policy

- Do you have one? Do you apply it here?

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Back to Humans

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Data Input by Humans

Customer don't know what they have

- Data collection was always difficult pre-automation – but fees were high and processes very manual
- We could repeat that process (or in short term at least)
- Some processes will translate (e.g. where did you work?)
- We are driving efficiency through industrialisation – so need a new process
- Education likely to play a big role

Customer don't know what they want

- Does the customer understand what they want?
- We are experts and need to help
- Are you in the customer's world, helping them in their own mind set?

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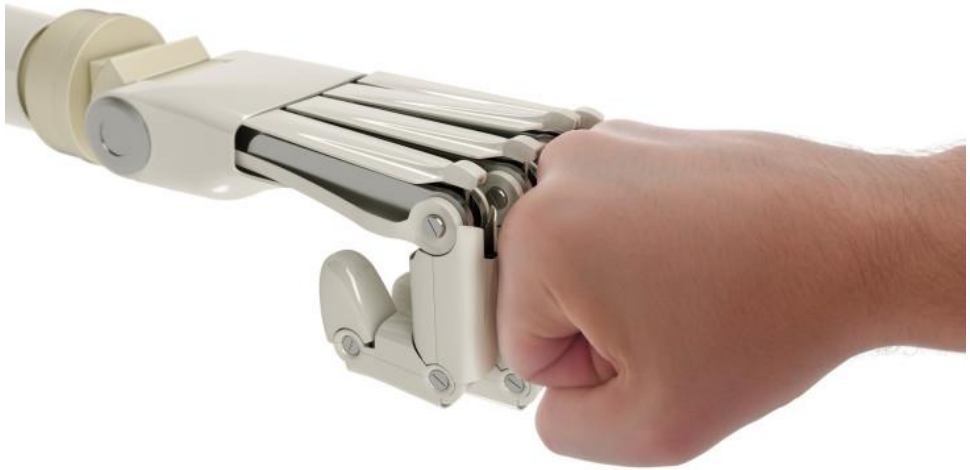
Sense Checking Data Inputs

This is hard!!

Human are really good at sense checking data. How do you do it when you remove the humans?



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Sense Checking – An Example

Single male customer

58 years old	**£25k salary**	**£500k house**
£500k pension	**£150k savings**	**No debt**
High expenses	**Expensive car**	**Swiss watch**

- Assets and lifestyle look too big relative to salary!

Human adviser would have a conversation?

- Divorce?
- Partially retired, previously had much bigger salary?
- Inheritance?
- Lottery win?

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Sense Checking Data Inputs by Machine

Understand all relevant data relationships

- There are many data relationships (salary, assets, DB pensions, house value, mortgage value)
- Noting – events like divorce or spouse's death can throw them out

Simple benchmarks

- Population data and research may be relevant to set benchmarks

Hard & soft limits

- How do you replicate "that doesn't feel right?"
- Need to decide how limits should be applied in an online environment
- Hard fail-outs or "are you sure?"

Do humans continue to play a role?

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Utilising Data Analysis

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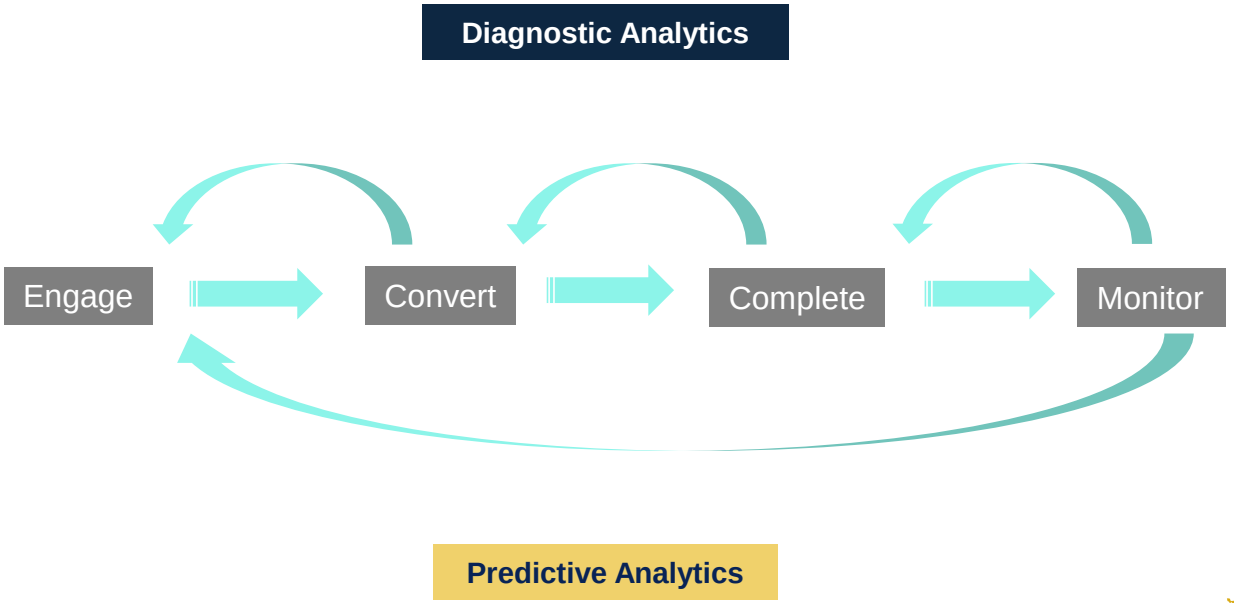
Data Analytic – Flow



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Data Analytics

Automation should improve the accessibility and quality of data. How does that help?

Accessible Data

- Access to the right data is crucial
- New data feeds and data storage are probably required

Predicting Behaviour & Problems

- Guess and learn
- Test with ‘real’ people as you develop
- Keep analysing what real customers do when live
- Constantly re-cycling learns
- AI or ‘human intelligence’?

Example

- Analyse customer data to select most likely to take up offer and complete

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The Future

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The Future – More Automation?

More data accessible real-time

- Pensions dashboard – and beyond
- Open Banking
- Voice recognition

Acceptability of online by next generation

- Engagement online likely to increase with passage of time
- Speed, cost / competition and convenience will become more dominant
- May hit the point where people prefer and trust online more

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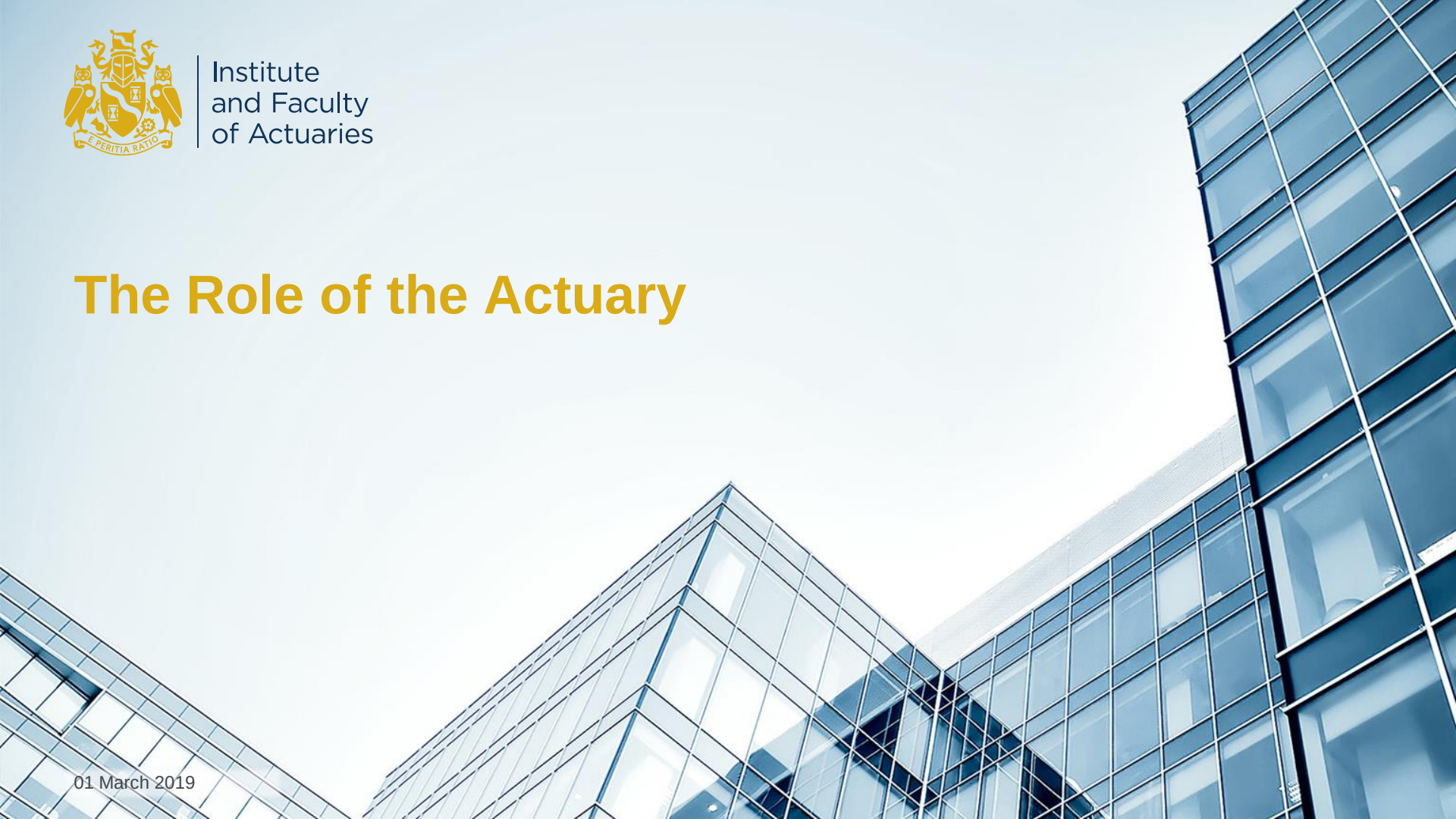
The Role of the Actuary



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The Actuary of the Future

Core Modelling Skillset

- A financial model is at the heart of digital advice
- Traditional modelling techniques apply

Data Science

- Data analysis is key to controls and predictive models

Behavioural Finance

- Can actuaries own this space?

Building Business Knowledge

- Few actuaries have the necessary business knowledge to give personal financial advice
- But we are good learners!

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Summing-up

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Summing-up

- Customers need advice more now than ever
- Great opportunity in the market
- But it is harder than it looks
- Actuaries have the skills to create the solution
- Machines and humans need to work together
- Digital advice is the future
- Actuaries are perfectly placed to be part of the revolution!

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Questions

Comments

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