

**SURVIVE THRIVE**



# Natural Selection

**Financial Services Forum**

---

21-22 May 2018 • Hilton Sydney





# Artificial Intelligence & Big Data – Delivering the Promise

**Paul Caputo and James Wu**

© 2018 Willis Towers Watson

*This presentation has been prepared for the Actuaries Institute 2018 Financial Services Forum.  
The Institute Council wishes it to be understood that opinions put forward herein are not necessarily those of the  
Institute and the Council is not responsible for those opinions.*

# An uncertain future

Peer to peer and other distribution channels

**Super abundant capital**

Digital markets      Fractional Ownership      **AI**

Individualism      Virtual world

Changes in the nature of traditional risks      *Migration*

*Regulatory Pressures*      Value Chain Compression

Rise of generation **X** and **Y**

**Finite resources**      Growing population

Customer Expectations      Shareholder Expectations

Ageing population      **Government**



# Three key global trends affecting the insurance industry in the next 5 years



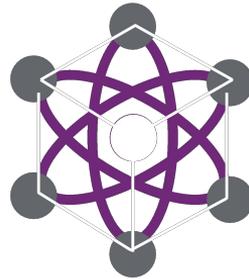
**1**

**Demographic risk**



**2**

**Transformation of  
risk**



**3**

**Acceleration in  
#insurtech and  
technology**



# #1 Demographic risk

1 in 3

2030



2

2030



2.5:1

2061



40%



75%



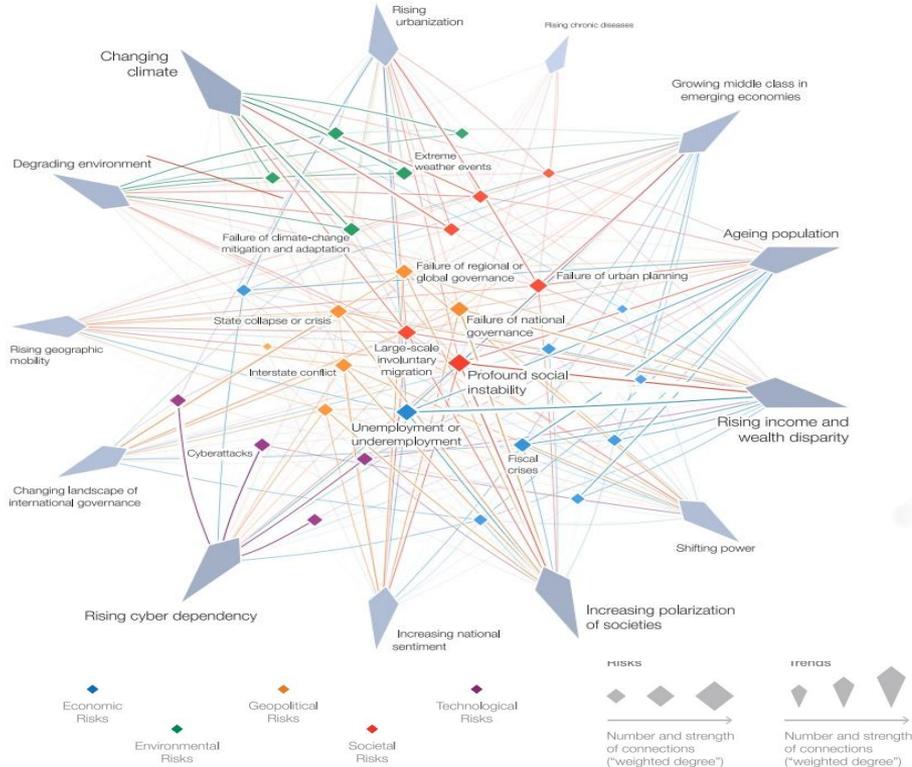
2025

60%

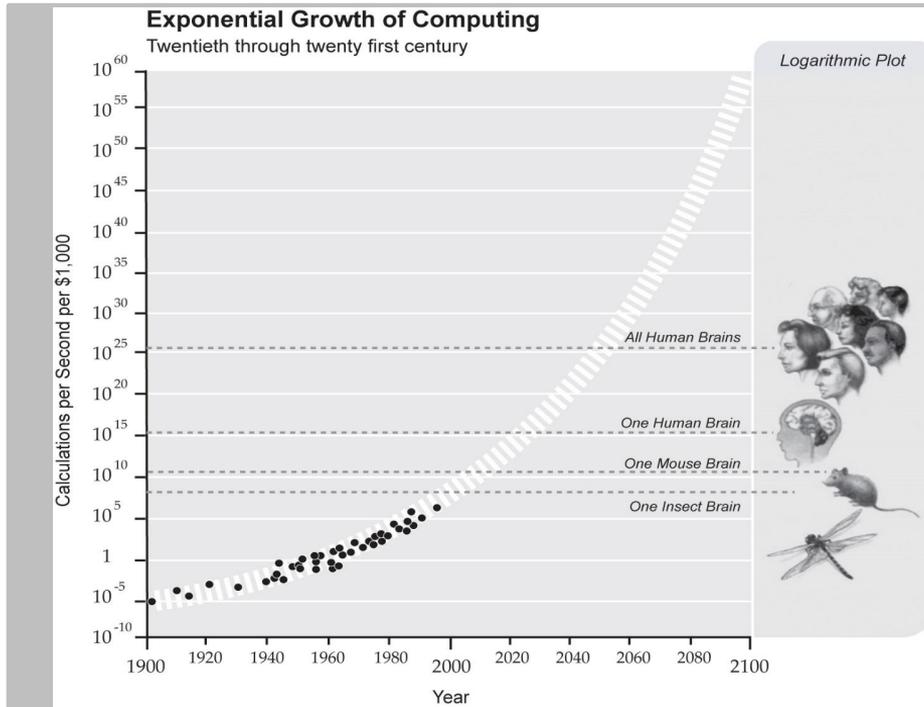
2020



# #2 Transformation of Risk



# #3 Acceleration in #insurtech and technology



-  Artificial Intelligence
-  Blockchain
-  Internet of Things
-  Next Gen Big Data & Analytics
-  The Sharing Economy
-  Social media and network economics

Source: Kurzweil Accelerating Intelligence - <http://www.kurzweilai.net/the-law-of-accelerating-returns>

Copyright (C) Raymond Kurzweil 2001

# Which road will we choose?



# The Competitive Landscape has many positives...

Strong Customer base, and  
loyalty (or inertia!) is high

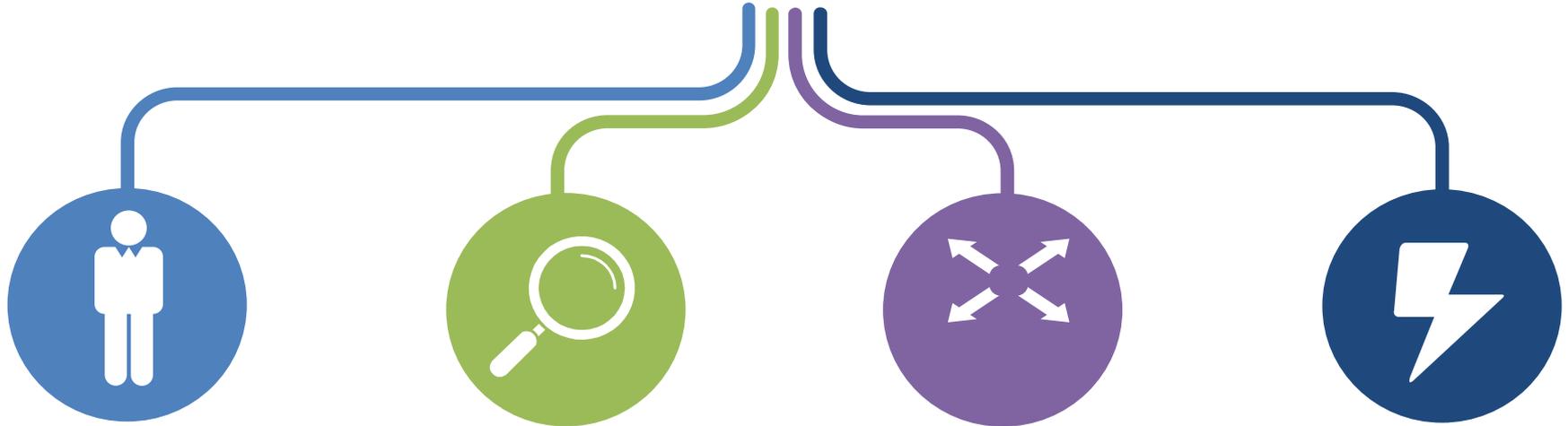


Insurers possess  
many difficult to  
replicate building  
blocks

Relatively  
benign  
competitive  
forces...  
so far



# So why are we not all feeling smug...



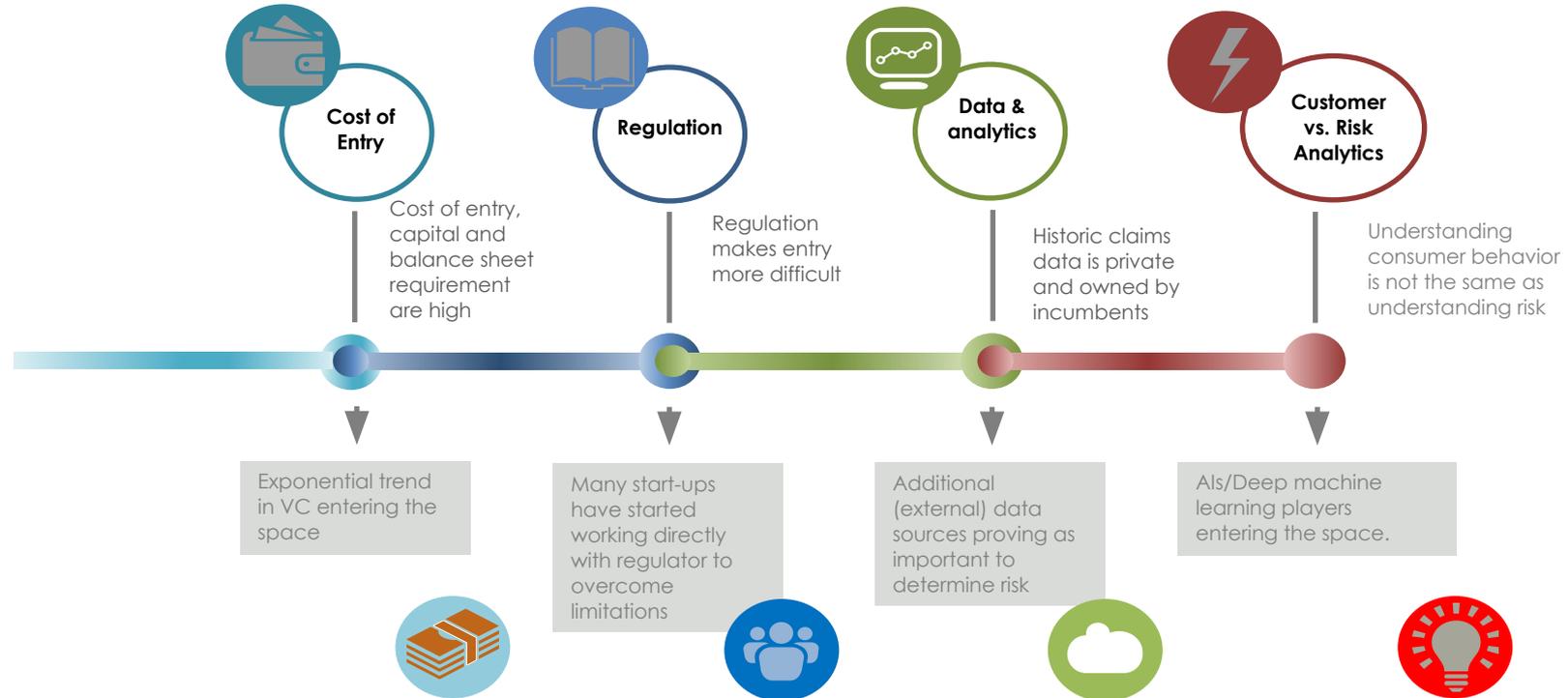
Inert customers  
(that we don't really  
know?)

Legacy  
distractions

Sources of historic  
differentiation  
under attack

Threat that  
external forces  
are heating up

# Why haven't we seen more new entrants and disruption (yet)?





# Willis Towers Watson Advanced Analytics Survey

## How AI and machine learning will streamline processes

Top applications insurers plan to use two years from now for artificial intelligence (AI) and machine learning

|  | Now | Two years |
|--|-----|-----------|
| Reduce time spent by humans                      | 8%  | 49%       |
| Identify high-risk cases                         | 10% | 45%       |
| Build risk models for better decision making     | 8%  | 45%       |
| Help humans identify appropriate risk attributes | 6%  | 43%       |
| Better understand risk drivers                   | 20% | 41%       |
| Identify patterns of fraudulent claims           | 6%  | 39%       |
| Augment human-performed underwriting             | 6%  | 37%       |

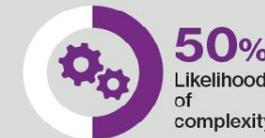


## How advanced analytics will transform claim management

Current and planned applications



Claim triage applications



# Breaking up the Value Chain



 Artificial Intelligence

 Next Gen Big Data & Analytics

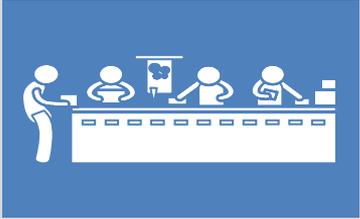
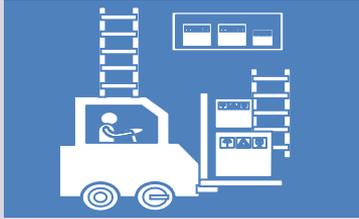
 Internet of Things

 Blockchain

 The Sharing Economy

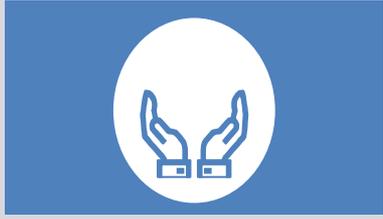
 Social media and network economics

Underwriting      Claims



Efficiency, customer experience and claims management

Customer Loyalty



Retention & cross sell

Customer Acquisition



 Bespoke product and pricing

# Barriers/excuses



# Barriers/excuses



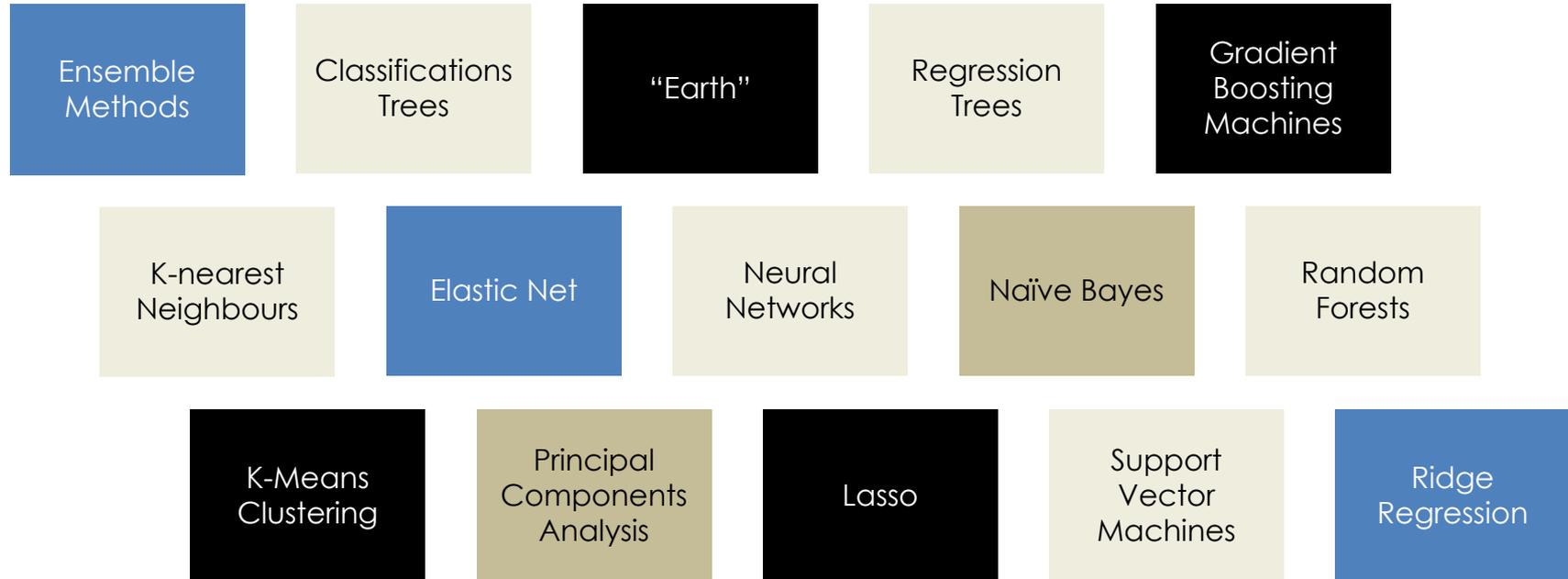
## Barriers/excuses



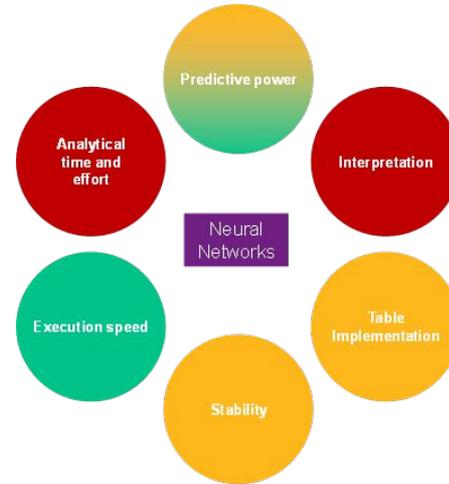




# Background to Machine Learning - Many methods



# How much value do Machine Learning Techniques bring?

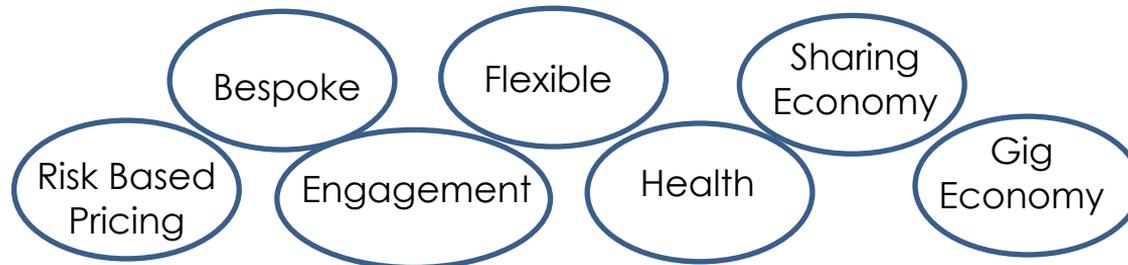




# Our Customer...How will this change over time?



# What could the products of the future look like?



# Product innovation

## Targeting and segmentation as the population changes



- *“Innovative algorithmic pricing and robo-underwriting approach designed to deliver affordable and fast cover to Type 1 and Type 2 diabetics who actively manage their health.*
  - *If the diabetes improves and we have annual blood tests the premium can go down by up to 40%.*
  - *Clients have access to the helping hand service with access to a specialist diabetes nurse for support and advice.”*
- Diabetics in 2015:
    - 1.2 million adults in Australia (under-reported) – 4.7% of population
    - Incidence has tripled over last 25 years
  - Diabetes prevalence continues to increase – ~10% of Australian population expected to be diabetic by 2035
  - Health profile of diabetics is completely different from average population

# Product innovation

## AIA Vitality Active Benefits

About   **Need to Know**   Get Started



AIA Vitality Active Benefits is about encouraging regular physical activity as we all need a little extra motivation sometimes to get up and active. AIA Vitality will set a weekly, personalised Active Benefits target, based on your current activity levels.

You'll earn a \$5 voucher each week when you achieve your target AIA Vitality points for engaging in physical activity.

You can choose between Boost Juice, HOYTS, iTunes, Woolworths, or you can choose to donate your \$5 voucher to one of three Australian charities; Black Dog Institute, Cancer Council Australia and Diabetes Australia, via the AIA Vitality mobile app.

**Influencing and  
rewarding positive  
behaviour**

# Product innovation

Helping people save

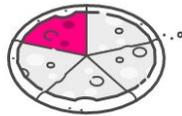
**“INVEST YOUR SPARE  
CHANGE”**

# Product innovation

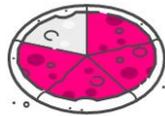
## Changing perceptions about insurance

### How Lemonade Works

Lemonade reverses the traditional insurance model. We treat the premiums you pay as if it's your money, not ours. With Lemonade, everything becomes simple and transparent. We take a flat fee, pay claims super fast, and give back what's left to causes you care about.\*



A transparent 20% fee to run everything



We pay claims super fast



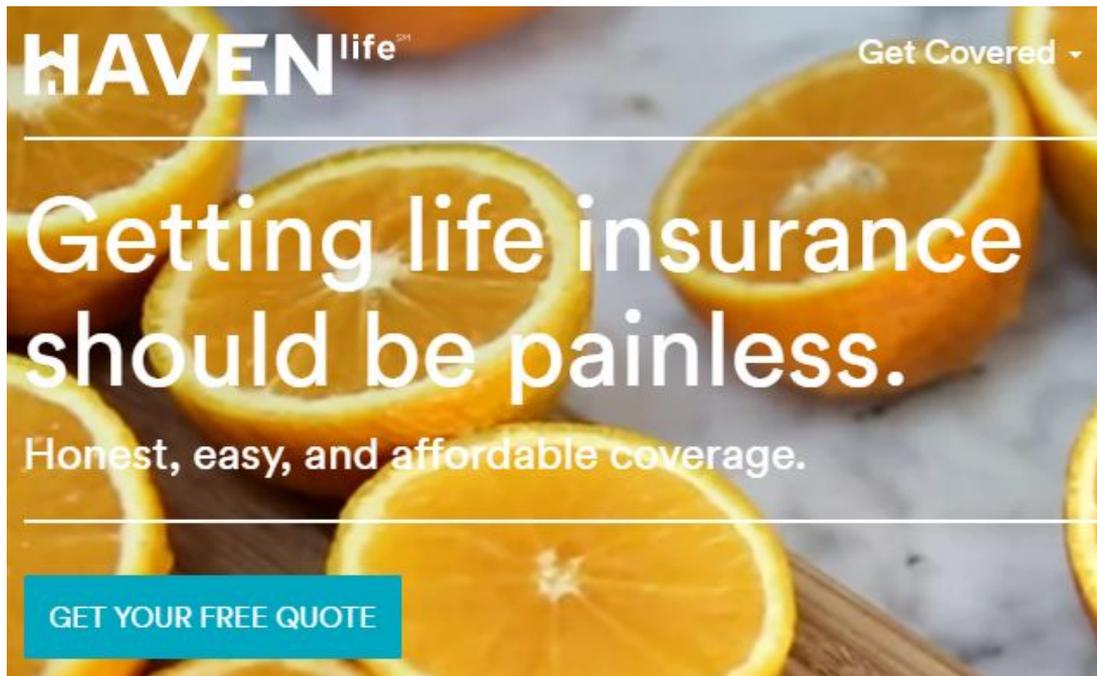
If there's money leftover, we give it back to causes

**“WE TREAT THE  
PREMIUMS AS IF IT’S  
YOUR MONEY”**

# Product innovation

Changing perceptions about insurance

“GETTING  
LIFE  
INSURANCE  
SHOULD BE  
PAINLESS”



**HAVEN**life<sup>SM</sup> Get Covered ▾

Getting life insurance  
should be painless.

Honest, easy, and affordable coverage.

[GET YOUR FREE QUOTE](#)

# Product innovation

Changing perceptions about insurance

“THINKING LIKE A  
CUSTOMER ”

The word "Slice" is written in a black, cursive script font, centered within a light blue rectangular background.

# So what should we be doing?

1



Clarity around the big questions...

2



....but don't plant your feet - stay agile

3



Act NOW to embrace the changes required to remain fit to compete in 2023

## Act now...

- Many of the capabilities likely to be required tomorrow will take time to build.
- Need to act now to start the journey and many are no regret moves, for example:
  - Robust data collection
  - Organising and stocktaking of data sets
  - Data validation
  - Need for partnerships with data providers
  - Proofs of concept/ targeted investigations
- Levels of uncertainty require a more dynamic approach to monitoring competitor/market changes

“ “We always overestimate the change that will occur in the next two years and underestimate the change that will occur in the next ten. Don't let yourself be lulled into inaction.” ”



Bill Gates

# Questions

