




**Actuaries
Institute**

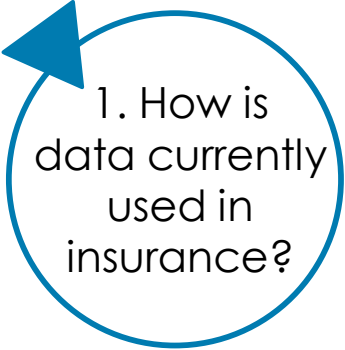
IMPACT OF BIG DATA ON THE FUTURE OF INSURANCE

Marc Mer, Kaise Stephan and Paul Swinhoe



The Impact of
Big Data on the
Future of Insurance
GREEN PAPER

Agenda

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1. How is data currently used in insurance?

A circular arrow icon with a grey outline and a grey arrowhead pointing clockwise.

2. Implications on society

A circular arrow icon with a yellow outline and a yellow arrowhead pointing clockwise.


3. Benefits to society

A circular arrow icon with a light blue outline and a light blue arrowhead pointing clockwise.

4. How might society be adversely impacted?

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5. Considerations for policymakers

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6. Considerations for insurers

Data in insurance today



Disclose all information that the insurer determines is relevant to pricing their risk

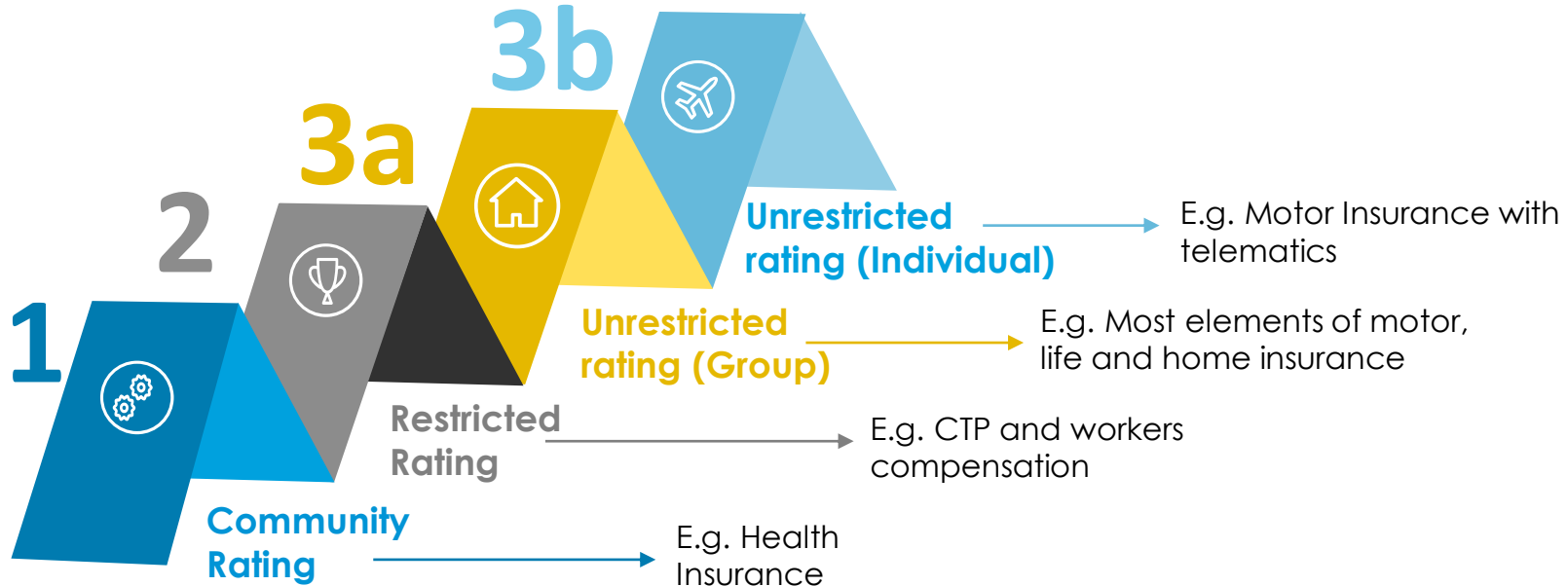


Insurers rely on data to identify the relevant pricing factors



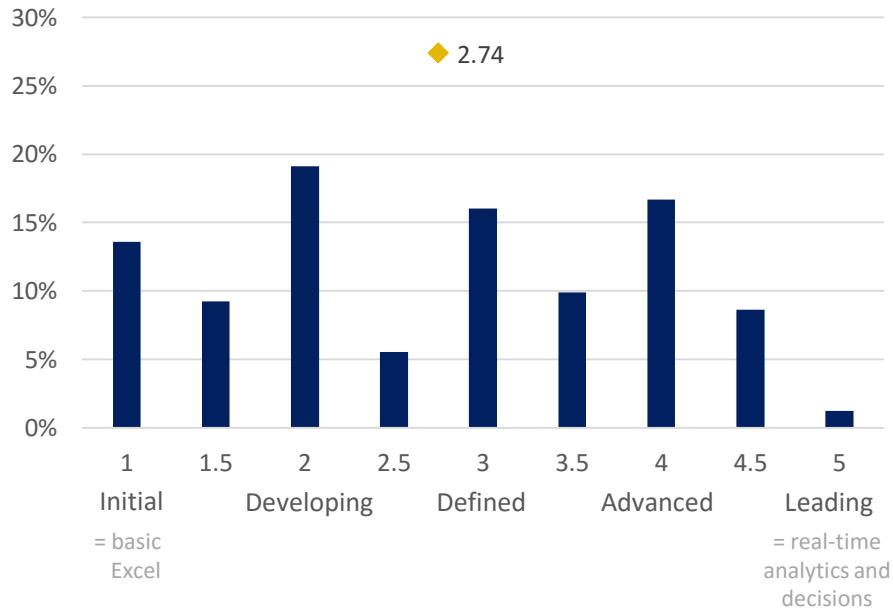
Many other areas where insurers use data e.g. marketing, analytics, valuations, etc

Levels of Pricing Freedom

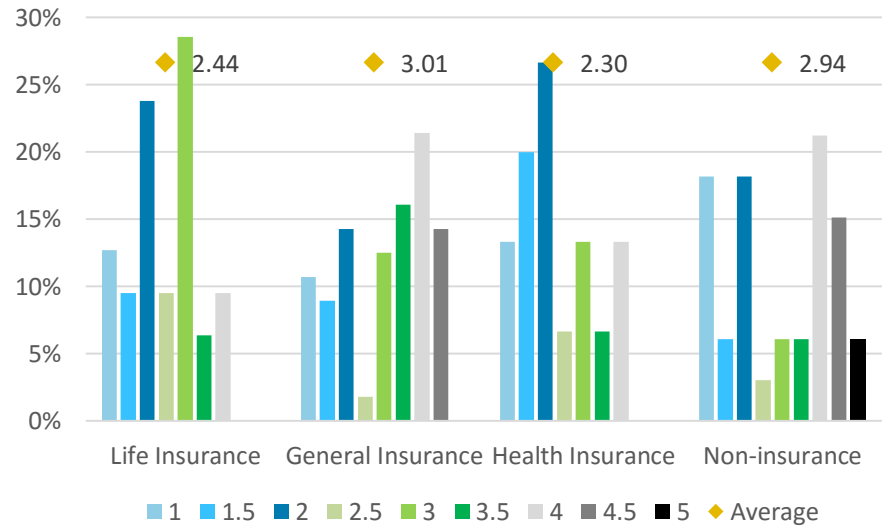


Where are you now?

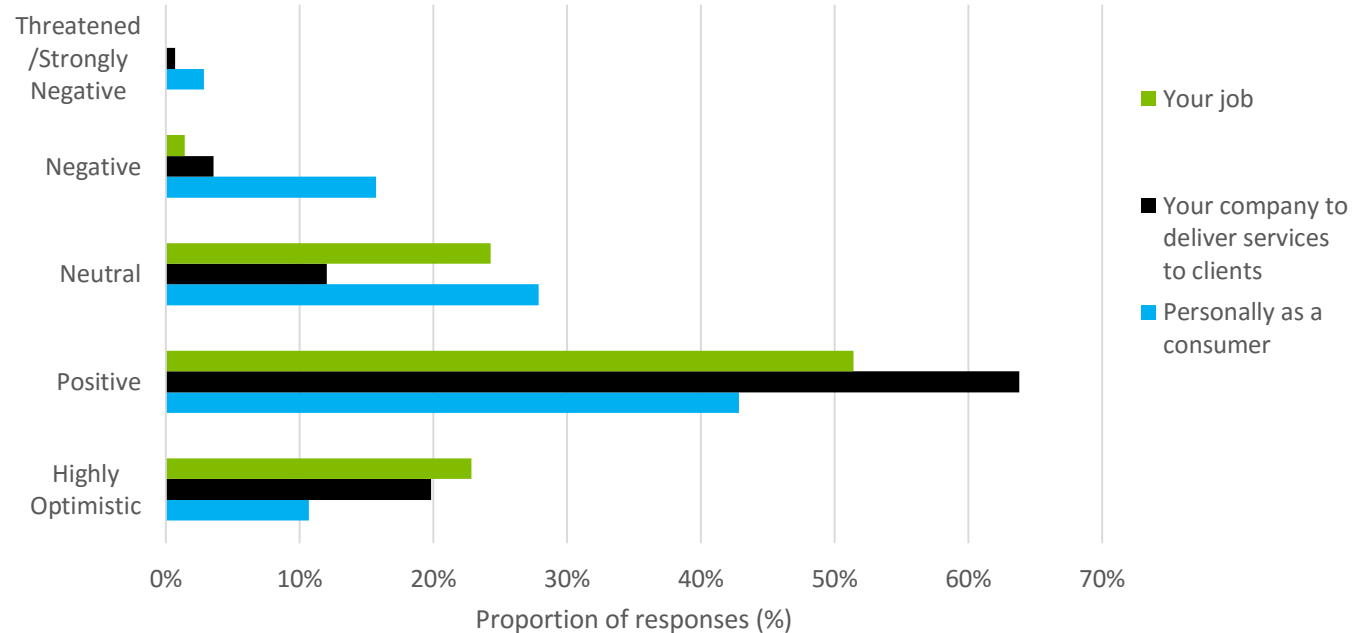
Overall



By insurer



How do you feel about the prospects of big data?



What are the implications on society?



- Better Risk Signalling
 - Insurers can take a proactive role to reduce risk rather than be reactive
 - Develop services around risk reduction



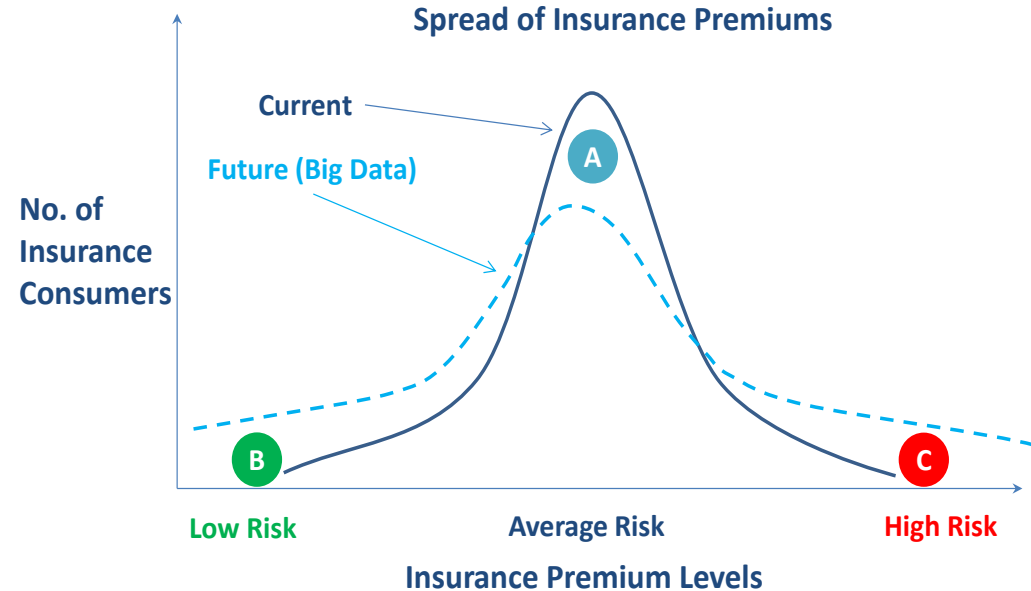
- Greater Premium Dispersion
 - Allows insurers to price at granular levels
 - Less element of cross-subsidy



- Privacy Considerations



- Risk Pooling still Relevant



Is it inevitable that insurers will use big data?



Implications
on society



1

Competitive Advantage



2

Lack of Information

How might society benefit?



Driving Habits



1 They fit a clever little device into your car



2 The device measures how well you drive



3 View feedback on how you're driving



4 Good drivers could save money on their car insurance



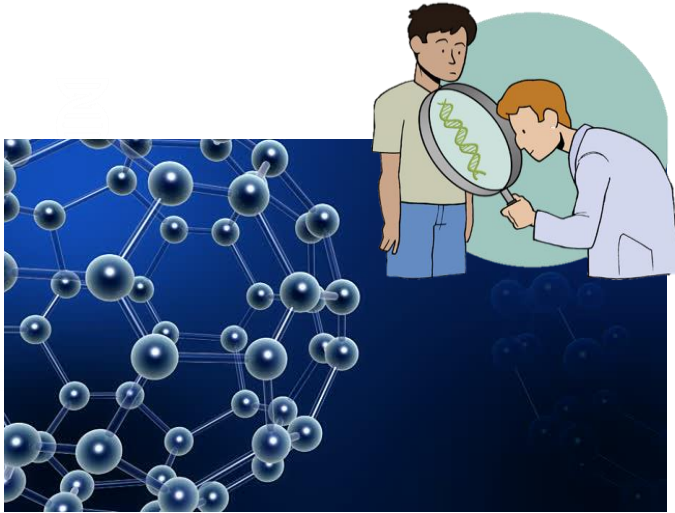
Health and Lifestyle information



How might society benefit?



**Improved Genetic
Information**



**Connected
Homes and IoT**



How might society benefit?

Near Future



How might society be adversely impacted?

How might society be adversely impacted?



01 Unaffordable insurance



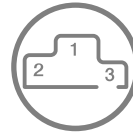
02 Privacy concerns



03 "Fair" premium becomes undesirable?

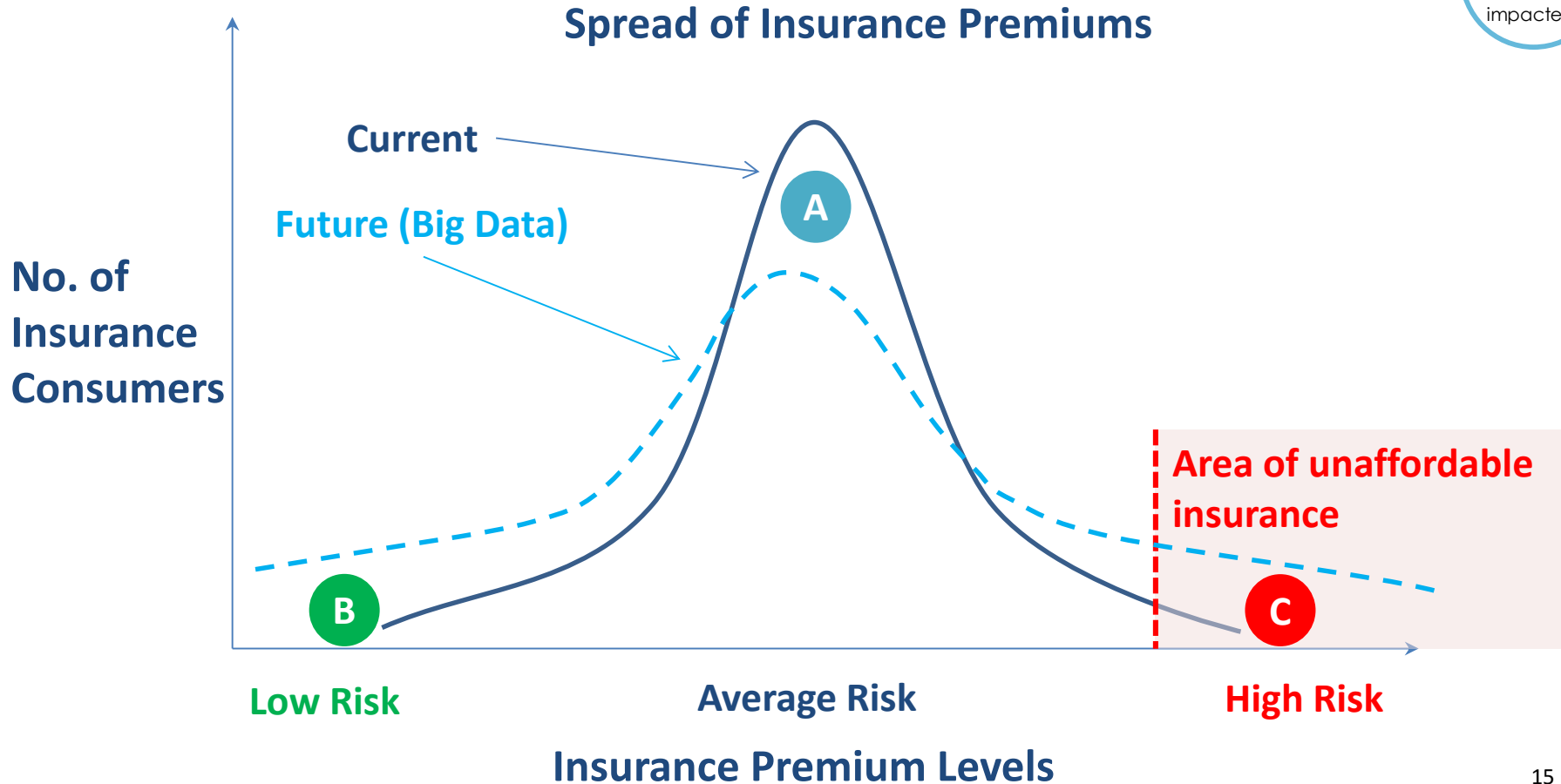


04 Risk Signalling

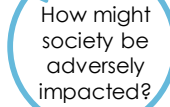


05 Competition

How might society be adversely impacted?



How might society be adversely impacted?



How might society be adversely impacted?



01 Unaffordable insurance



02 Privacy concerns



03 "Fair" premium becomes undesirable?



04 Risk Signalling



05 Competition

How might society be adversely impacted?

How might society be adversely impacted?



01 Unaffordable insurance



02 Privacy concerns



03 "Fair" premium becomes undesirable?



04 Risk Signalling



05 Competition

“Given insurers’ increasing ability to accurately price risks, do we want to charge individuals the price that reflects their risk level or do we want to ensure that everyone has access to affordable insurance?”

How do you interpret a "fair premium"?

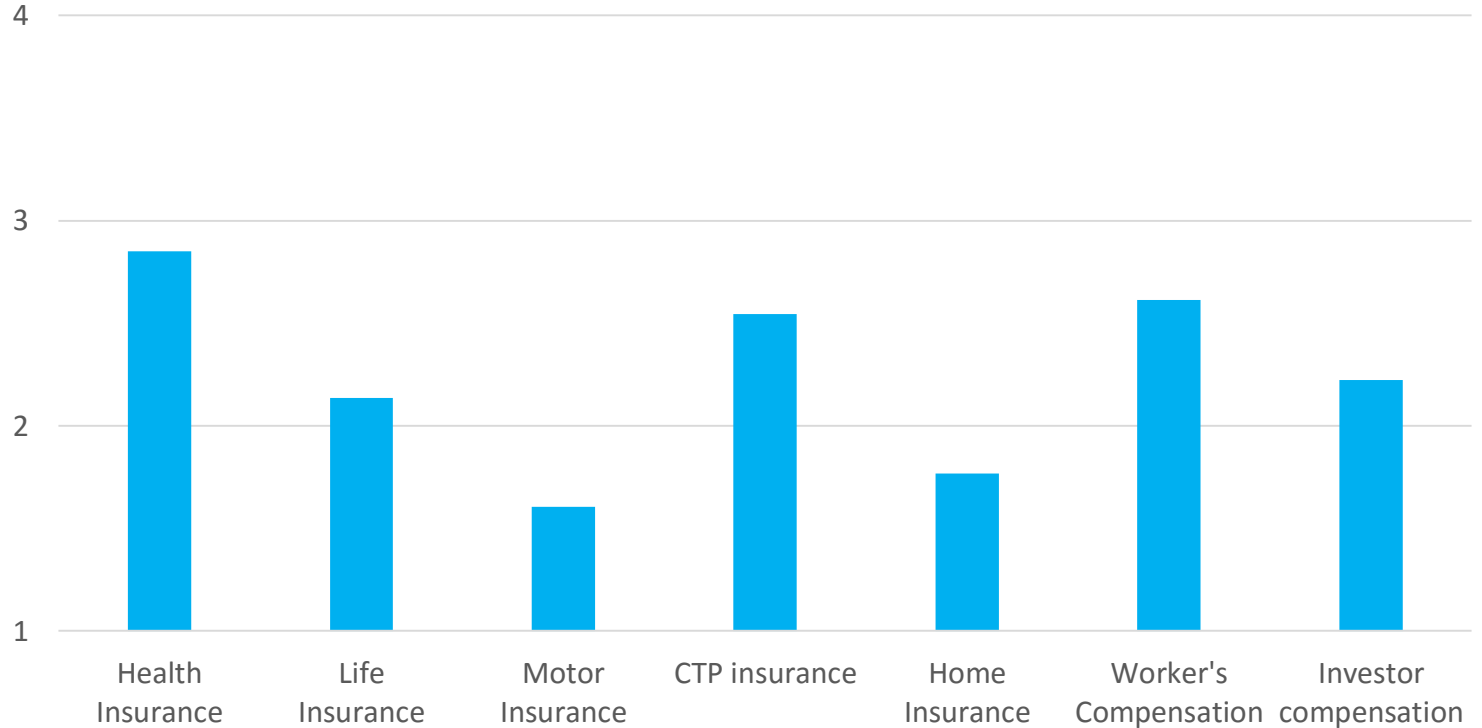
How might society be adversely impacted?

Pooled: Everyone has access to insurance (at an affordable level)

Combination of both, but leaning more towards pooled

Combination of both, but leaning more towards personalised

Personalised: An individual's risk is accurately reflected in their premium



How might society be adversely impacted?

How might society be adversely impacted?



01 Unaffordable insurance



02 Privacy concerns



03 "Fair" premium becomes undesirable?

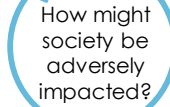


04 Risk Signalling



05 Competition

How might society be adversely impacted?



How might society be adversely impacted?



01 Unaffordable insurance



02 Privacy concerns



03 "Fair" premium becomes undesirable?



04 Risk Signalling



05 Competition

Considerations for Policymakers



01 Unaffordable insurance

- Cap insurance premiums
- Risk sharing mechanisms
- Government to be “insurer of last resort”



02 Privacy Concerns

Consider:

- What restrictions should be placed on what an insurer may seek
- What responsibilities to place on insurers
- Right of insured to understand whether their social network footprint or internet browsing history being used

Considerations for Policymakers (Cont'd)



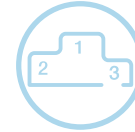
03 “Fair” Premium becomes undesirable?

- Prevent insurance pricing reflecting uncontrollable risk factors



04 “Risk signalling”

- Consider insurer’s responsibility to share knowledge of risk with consumer

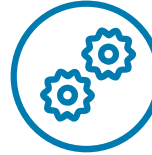


05 Competition

- Review benefits and costs of increasing data availability and improving data use
- Consider ways to improve individuals’ ability to access their own data

Considerations for Insurers

Enhancing Business Processes



Deepening Customer Relationships

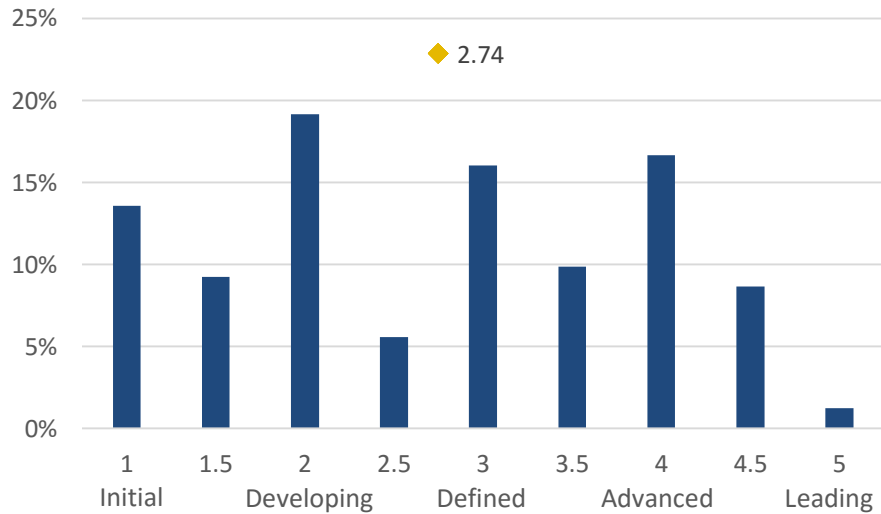


Improved Management of an Insurance Portfolio

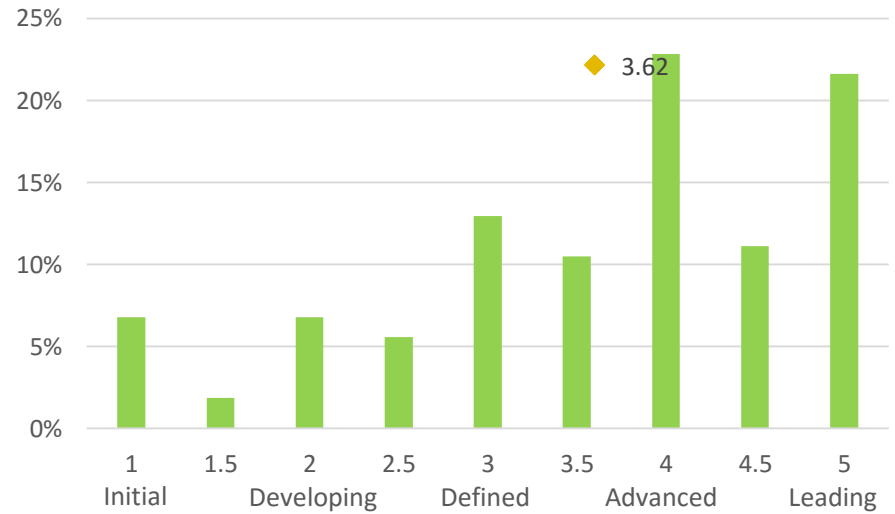


Where do you see yourself in two years?

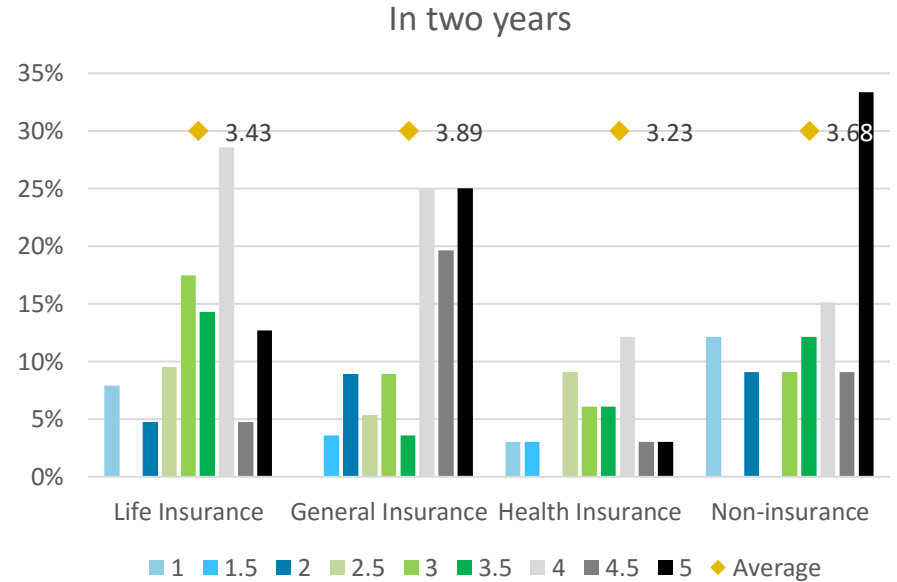
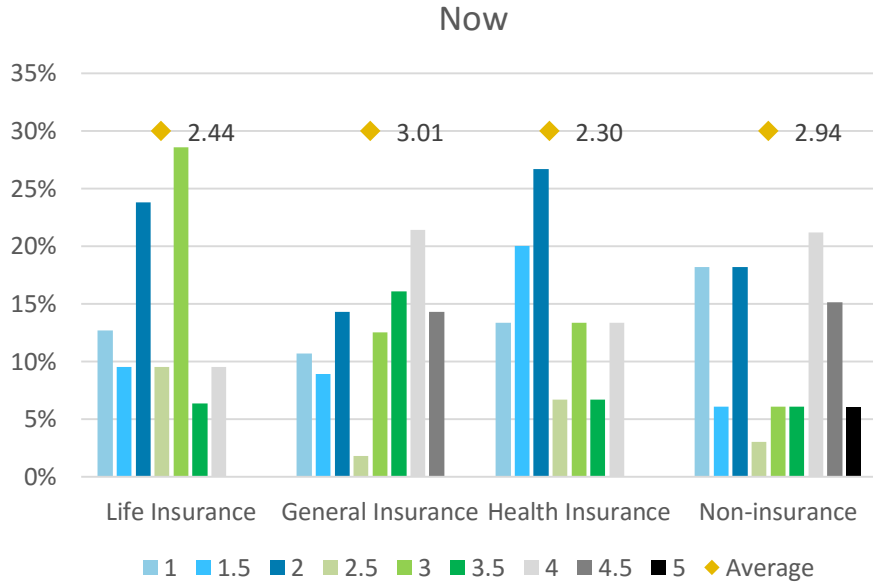
Now



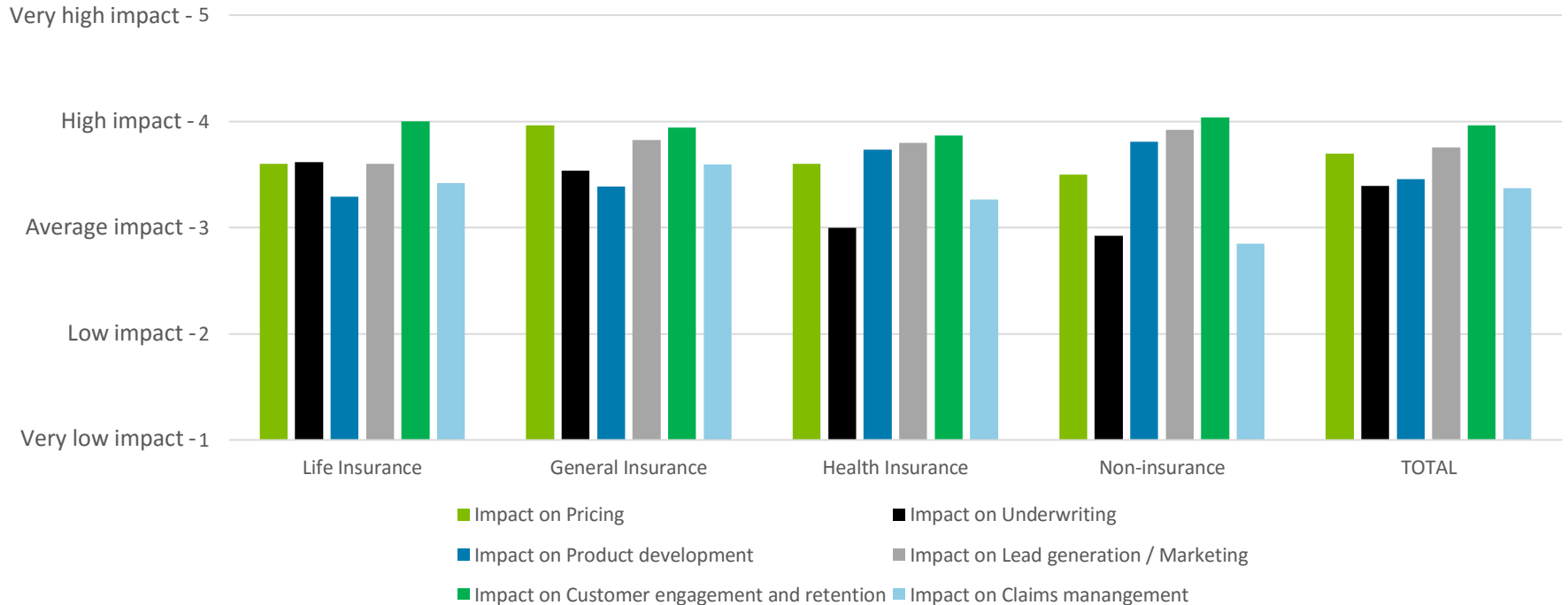
In two years



Where do you see yourself in two years?



In which area do you believe the analysis of big data would be most impactful?



Discussion



Thank you!

Author contact details:



Paul Swinhoe
pswinhoe@deloitte.com.au



Alan Merten
almerten@deloitte.com.au



Kaise Stephan
kstephan@deloitte.com.au



Marc Mer
mmer@deloitte.com.au

