

Predictive Analytics in the Insurance Value Chain

Presentation by Sagar Sahay

Munich Re

Embracing Challenges for Growth and Opportunities

58th Annual Convention of the Actuarial Society of the Philippines



Agenda



Background and introduction of predictive analytics



Insurance value chain and where predictive analytics fits in



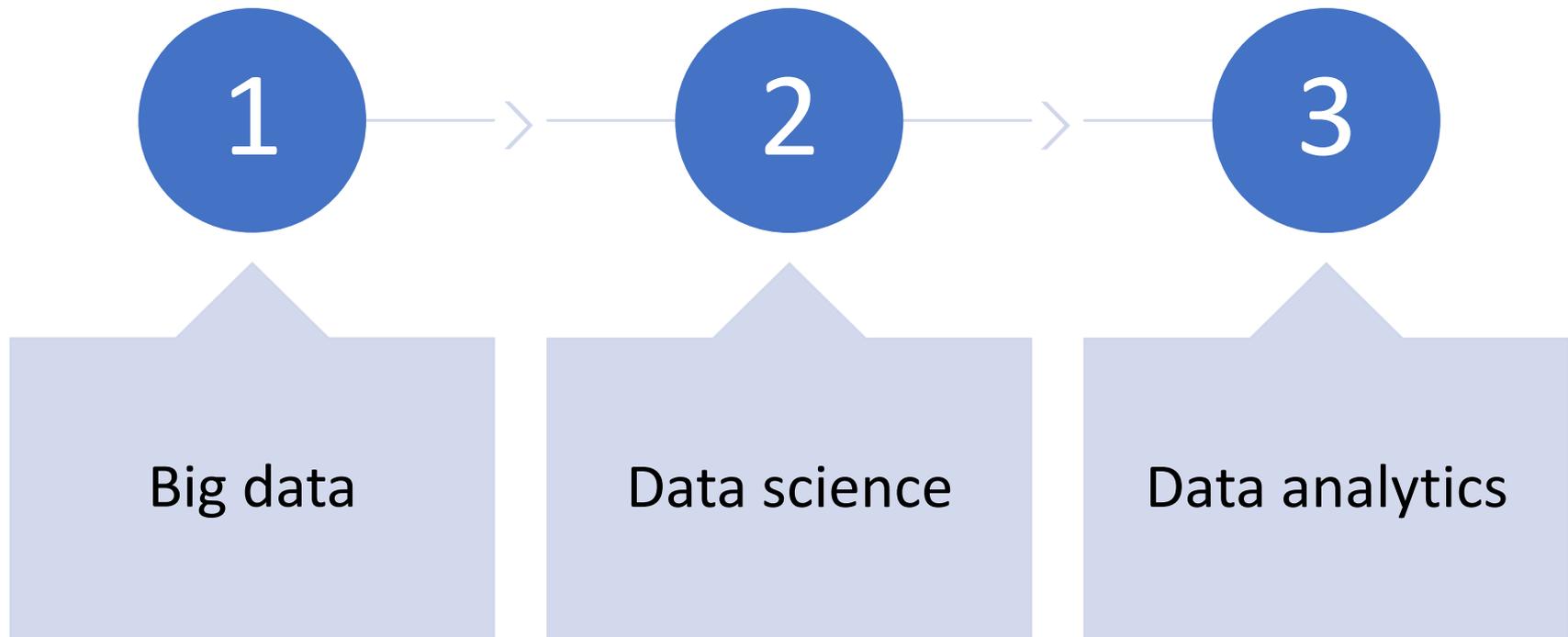
Sample analytics

Embracing Challenges for Growth and Opportunities

58th Annual Convention of the Actuarial Society of the Philippines



Difference between Big Data, Data Science and Data Analytics



Embracing Challenges for Growth and Opportunities

58th Annual Convention of the Actuarial Society of the Philippines



...well then
what *is*
Predictive
Analytics

Data analytics flows into
descriptive analytics and
predictive analytics

Descriptive analytics –
considers current situation of
the business

Predictive analytics – considers
historical and current trends
and attempts to make
predictions about the future

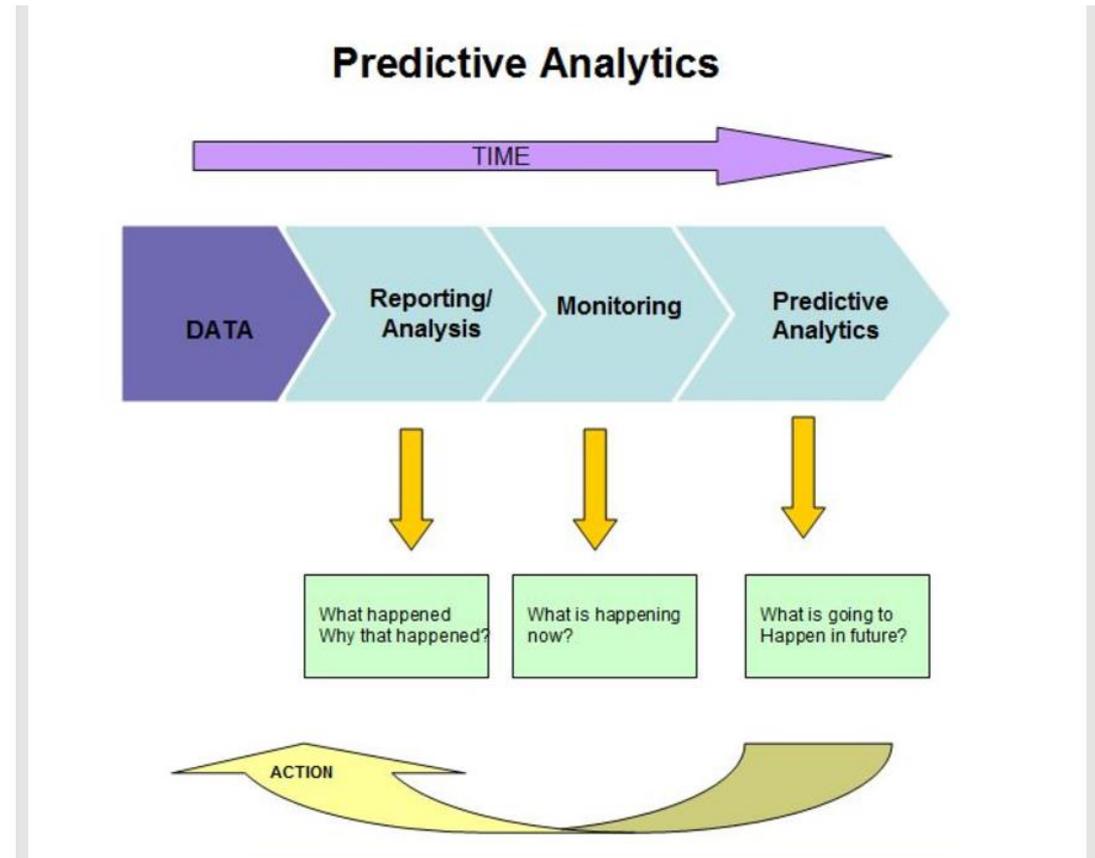
Embracing Challenges for Growth and Opportunities

58th Annual Convention of the Actuarial Society of the Philippines



Predictive analytics value chain

- Reporting/analysis is what we have defined as descriptive analysis
- Monitoring is part of predictive analysis – the current trends
- Predictive analytics is about predicting the future trends and taking the appropriate action.

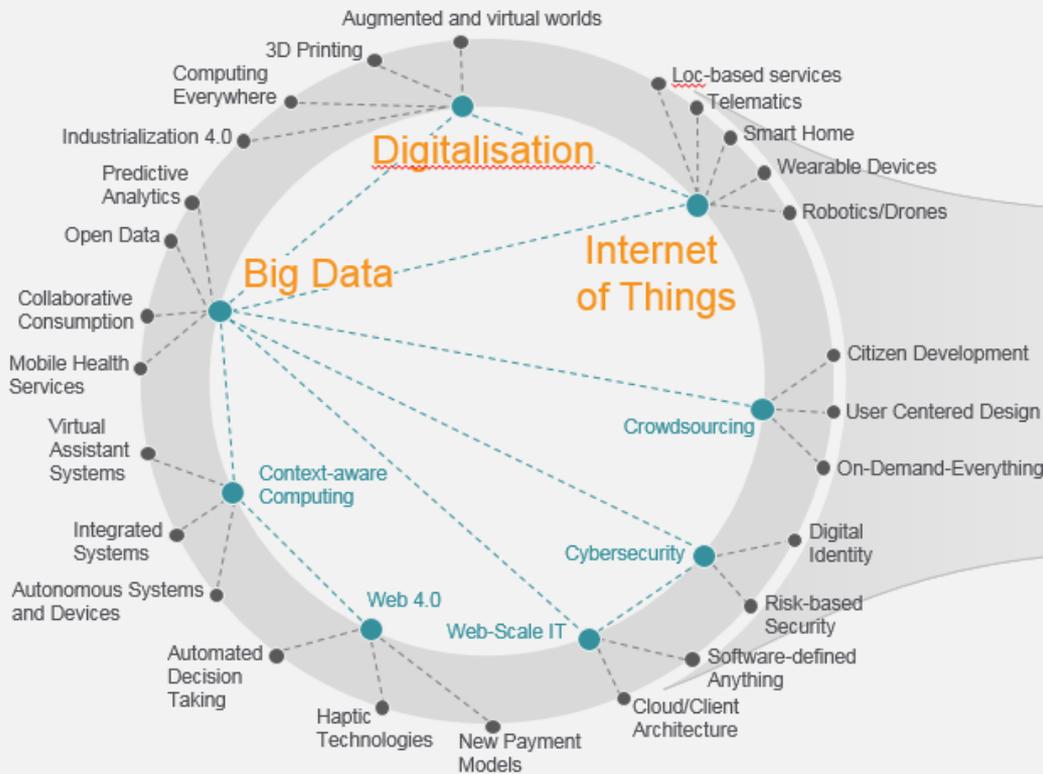


Embracing Challenges for Growth and Opportunities

58th Annual Convention of the Actuarial Society of the Philippines



Why predictive analytics?



Big Data

+ Digitalisation

+ Internet Of Things

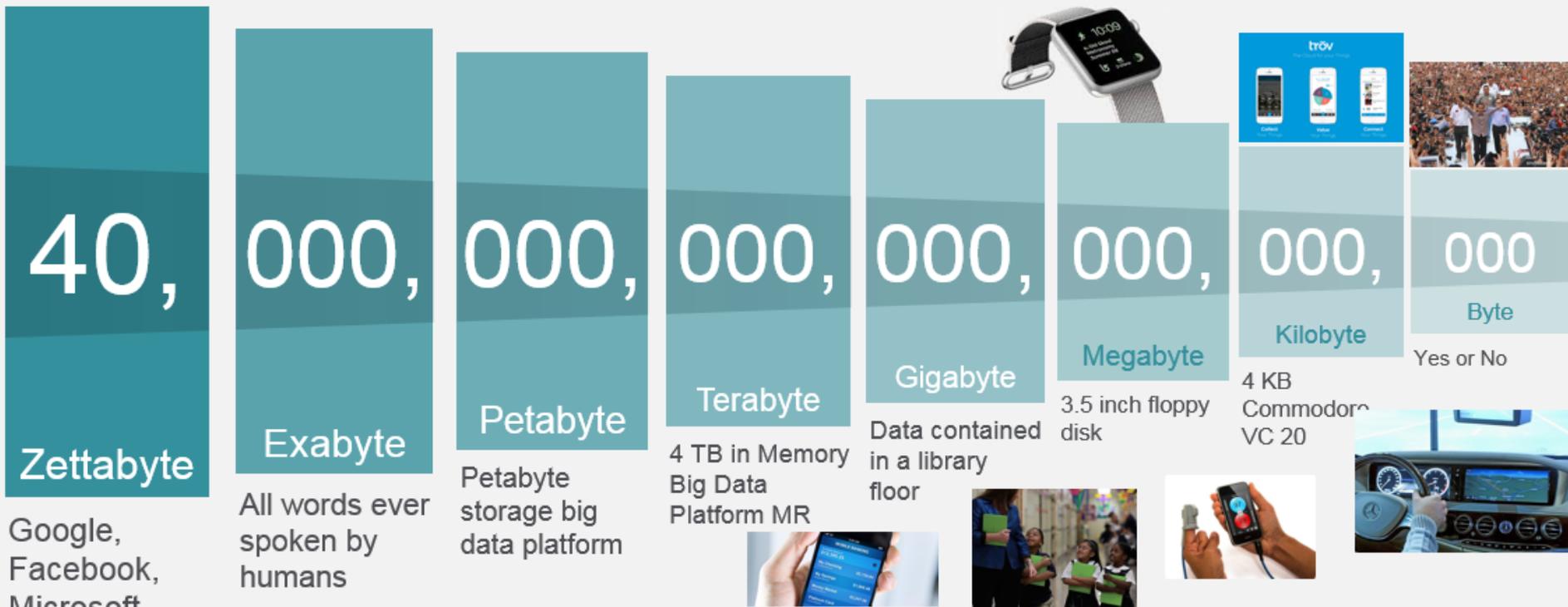
= Core drivers of global trends

Embracing Challenges for Growth and Opportunities

58th Annual Convention of the Actuarial Society of the Philippines



Big data is getting bigger and use cases more tangible



VAST AMOUNTS OF DATA IS GENERATED DAILY

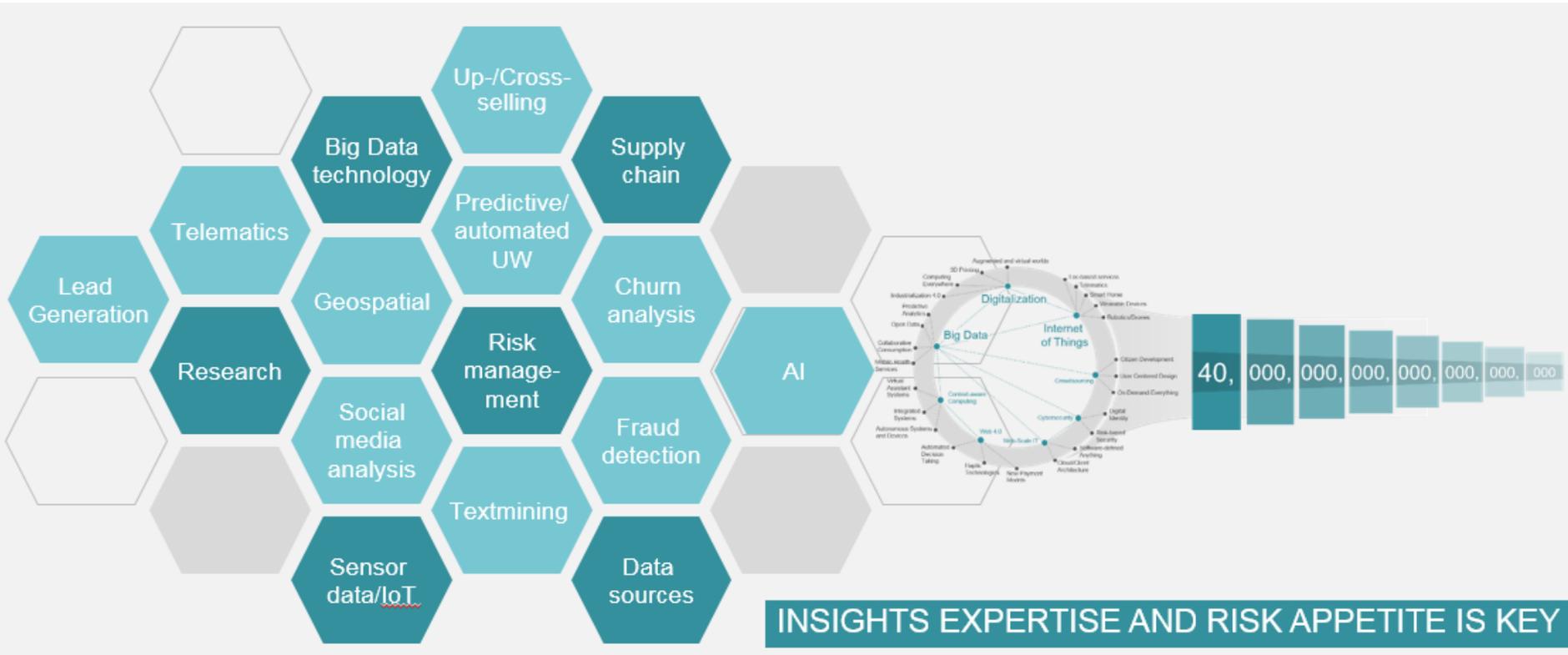
Source: IBM

Embracing Challenges for Growth and Opportunities

58th Annual Convention of the Actuarial Society of the Philippines



With ever-increasing potential applications



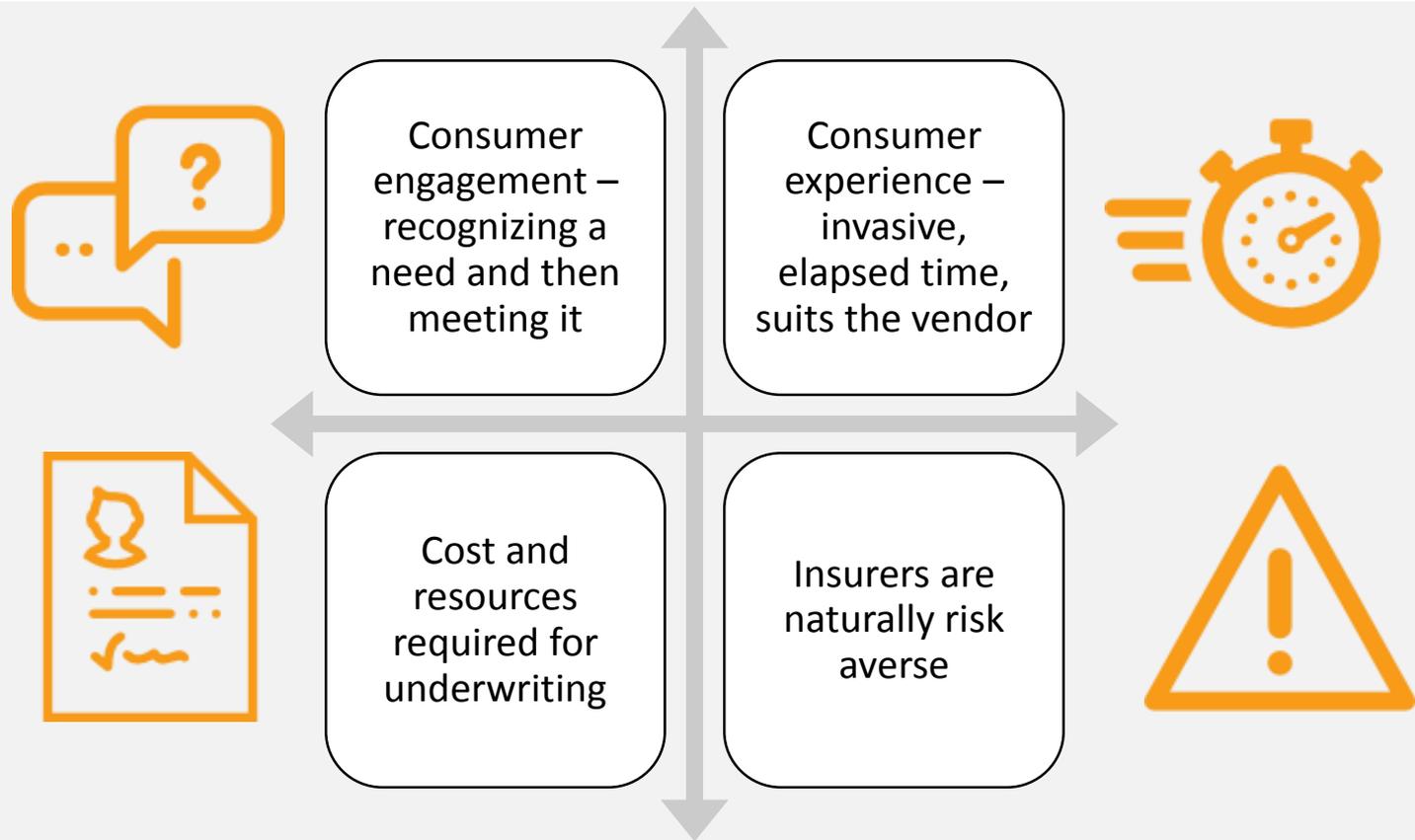
INSIGHTS EXPERTISE AND RISK APPETITE IS KEY

Embracing Challenges for Growth and Opportunities

58th Annual Convention of the Actuarial Society of the Philippines



Insurers' pain points



Embracing Challenges for Growth and Opportunities

58th Annual Convention of the Actuarial Society of the Philippines



A changing reality for insurers

Today's reality

- Ever-changing data formats require constant development and adoption
- New sources of data provide greater insights, might trigger new questions
- Smart data is connected to everything, changes customers' behaviour
- Data access and improved insights change the way we do business
- Technology, analytics methods and human skills are improving daily

What it means for insurers

- New data formats and sources create opportunities for differentiation
- Mobile phone data could show driver and driving behaviour, lead to different underwriting outcome
- Continuous increase in number of data sources imply need for constant algorithm development
- Increased need for closer collaboration across all business disciplines
- Insurance-specific know-how in a business development context needs to be developed

Embracing Challenges for Growth and Opportunities

58th Annual Convention of the Actuarial Society of the Philippines



AI and NLP

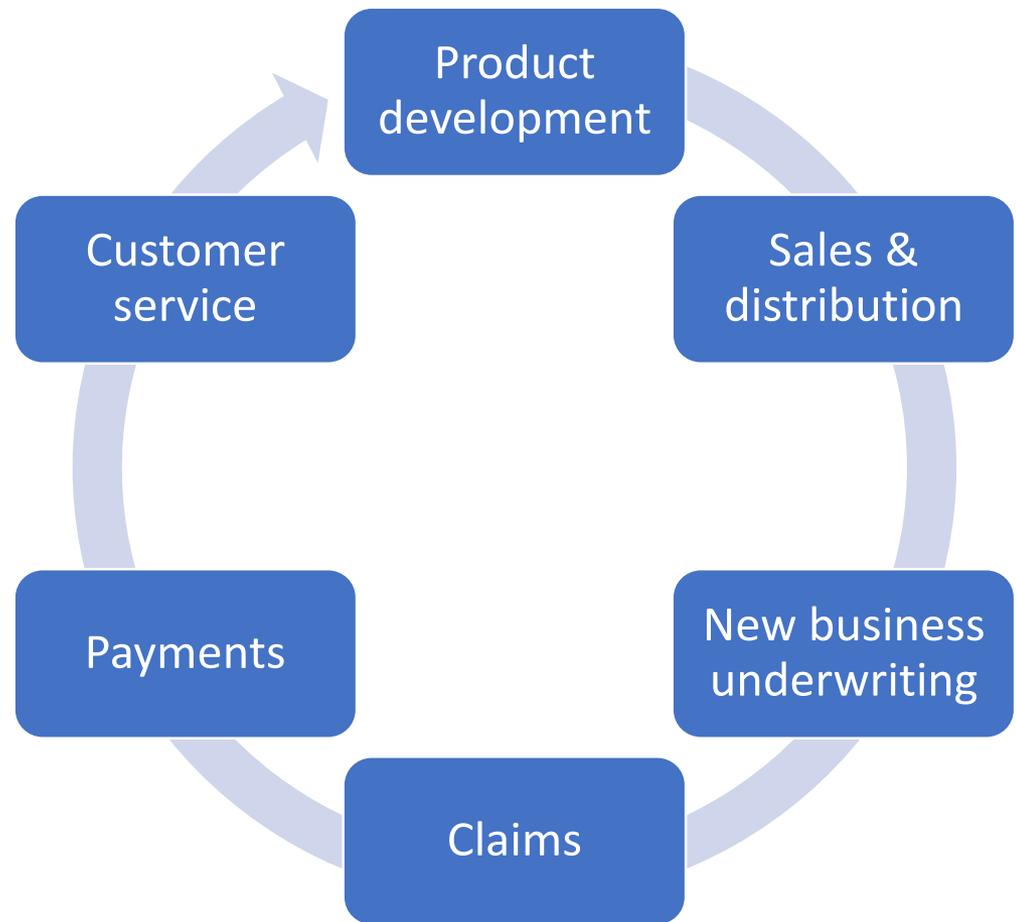
- Alexa
- Siri
- Watson
- Cortana
- Oh so many more!

Embracing Challenges for Growth and Opportunities

58th Annual Convention of the Actuarial Society of the Philippines



Insurance value chain

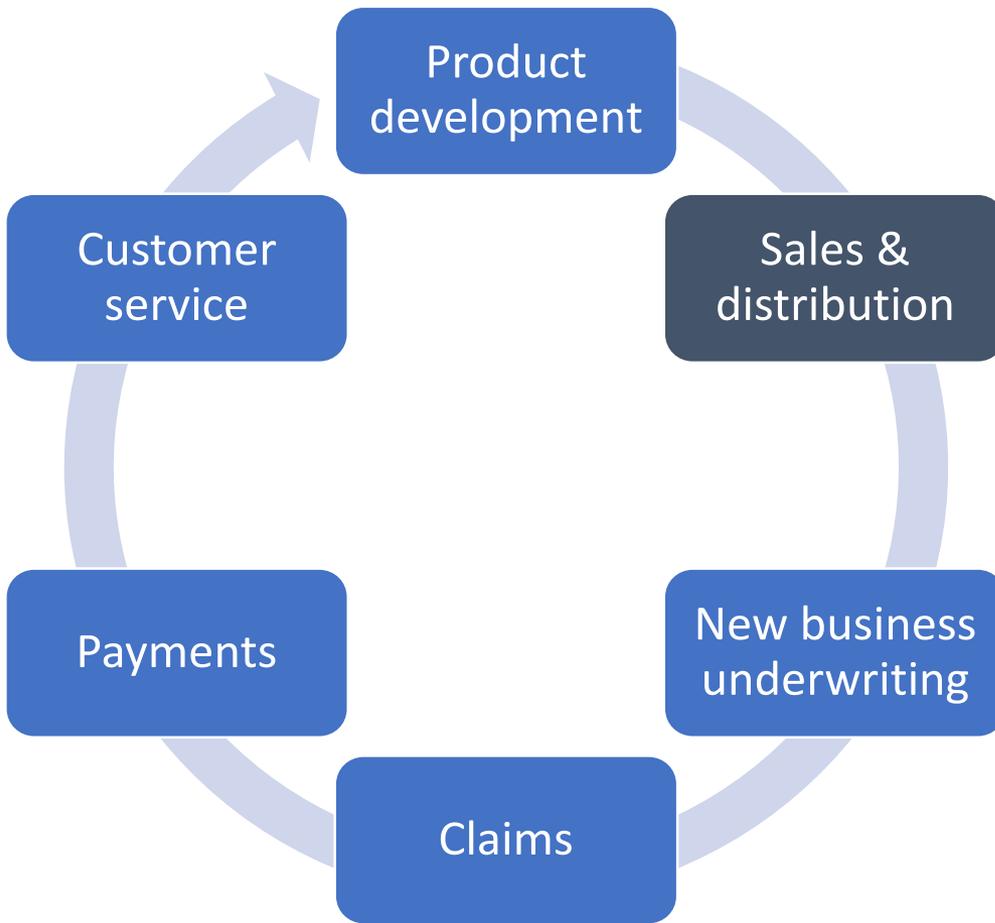


Embracing Challenges for Growth and Opportunities

58th Annual Convention of the Actuarial Society of the Philippines



Sales & distribution



What concrete **up-sell** opportunities exist in the current portfolio?

Which clients are most likely to take up **cross-sell** offers?

Which groups should we target for sales **campaigns**?

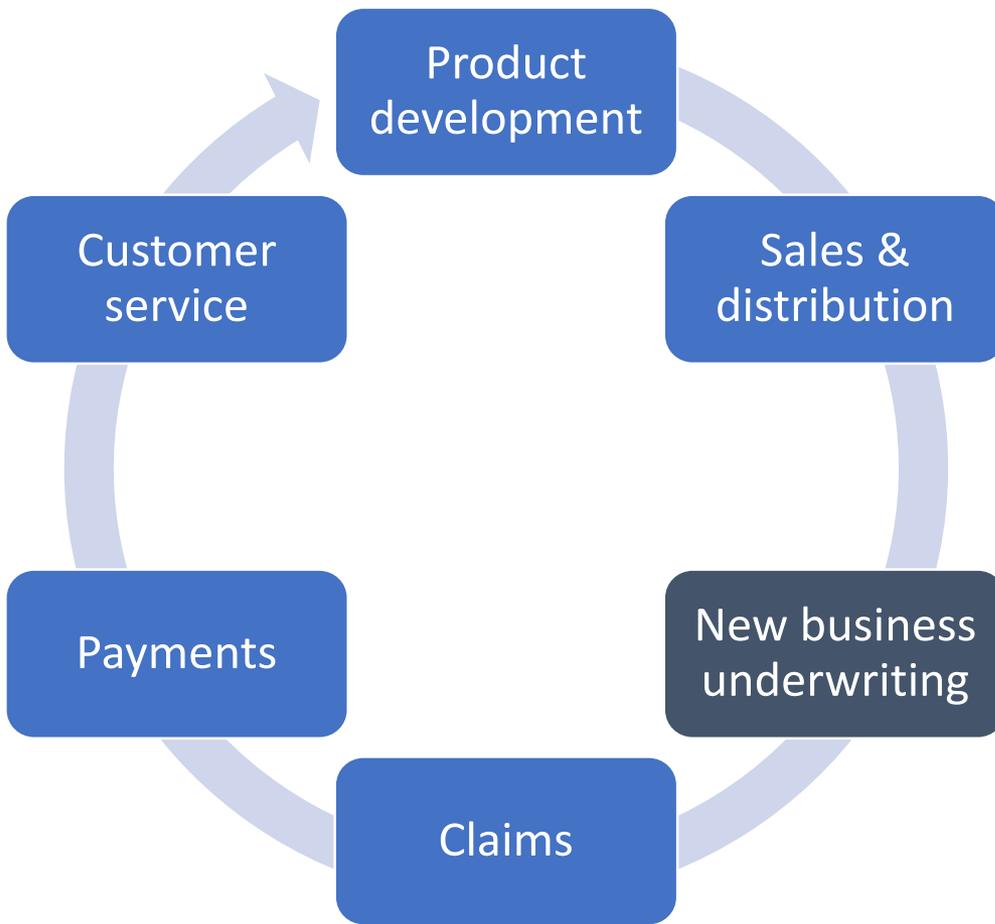
Which **distribution channel** is performing the best?

Embracing Challenges for Growth and Opportunities

58th Annual Convention of the Actuarial Society of the Philippines



New business underwriting



Are there any groups for which we can **simplify the underwriting process** (to improve customer experience)?

Can we reduce the need for medical exams (and the underwriting cost)?

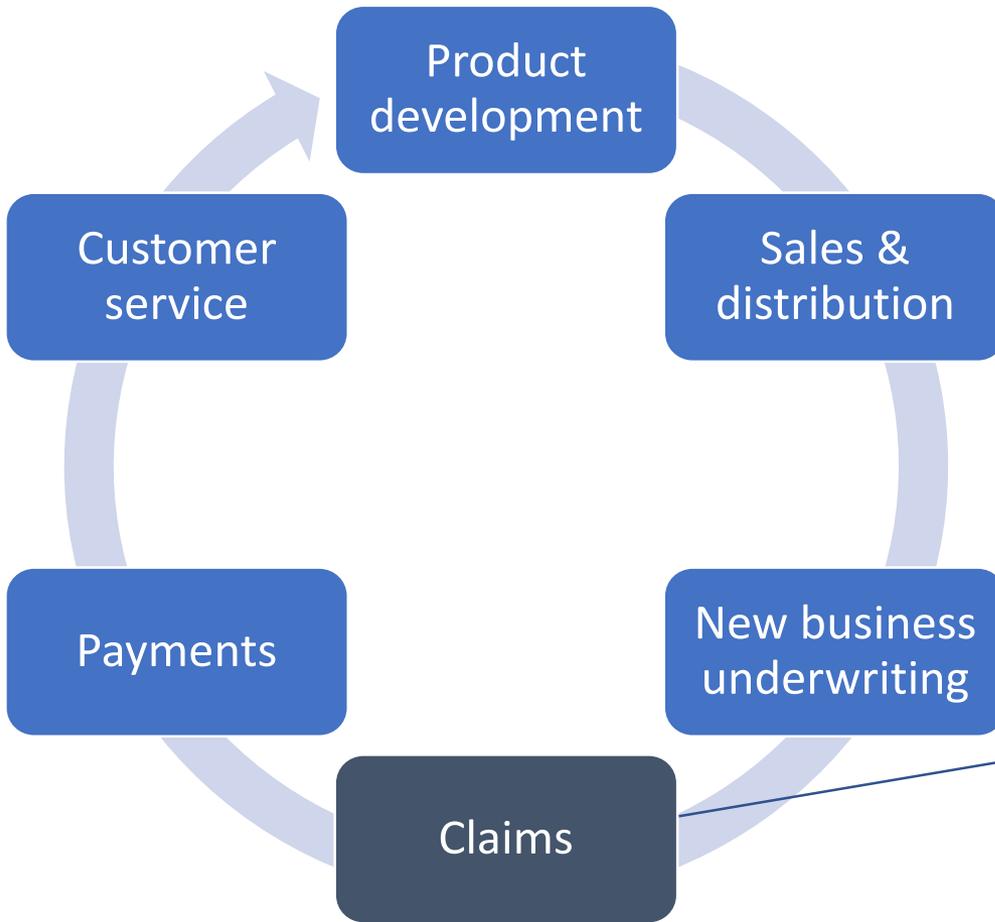
How can we use underwriting resources most effectively?

Embracing Challenges for Growth and Opportunities

58th Annual Convention of the Actuarial Society of the Philippines



Claims



How good is the risk selection process?

How can we streamline the claims process?

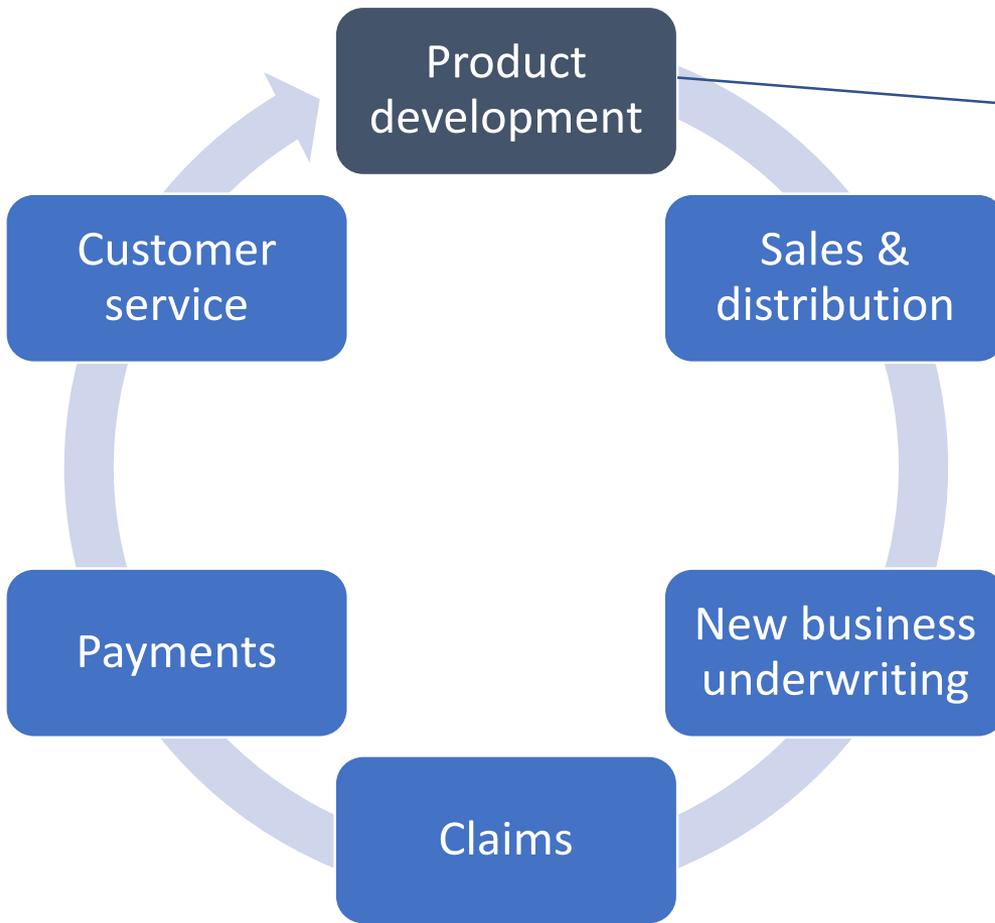
Which claimants should I prioritize for fraud investigation?

Embracing Challenges for Growth and Opportunities

58th Annual Convention of the Actuarial Society of the Philippines



Product development



Which product features appeal most to the target segment?

What are the risk drivers and how do they affect the current experience?

What pricing basis would be accurate for a new product?

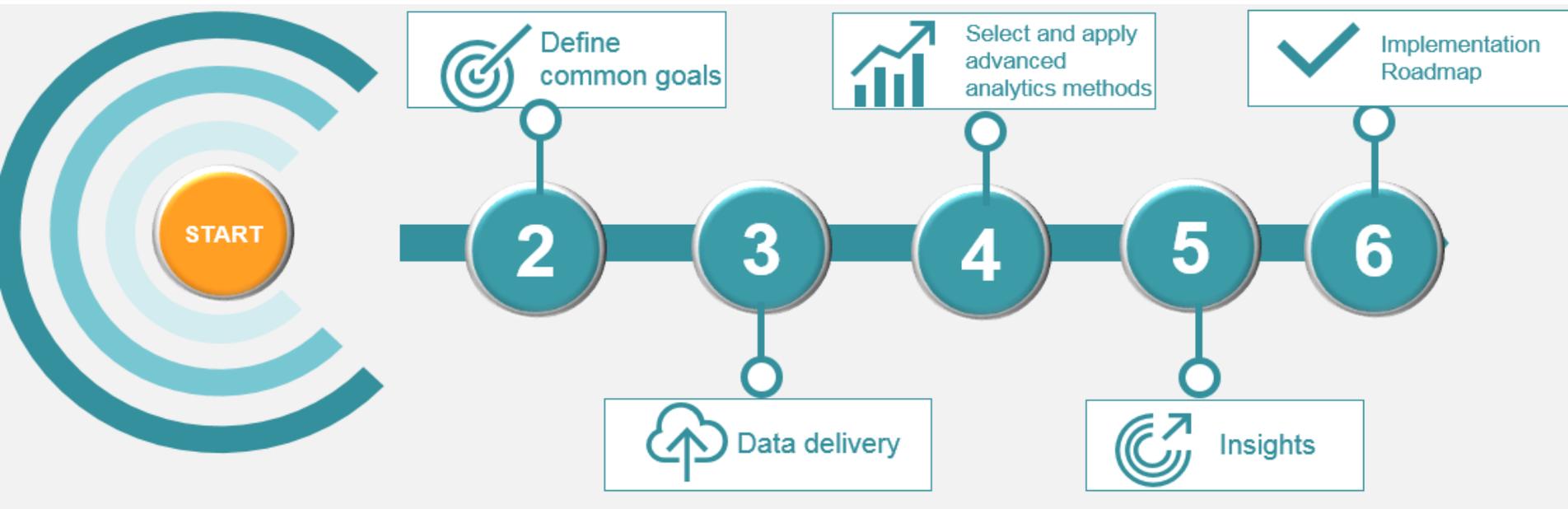
Are best estimate assumptions adequate?

Embracing Challenges for Growth and Opportunities

58th Annual Convention of the Actuarial Society of the Philippines



Predictive analytics workflow - overview



Embracing Challenges for Growth and Opportunities

58th Annual Convention of the Actuarial Society of the Philippines



Further slides on..

- Sample predictive analytics – Case study 1 – Propensity to buy
- Sample predictive analytics – Case study 2 – Predictive underwriting

Embracing Challenges for Growth and Opportunities

58th Annual Convention of the Actuarial Society of the Philippines



Quote

“Change will not come if we wait for some other person, or if we wait for some other time. We are the ones we’ve been waiting for. We are the change that we seek.”

Barack Obama

Embracing Challenges for Growth and Opportunities

58th Annual Convention of the Actuarial Society of the Philippines

