

Big data & advanced analytics— Does it matter for insurance? Opportunities and threats

The Boston Consulting Group

13rd Annual Roundtable of Chief Risk Officers
(ART of CROs)

“Risk Management beyond Solvency II”

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Big data & advanced analytics—Does it matter for insurance? Opportunities and threats

April 15, 2016

THE BOSTON CONSULTING GROUP

BCG Team with strong expertise in Big Data and Risk



Nic
Gordon

Associate Director
London

Experience

- Deep Data and Global Leadership experience in:
 - Data Strategy
 - Data Governance
 - Data Management
 - Business Intelligence
 - Regulatory Risk Data
 - Data Tools



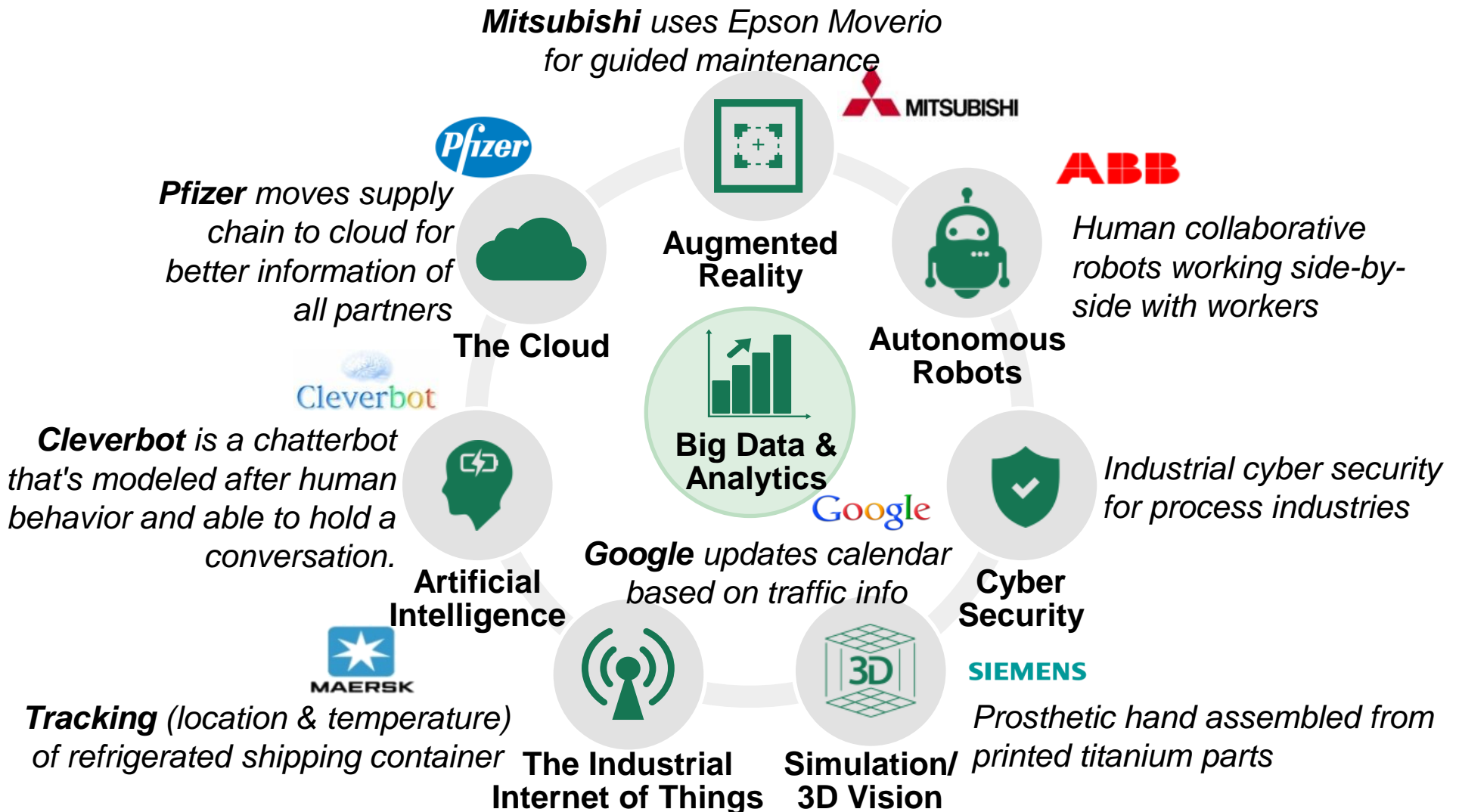
Ofir
Eyal

Principal
London

Experience

- Over 12 years of practical experience in working for CFO's and CROs of leading insurers
- Extensive experience in organizational design of Risk Management functions, incl. reporting lines, roles & responsibilities, committee structure, and approach to risk appetite
- Qualified Actuary


Major technology trends are dramatically changing industries and services businesses



Big Data is having profound impact on insurance industry


Digital Trend

Implications for Insurers




Smartphone users growing with 46% per year to 2.3B in 2018

"Mobile-first" design of new entrants offers superior customer experience


Today 73% of global internet users are on social networks

Enables distribution via affinity groups and peer-to-peer insurance


Number of connected devices increasing with 41% per year

Internet of Things enabling new insurance models (e.g. "connected home")

Data growing exponentially, 90% created in the past two years alone

Data analytics enables customizing of offers, price differentiating & risk mgt.

Rise of digital ecosystems

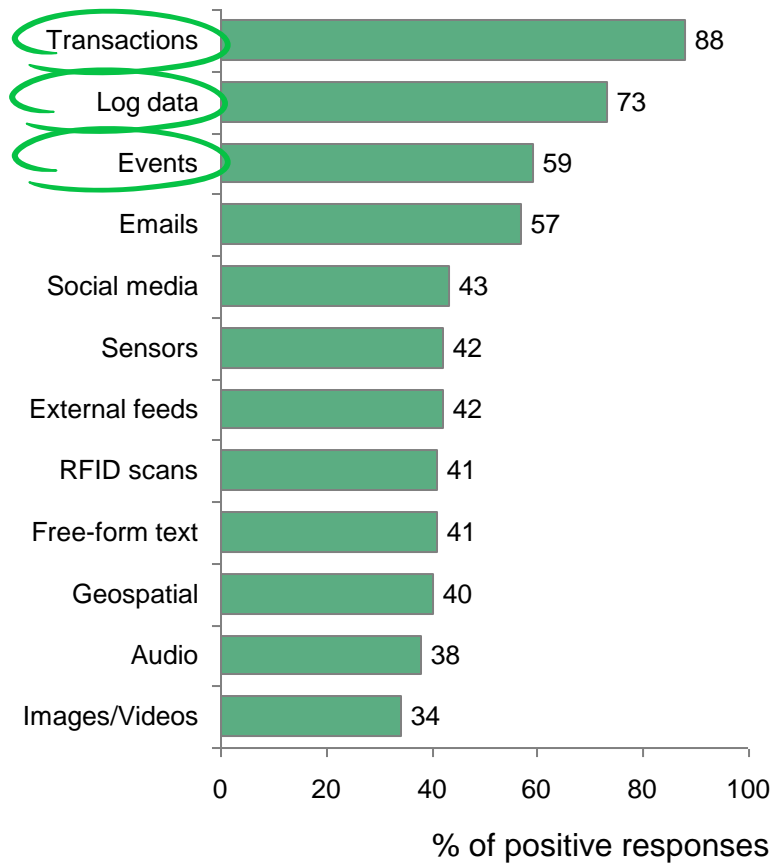
Enables disruptive propositions that challenge traditional business models



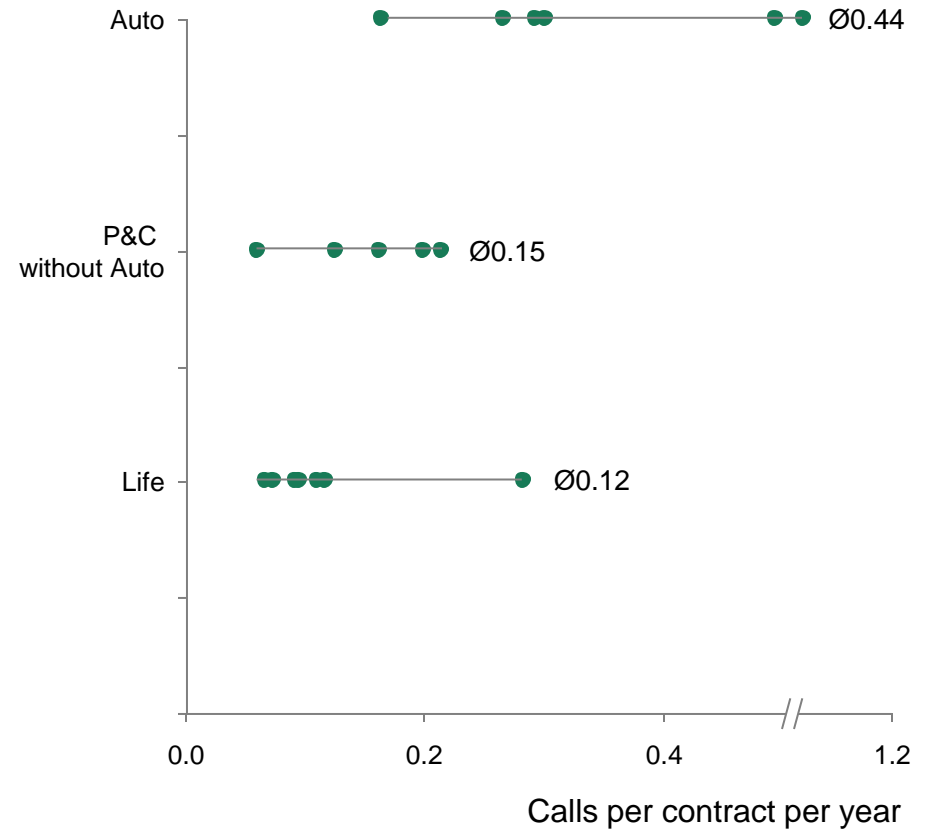
Some challenges are evident compared to other Industries

First challenge: insurance relatively immature in data collection

Transactions are the most important sources for Big Data applications...



...with very few transactions in insurance¹

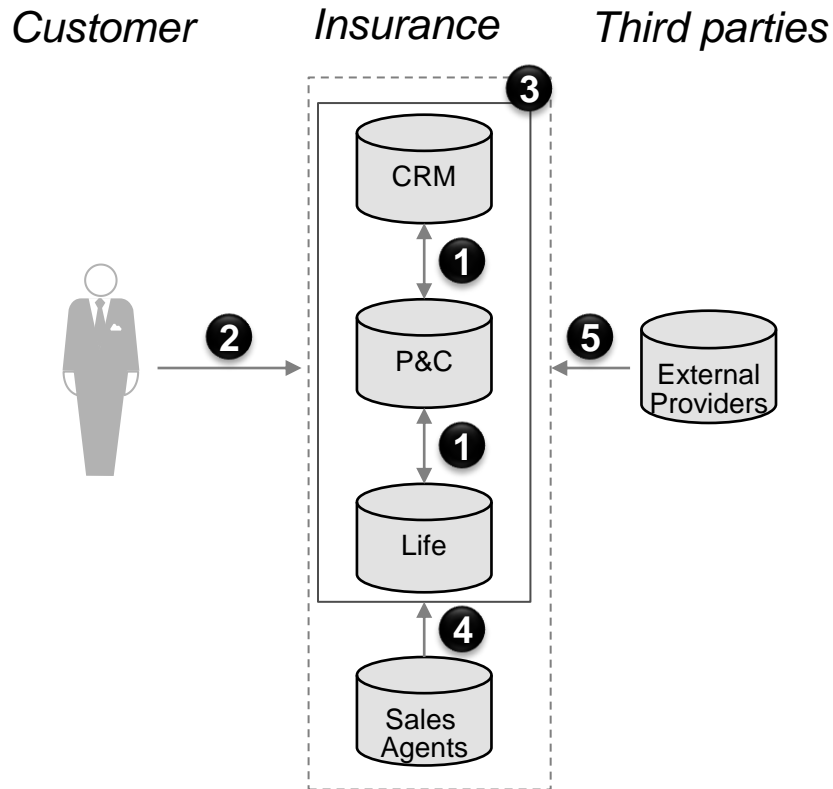


1. transactions defined as customer contacts

Source: BCG analysis; IBM "Analytics: The real-world use of Big Data"

Second challenge: existing data models complicate insight generation due to missing data consolidation and consistency

Current data model



Typical issues

Internal structured data

- ❌ ❶ No consolidation of customer data over all lines
- ❌ ❷ No updates of customer data using standard requests (e.g. call center contact, online...)¹

Internal unstructured data

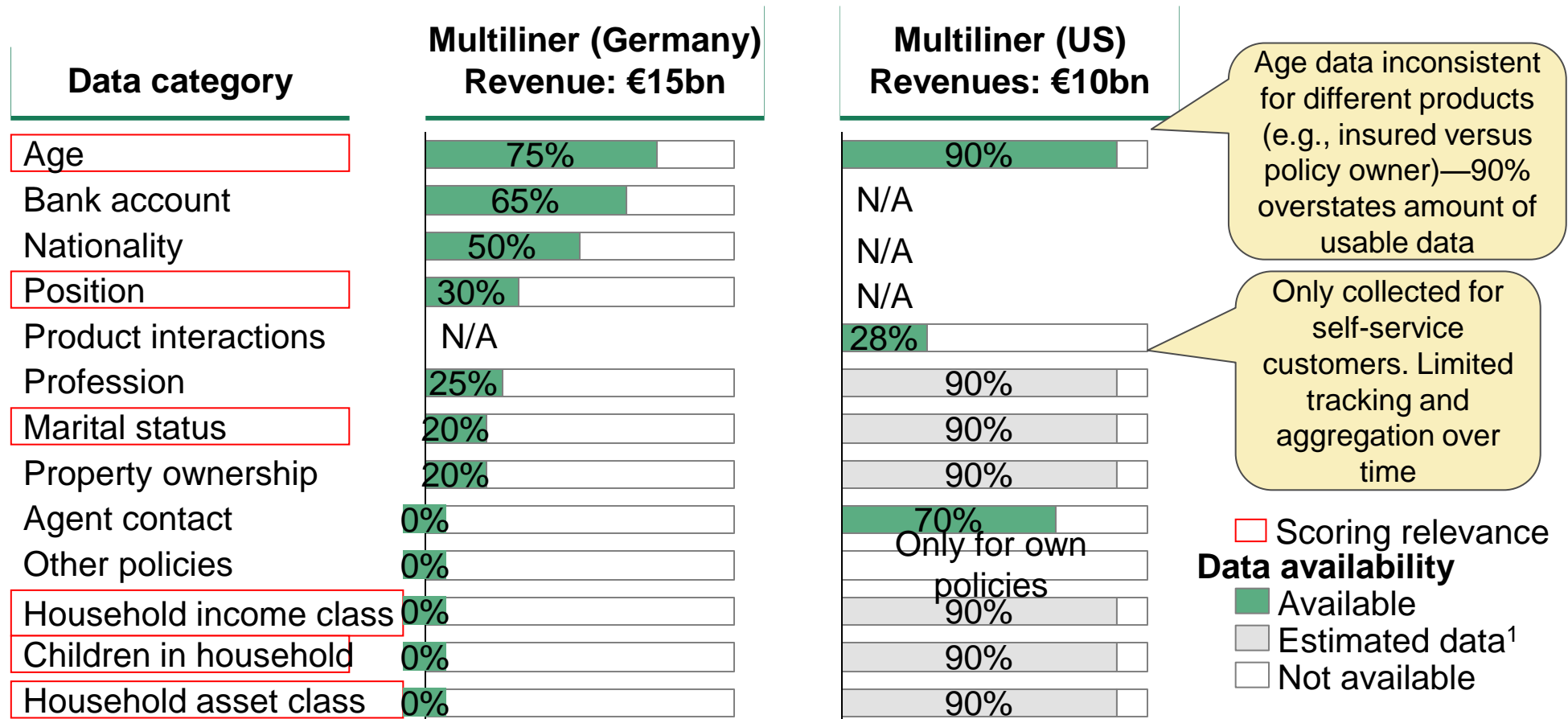
- ❌ ❸ Many relevant data (calls, emails, claims) remains unstructured due to manual handling by team with low manpower

Third party data

- ❌ ❹ No access to data of external insurance agents
- ❌ ❺ Seldom purchase of data from outside providers

1. Leading to incomplete customer data, e.g. information on marital status for only 20% of customers (German insurer); information on product interactions for only 28% of customers (US insurer)
Source: BCG case experience

Third challenge: structured customer data is often incomplete or unreliable



1. Demographic data only estimated by insurer – limited accuracy and usefulness
Source: BCG case experience

Trust will become a key competitive weapon in data usage



Create internal data stewardship

Clear principles for data collection and use

- Creates common understanding and commitment internally

Translate principles into codes of conduct

- Specific enough to be monitorable
- Focus on permissions for use

Processes to ensure compliance

- Clear metrics to monitor staff performance
- Control mechanisms to ensure data access and use in line with agreed upon rules



Engage consumers

Mechanisms to obtain consumer permission based on internal rules

- Implied consent, opt-out or opt-in

Ongoing communication to consumers

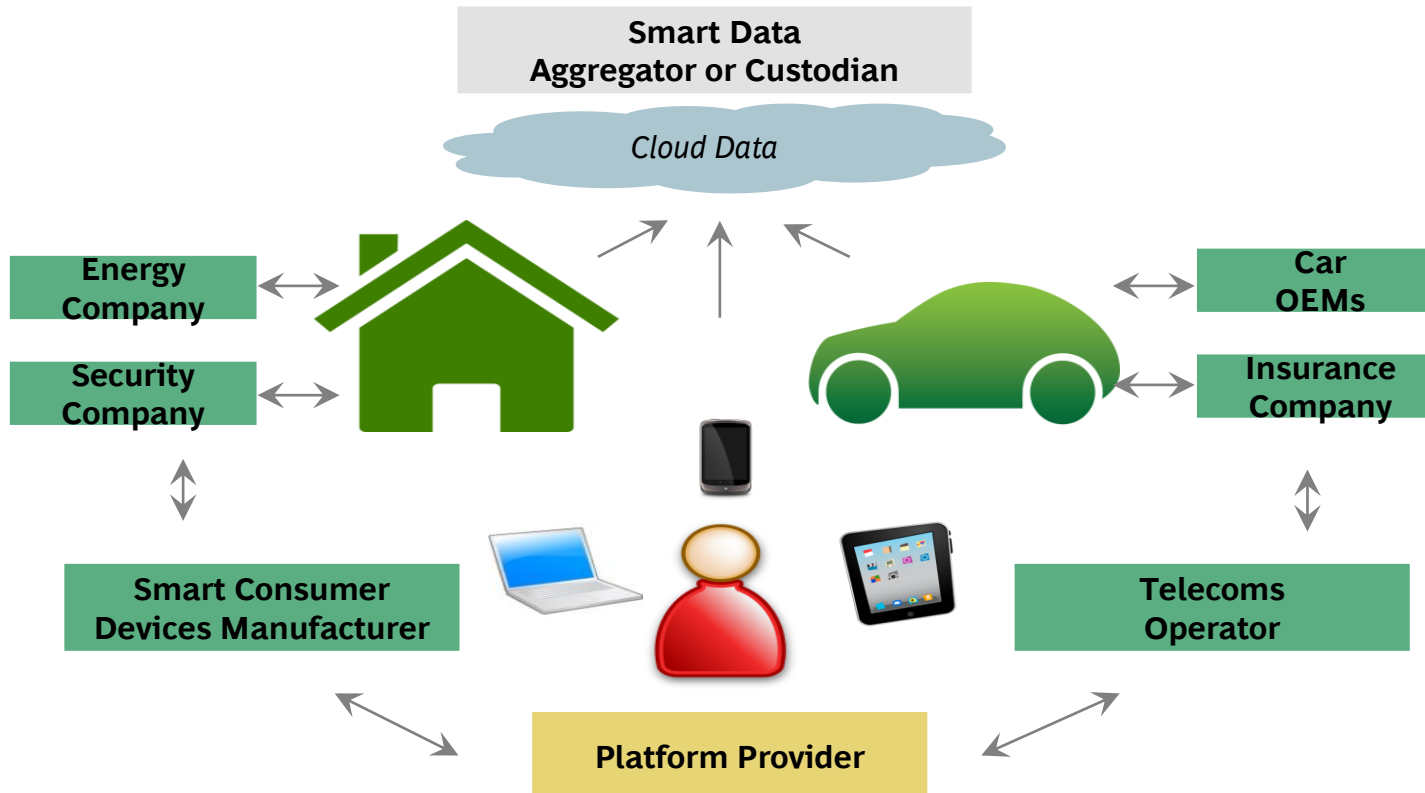
- Help understand how data about them are being used

Track & measure consumer trust over time

- Define and agree key elements of trust footprint and develop set of metrics
- Track degree to which increased trust leads to increase in opportunities to use data

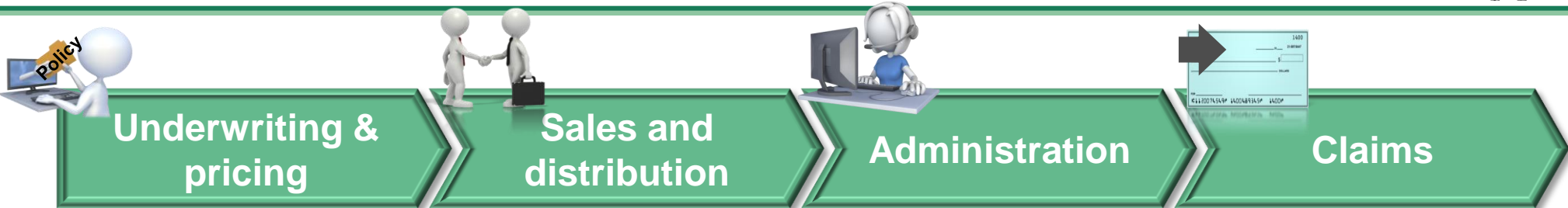
Data Alliances will grow rapidly in the next 3 years

The rise of Digital Ecosystems is leading to structural changes...



- Network of providers and customers cooperating for mutual value
- Enabled by a standard technical platforms which allow products services, applications and data to work together more easily

Technology and big data impacting the entire insurance value chain



Competitive forces require use of new sources of data (social media)

Technology lead products and underwriting process

Real time pricing (like airlines)

More sophisticated analytics in a wider scope of LoB

Digital customer journey

Change to client portfolio mix

Integrated customer experience (omni-channel strategy)

Impact on agent network

New forms of payments (electronic wallet)

More frequent client interactions

Data storage on consumer's devices

Cyber risk (hacking, data theft)

Digital claims administration

Use of technology for assessment and evidence gathering

New types of fraud and new forms of fraud assessment

Motor, Household, Health and SME are the most affected lines of business by technology and big data



Motor

Telematics

Car sharing economy

Autonomous cars/ ADS



Property

Telematics

Geo-analytics for U/W

Crowd sourcing for repairs



Health

Wearable devices

Remote access devices

Disease prevention/ cure optimization



SME insurance

'Motor insurance' like pricing

Social media data

Tailor made insurance



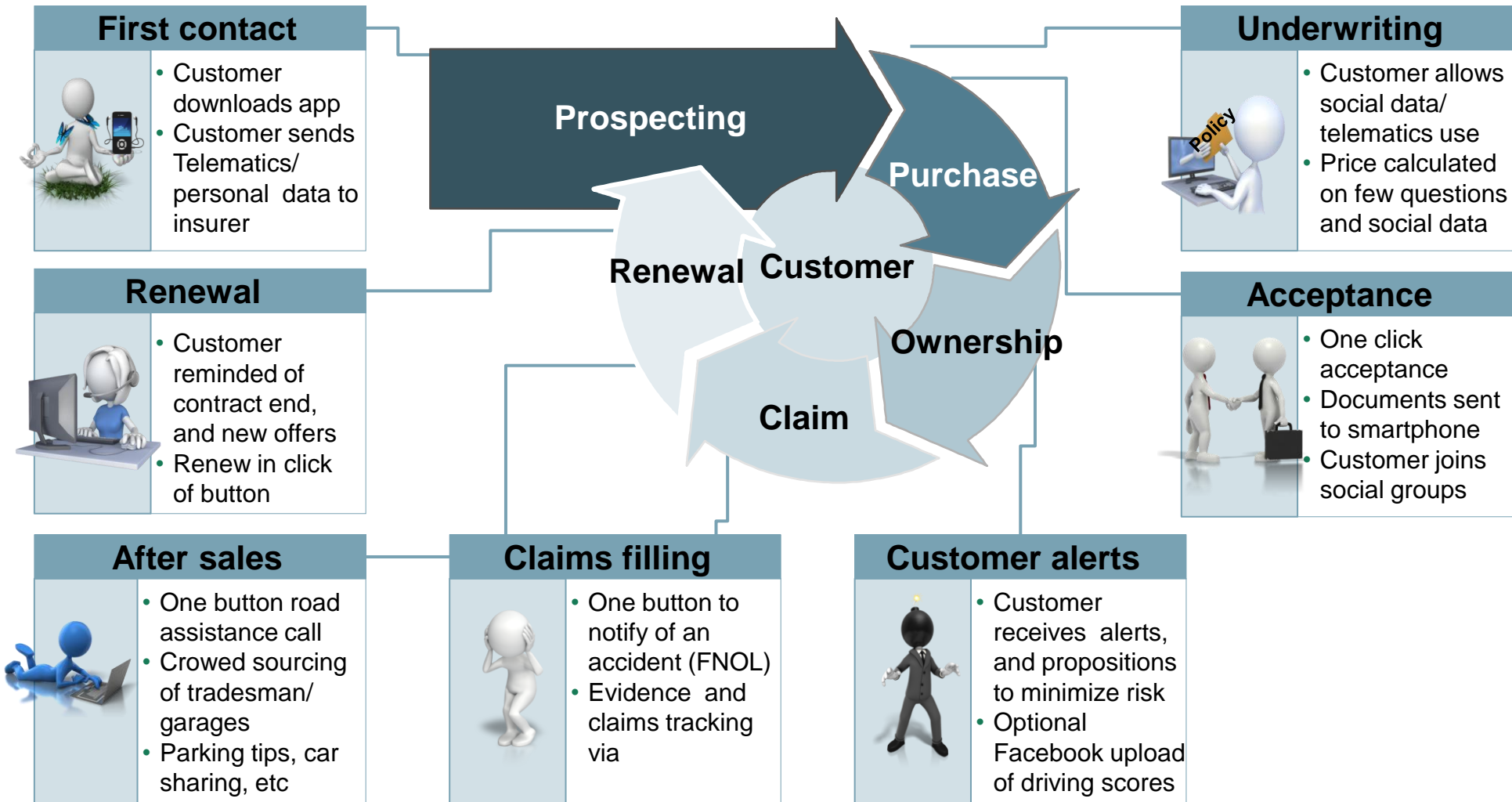
Large Corporate

Use of technology in U/W

Risk packaging/ trading

Analytical U/W

Customer journey changes offer new opportunities of customer engagement and risk profiling



Insurance risk profile is rapidly changing due to the availability of new technologies and data



Risk category

Key questions



Strategic

- Risk that my business will be disrupted
- Investing in the right technological developments (backing the right horse)
- Changes to customer preferences and needs



Technical

- Adequately using all available and relevant data in pricing and claims
- Client mix changes resulting from new rating capabilities and omni-channel
- Incorporating of the above in our risk models



Operational

- Transformational program proceeding to plan/ delivering right outcome
- Soundness of technological infrastructure selected
- Vulnerability of new digital platforms to internal/ external fraud



Compliance

- Ensuring data protection and privacy across multiple legal jurisdictions
- Continue to deliver on our AML and restricted entity requirements
- Use of big data to identify compliance hot-spots

Impact on insurer's Risk Management

Opportunities to gain operating model efficiency



Driver

Examples

Topic

Examples



Data aggregation and access

- Multi-structured data
- Big Data platform as "single source of truth"



Evolve risk capital calculation

- Develop more advance modeling
- E.g. Credit risk rating leveraging banking credit view and external data



Integrated modeling and analytics

- Integrated cross functional system (Finance, Capital, Investments)



Set up smarter alerting systems

- Early identification of upcoming risks/ deviation from plan and remedial actions



Risk-based strategic reporting

- Strategic decision making with business oriented risk reporting



Strengthen advisory capabilities

- Identify and prevent fraud
- Real time customer monitoring and alerts to actively manage risk profile and prevent claims



Thank you

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