[25/07/2018]

New Technology Unlocked Insurance Innovation

PwC Analytics, Big Data & AI Leading Partner, Yuan Yao (China/HK)

pwc

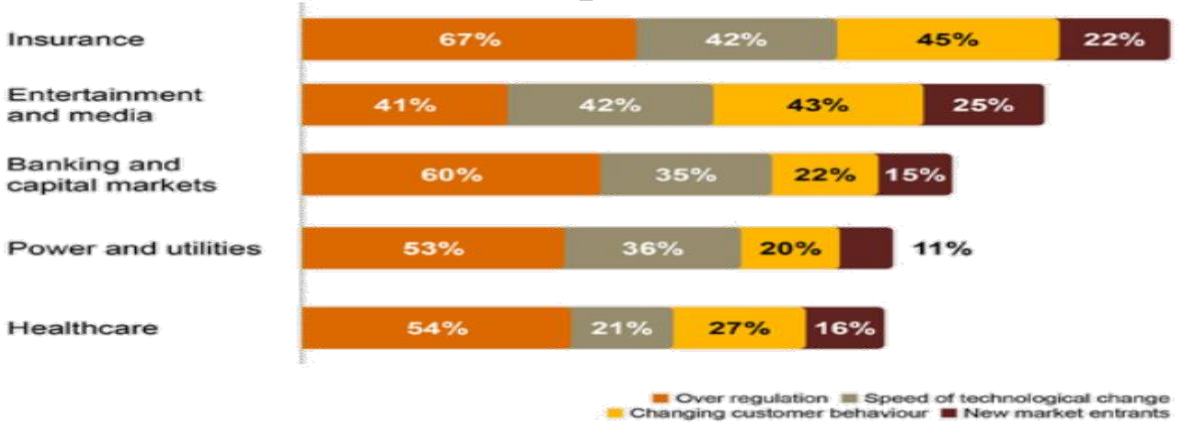
Technology subversion is driving the insurance industry to find new growth models

PwC's 20th Global CEO Survey shows that the insurance industry is facing rapid change. Insurance CEO's concerns over regulation, the pace of technological change, shifting customer behavior, and competition from new market entrants have continued to rise from their already high levels. In fact, no other industry group of CEOs is as 'extremely concerned' about the threats to growth in these four areas.

Five most disruptive sectors

Q: How concerned are you about the potential threat to your growth prospects from the following?

CEOs stating 'extremely concerned' (only includes commercial sectors with more than 50 responders)

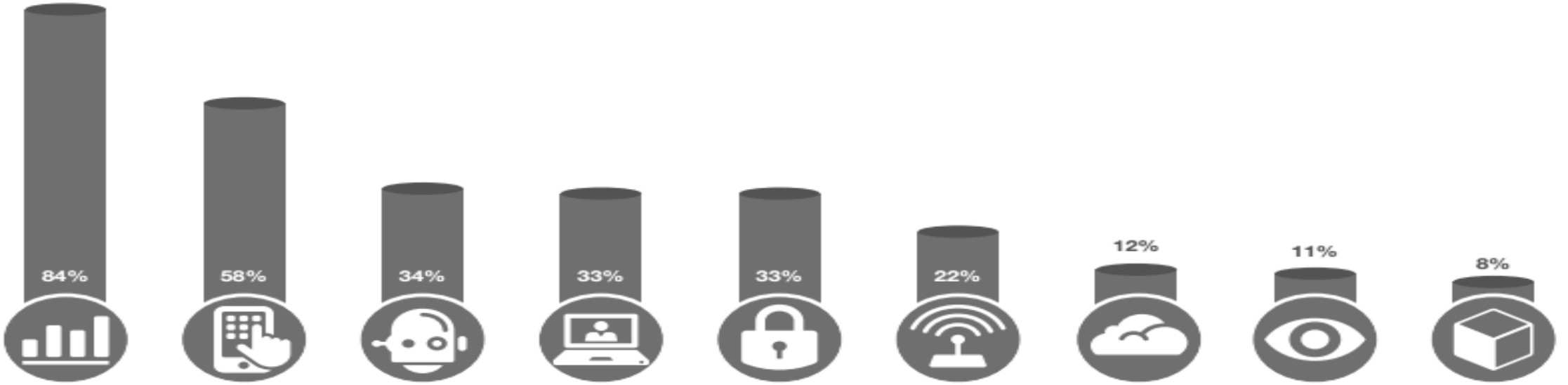


[1](95 insurance CEOs in 39 countries participated in PwC's 20th CEO Survey)

The survey results show that 86% of insurance CEOs surveyed believe that technological change will completely reshape the industry competition pattern or have a significant impact on the industry in the next five years.

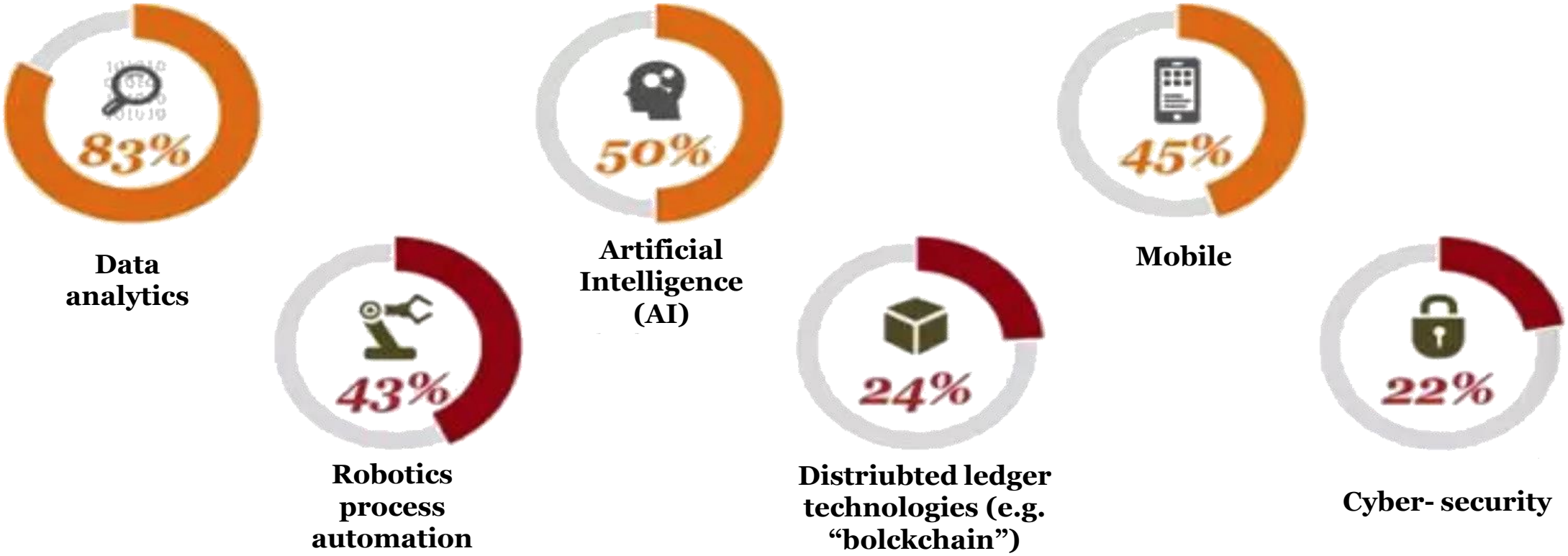
The insurance industry is focusing on 9 new technologies at present

PwC 2017 Global FinTech Survey show that investments in the coming year will flow to these technologies:



Under the wave of emerging technology, the top three Chinese financial institutions tend to invest in are ‘big data analysis’, ‘artificial intelligence’ and ‘mobile technology’

Investment tendencies of key technologies of Chinese financial institutions



Resource: PwC 2016 FinTech Survey with DeNovo

Intellectualization and intelligence are the inevitable trends of the development of the domestic insurance industry

Emerging technological innovations such as cloud computing, big data, artificial intelligence, software robots and blockchains have penetrated into all aspects of the insurance industry in a comprehensive way. Using scientific and technological means to solve contradictions between supply and demand, liberating human resources with machines and making data-driven decisions are experiencing an unprecedented explosion of growth.

National policies and regulatory guidelines

- The State Council released the "China's 13th five-year plan for science and technology innovation" to promote the innovation of Fintech products and services, and the construction of a national science and technology innovation center so that the Fintech industry could officially become the direction of national policies ; At the same time, the relevant regulatory requirements put forward the application of Internet, big data and cloud computing technology
- The central bank actively exploring the application of digital currency and blockchain, the test of digital ticket trading platform and the issuance of digital legal currency are gradually put on the agenda

Active practices of the insurance industry

- The insurance industry gradually adopts a distributed architecture as a data warehouse solution. Major insurance companies adopt a big data platform to provide unified data management for business applications
- Insurance industry is initiatively exploring emerging technologies which combines resources such as big data and container technology
- The insurance industry actively explored applications such as cloud computing, artificial intelligence and blockchain and launched the financial cloud platform and blockchain insurance applications
- The Internet financial credit information sharing platform has been opened to become the digital financial information infrastructure

Trend

- InsureTech is moving toward to specialization and differentiation of subdivided areas
- RegTech integrates with big data
- 'Yinzhengbaoji' increases the application of big data
- Artificial intelligence and deep learning combine with financial scenarios
- Building data lake with big data tech will become the mainstream program
- Real-time computing will become the focus of the financial sector
- Private cloud platforms are gradually landing in financial institutions
- Big data governance becomes the key point of financial data management
- Financial institutions pay more attention to data asset management
- The new financial system of the intelligent era is gradually formed

New technologies drive changes of insurance businesses

Grips of new technologies

S/M/D	F/I/R	DT	Cloud
Social Mobile Digital	Financial tech Insurance tech Regulation tech	Data Tech Analytical skills Algorithm tech	Analysis services Application services

Big data platform support system

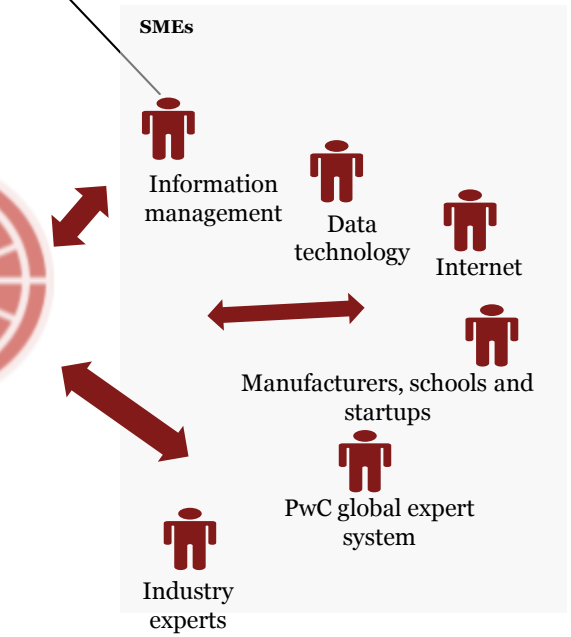
Business scenarios led by artificial intelligence and robotics

Analysis scene strategy of the insurance industry (customers, products, channels, personnel, etc.)

Insurance technology innovation and technology incubation system

Values

1. ***Proof and solution of concept***
   Project demonstration
2. ***Project management and delivery***
3. ***Research, creation of intellectual property and thought leadership***

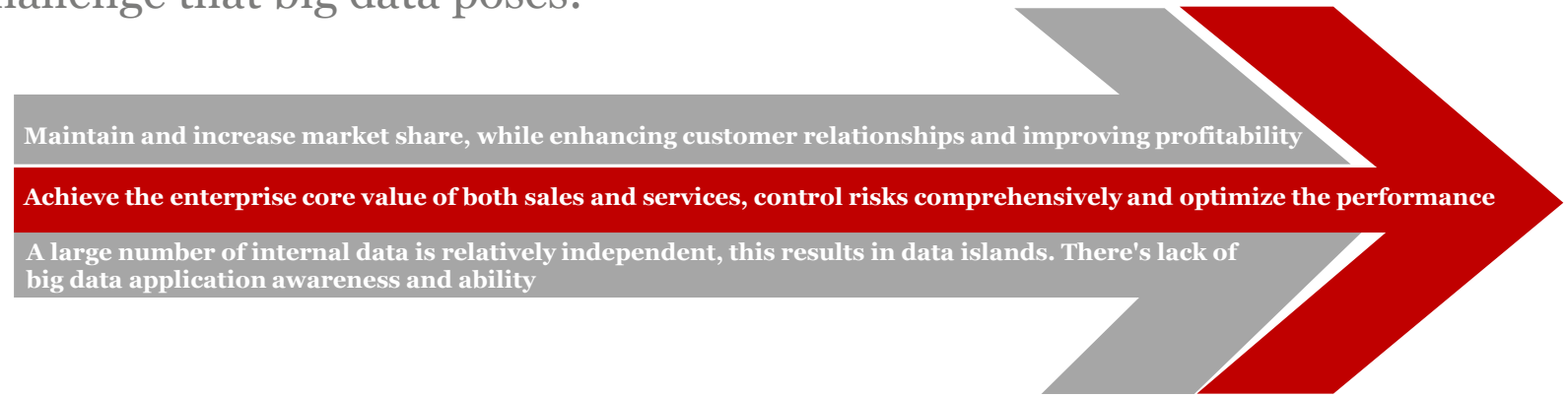


Data is the new "oil"

Data is widespread, but needs to be tapped to increase its value. However, unlike oil, data will never be a scarce resource because it keeps growing at an exponential rate.

Challenges China's insurance industry facing in the big data environment

In addition to the massive growth of data itself, the bigger challenge the insurance industry faces is the business challenge that big data poses:



All of these challenges are essentially due to the relative weakening understandings of insurance companies toward customers

The subversion of insurance business sales concept

The biggest subversion of the internet to the insurance industry is the change from "customer thinking" to "user thinking." In the Internet age, consumers have more right to know and to choose because of the large amount of information and fast information flow, which can eliminate the asymmetric information to the greatest extent.

The key point of competition lies in:

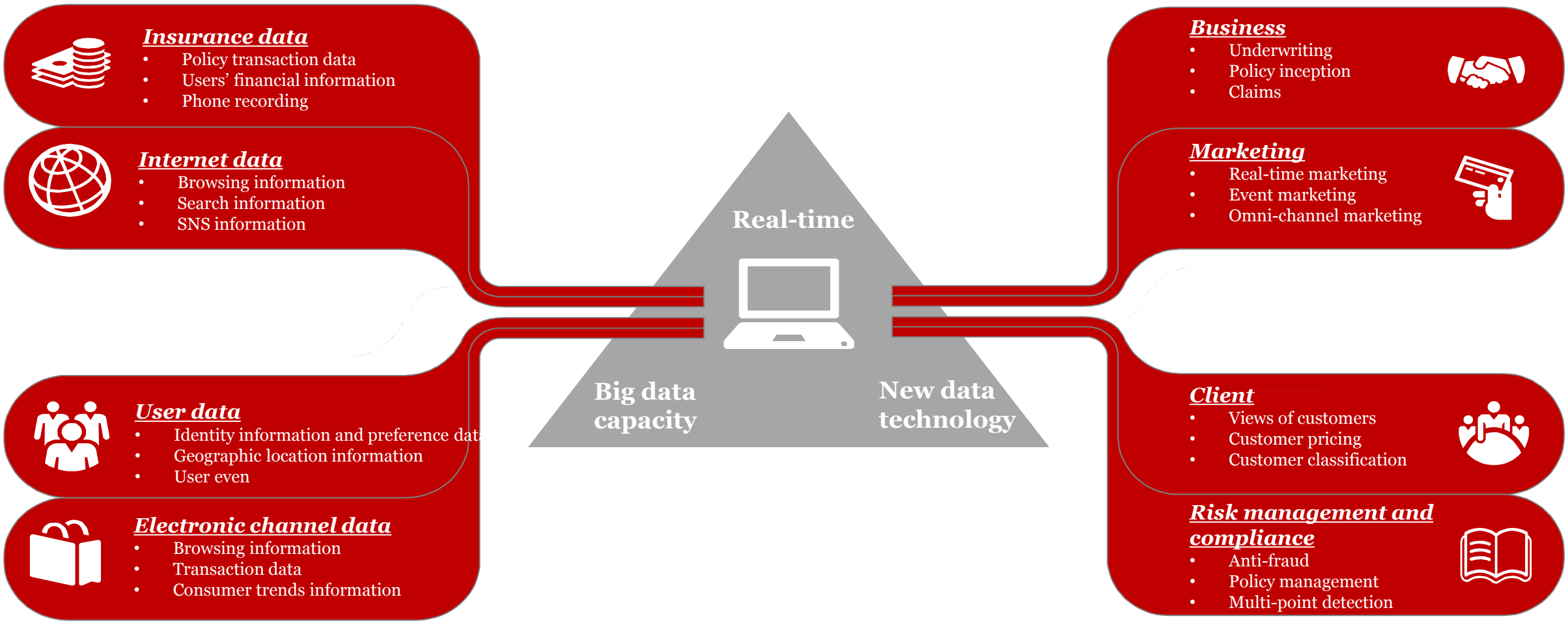
- Personalized products
- The ultimate consumer experience
- Simple form
- Cross-border resource integration
- Big data analysis and the use of artificial intelligence

The Internet has extended the boundaries of the insurance market

The insurance industry's traditional businesses are no longer competitive facing the emerging businesses launched by Internet insurance

- The new risks inherent in the Internet lead to new security needs, such as online shopping return insurance, fraudulent insurance, etc.
- The application of big data technology has enhanced the industry's risk pricing and management capabilities, thus underwriting the risks that were previously difficult to manage effectively, such as high-temperature insurance, haze insurance, moon-viewing insurance, etc.
- With the powerful customer gathering ability of the Internet, it has played a "long-tail effect" by fragmenting the insured time and fragmenting the premium so that clients who did not have high insurance coverage in the past are included in the insured population, such as “one dollar care insurance"

The joint of new technology and application in the insurance industry



Current insurance companies need to focus on “the new data with great value”

1

“Obtain new data”

On the basis of traditional data, the use of **new intelligent technology** will make more non-text information available for business

2

“Generate new insights”

Analyze new data, traditional data, and external data for **business insight**

3

“Apply new scenes”

Design **business application scenario** based on data foundation and insight

Experience Economy — Improve customer experience

$$E = mc^2$$

Experience — **M**oments of Truth — Customer Lifecycle x Channels

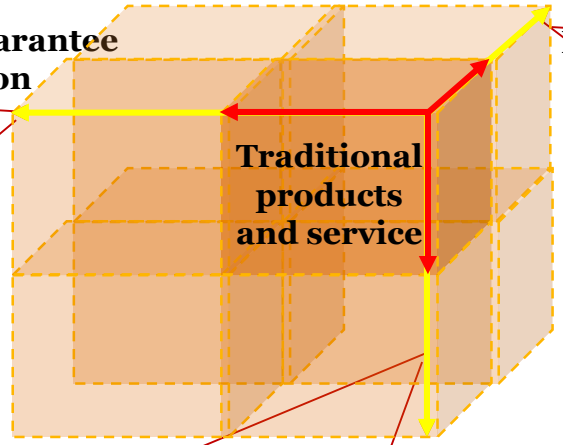
The customer experience is everything a customer sees, touches, and feels when he touches a product / service. Customer experience is the customer's overall satisfaction with the intentions, expectations and needs of the product / service.

- Stronger customer viscosity, enhance full-lifecycle customer value
- More product sales, increase customer wallet share
- Better customer reputation, attract more new customers

Customer Experience Management is a business strategy that combines all the functional units of strategy, process, technology and management, and the quality, efficiency and delivery of production / service are the major tactical issues facing the enterprises. Customer experience is a key factor affecting customer satisfaction and loyalty. Excellent customer experience management can reduce customer churn and improve enterprise marketing effectiveness and operational efficiency.

Fragment the world — extension of product innovation

With the deepening of big data insight, the trend toward scene-based, fragmentation and cross-border insurance products and services has intensified:



Provide **"micro" term** protection, shorten the guarantee period to **hours, days, weeks,** and even can provide **"high frequency, real-time"** guaranteed products

Extend the policy cycle, providing two, three, five years of insurance

Extend the scope of products and services to all aspects of customer risk protection needs. Not only cover the traditional insurance coverage, but also cover **new scenarios** and **new requirements** such as shared economy, virtual goods.

Fragmentation , Refine to an event, such as the car insurance in a car driving, or the personal accident insurance in a on-site service

Provide **proactive prevention services** to avoid risks

- Health Management (Regular Medical Examination, Vaccination)
- Driving and usage tips

Provide **value-added service**

-Long-term care

- Scooter
- Driving habits management

Three stages of cognition system development

The definition of cognition

- Cognition is **the psychological process** of people speculating and judging objective things, which is based on **past experience** and subjective description
- **Comprehension, classification, induction, deduction and calculation** of information formed on the basis of clues analysis
- Cognitive activities consist of four parts: **thinking, language, orientation and awareness**
- Cognition reflects the individual's thinking ability is the basis for the development and implementation of nursing plans

Four capabilities of cognitive computing systems

1. The first level is the supporting ability. With the help of cognitive computing systems, human work can be more efficient.
2. The second level is the understanding ability. Extraordinary observation and comprehension ability can help mankind find its inherent relationship and emerging trend in the numerous information. Faced with huge amounts of data, though we have the technology of search engine, we often cannot find the information that we want. The cognitive computing system can better understand our needs, and provide us with the appropriate service.
3. The third level is the decision-making ability. The formulation of development strategies by enterprises and the introduction of policies and measures by government departments all need to compile and analyze a large amount of information and then make decisions. Cognitive computing systems can help us in decision-making.
4. The fourth level is the ability to discover and gain insights that can help people discover new insights, new opportunities and new values that are not found in today's computing technology.

Cognitive intelligence

Understand and think

Perceptive intelligence

Hear and speak, see and recognize

Computational intelligence

Store and calculate

How to apply the cutting-edge Artificial Intelligence technology?

Advanced analysis (including Artificial Intelligence (AI) - Machine Learning, Deep Analysis, Natural Language Processing) has become a major part of data and analysis teams of insurance companies:

PwC's Artificial Intelligence Application Concept

Transform insight into value

Industry/ Domain SMS

- Global consultant network
- Create and develop experience with emerging technologies
- On/off - shore mix
- Flexible model - project, retainer

+

Quick analysis and adoption

Technical configuration platform

- Start with about 40 apps that are customized
- Use autonomous or leased IP
- Adopt the best platform architecture for the solution

+

Explore economic data

Data service

- Rapid exploration
- More than 800 data platforms for PWC, public and third-party data
- The standard/exponential model
- Compliance and policy guidance

+

Develop your talents

Ability to ascend

- Complete 100-500 courses
- Academic guide
- Certificate course
- Multiple delivery forms

+

Innovation practice

Innovation incubation

- Leading R&D research lab network
- Routine innovation pilot/practice
- Collaboration - industry/cross-industry

+

Rapid deployment of infrastructure

Data architecture

- Pre-architecture data & analysis environment with corresponding tools
- Combine the best variety and scale
- Simple, customized, variable cost

“Software Robot” is one of the hottest emerging technologies

Recently, “Software Robot" is very popular among international research institutions:

What is it?

Process automation of artificial intelligence robot = RPA + = Robotic Process Automation +

- Do not need to build a data interface. “Software Robot” integrates vary business application system of enterprise internally as well as Office, PDF, OCR to **automate** repetitive manual operation through process automation technology.

- Simulate human operations and make full use of the business logic and rules of the existing business application system. Such a change will **reduce the cost of interface development** between the various systems, and the **implementation cycle will be short**. It can be implemented quickly and applied widely according to business requirements.

- All kinds of system operation in daily operation will be replaced by “Software Robot", and achieve **100% accuracy** and **70% efficiency improvement**.

It is not..

It is not..

It is not..

It is..
The use of **smart software** to replicate process work that was previously done by humans.

Where does RPA sit in the Digitization agenda?

Basic ← **Automation** → **Advanced**

Business Process Automation Platforms	Robotic Process Automation (RPA)	Natural Language Processing (NLP)	Artificial Intelligence / Cognitive Computing	Algorithmic Business
Key tool providers				

RPA is…

- Desktop recorded automation that interacts with or without human
- Algorithms that solve specific problems
- Software robots that plug into, and access, existing business software
- Workflow enabled interaction

RPA is not …

- A humanoid robot
- Something that can entirely replace humans
- Something that can entirely replace humans
- Purely just another cost play

Application of AI+RPA in insurance business scenario

Products and channels

- Product data forecast
- Channel information

Underwriting

- New policy inputting
- Underwriting data verification
- Rule-based underwriting
- Premium reconciliation
- Electronic records management

After service

- Endorsement management
- Security deposit
- Policy management and preservation

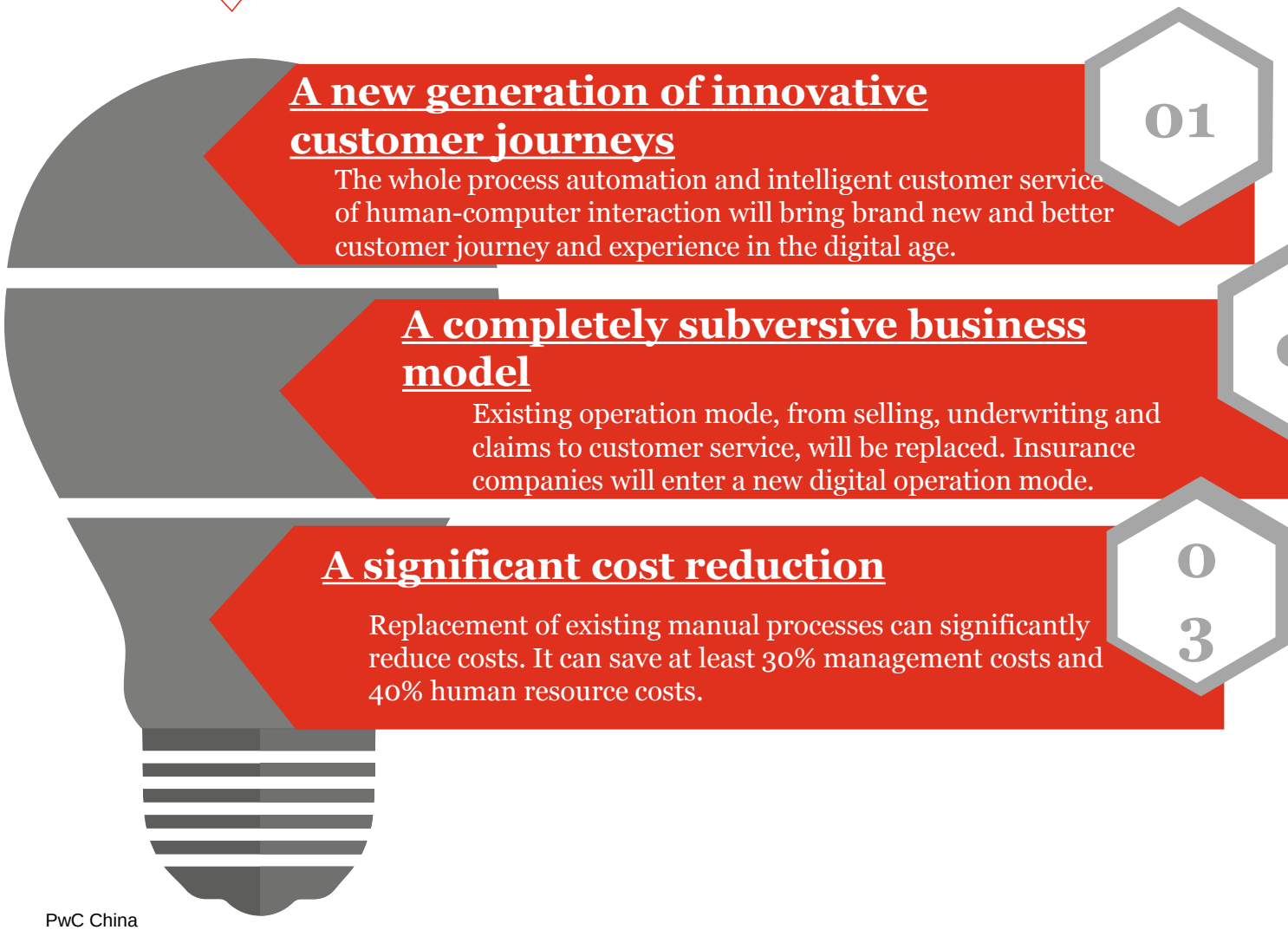
Claim

- Receive claims
- Rule-based calculation
- Fraud
- Automatic notification of claims

Back office

- Customer service (new customer creation, customer information changes, email notification, data migration, etc.)
- Financial accounts receivable, management, automation and financial reporting

What value could AI+RPA bring to insurance companies?



01 A new generation of innovative customer journeys

The whole process automation and intelligent customer service of human-computer interaction will bring brand new and better customer journey and experience in the digital age.

- Whole process of digital customer experience
- Multi-touch customer journey
- Customer full life cycle service and management

02 A completely subversive business model

Existing operation mode, from selling, underwriting and claims to customer service, will be replaced. Insurance companies will enter a new digital operation mode.

- Available 24/7
- Transformation of existing management, including visual dashboards, rule-based auditing and tracking of job processes

03 A significant cost reduction

Replacement of existing manual processes can significantly reduce costs. It can save at least 30% management costs and 40% human resource costs.

- Highly scalable and flexible configuration with no additional cost
- Reduce human resource costs
- Improvement of work efficiency

Our insurance technology innovation is based on the BXT concept

We work at the intersection of Business, eXperience, and Technology (BXT), to work in a way that's faster, more agile, and more accountable for our clients:

Business

B

Insight-driven
Business Consulting

The nature of insurance industry competition is changing, disruption is the new normal:

We help businesses respond and transform themselves through **innovative business and product models** that don't exist today.

Experience

X

Practice
Innovative technology

Our insights come from long-term observation and in-depth study of China's insurance industry and market:

We practice actively in **Big Data, AI, Robotics, IoT, Cognitive Technology** and other advanced technology innovation. We put forward insurance digitization strategy and transform business process model.

Technology

T

Practical
Technology Consulting

Ideas are only good if they can be implemented and they work:

We are equipped with **mature technology, practical implementation plan and team**, which can help clients to operate in a more efficient and flexible way.

We help insurance clients to build core competitiveness of technology

PwC‘s consulting service of high precision technology field in insurance industry has always been in the global leadership position. We build technical capacity and formulate “Core Competitiveness Factor Strategy”:

PwC's “Insurance Esoterica” of multi-year practice

01 Insurance Big Data Technology

02 Artificial Intelligence Technology

03 Robotics Process Automation based on Artificial Intelligence

Create unique digital core competitiveness and get through the siege

Thank you!