Transforming Insurance: Digital, Cognitive, Cloud and Beyond

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Today’s Discussion

- Key themes facing insurance: Outside In and Inside Out
- Emerging technologies: Driving and enabling change
- Successes and Adoption
- Evolving YOUR Success Story
As an industry we are balancing many external and internal pressures; With limited clarity on the rate and direction these forces may take.
The volume of data and information we’re producing has outpaced our ability to make use of it

- 102,000,000 wearables shipped in 2016, growing to 237,000,000 by 2021
- 80,000,000 MRIs taken every year, up from 3,000,000 in 1980
- 2,581,586 Emails every second
- 600,000,000 forms of malware - with close to 400k variations introduced daily
- 100,000 new cancer articles published every year
- 2,200,000,000 locations generating hyperlocal weather forecasts across the globe every 15 minutes
- 2,581,586 Emails every second
- 600,000,000 forms of malware - with close to 400k variations introduced daily
- 10,000 new software vulnerabilities recorded in 2016, up 30% since 2011
- 500 hours of video uploaded to YouTube every minute
Trust

Insurance industry: **43%**

Own insurance company: **37%**

Switched insurance provider in the past two years: **31.3 %**

We surveyed 22,000 consumers in 24 countries on their insurance relationships, value preferences and switching behavior.

*Source: IBM Institute for Business Value, “Capturing hearts, minds and market share”*
To convince our customers to share data, insurers need to consider three dimensions of sharing:

**Trust:**
- Privacy
- Cyber Risk
- Use for Consumer Benefit

**Benefits:**
- Insurance Lags Other Industries

**Cost:**
- Not all Consumers Prioritize Price First

Source: Data, Gold or Kryptonite, IBM IBV 2017

IBM Cognitive and Cloud 2017
Understanding and using data is at the heart of new products, services and business models for many InsureTechs

California-based insurance start-up Metromile uses telematics technology to offer usage-based, personalized insurance on a pay-per-mile basis. The technology uses real-time data to reduce cost and make underwriting more efficient.\(^1\)

The ISH is a communication platform connecting insurance companies with multiple data providers like clinics, physicians, mobile devices, etc. It replaces bilateral paper-based data exchange with digital information, providing a reliable base of complete and accurate data to be used in business processes.\(^2\)

Bought by Many is a London-based P2P insurtech. Their business model uses search results and social media to form hubs of people with niche interests or needs (e.g. extreme sports), negotiating with existing insurers for discounts or personalized benefits.\(^3\)

Source: see notes
Maturity Level Of Insurers: Learning and Working with InsurTechs

**Partnerships**
- Allows insurer to evaluate innovative technology with lowest level of investment
  - Lowest level of insurer commitment
  - Gives insurer insight into new technology/innovation
  - Insurer may use the service internally to enhance customer experience or operational efficiency
  - Insurer may act as a distributor and offer a new service to insureds, who get a discounted price or lower premium

**Corporate Venture Companies**
- Insurers that are looking to get a more inside view of innovative start-ups while retaining some ownership
  - Requires investment commitment for overall funding of the CVC
  - Financial returns (or progress towards them) are necessary, as is the ability to meet strategic objectives such as exploring innovative technologies and evaluating new distribution channels

**Accelerators / M&A**
- In Accelerators, insurers provide funding and industry insight to guide start-ups. M&A is the highest level of maturity as it requires substantial evolution of insurer’s business model.
  - Requires more complete integration of start-up into insurer operating model
  - Financial returns (or progress towards them) are necessary, as is the ability to meet strategic objectives such as exploring innovative technologies and evaluating new distribution channels

- Accelerators: Insurer shares industry expertise, mentoring and operational insights with start-up
- Accelerators: Insurer may offer financial support during accelerator’s fixed term, and may require equity stake upon completion
- M&A: Highest level of insurer commitment
- M&A: Requires more complete integration of start-up into insurer operating model
Today’s Discussion

Key themes facing insurance
Outside In and Inside Out

Emerging technologies
Driving and enabling change

Successes and Adoption

Evolving YOUR Success Story
Technology and Concepts Enabling and Driving Change

- Cloud, Platforms and APIs
- Autonomous Cars
- Weather
- Usage Based and Telematics
- Drones and Image Analysis
- Augmented Reality
- IOT (sensors, wearables, Geospatial)
- Cognitive and AI
- Social and Mobile
- Blockchain
- Agile
- BOTs
Cognitive systems are evolving to drive agility while focusing on amplifying human cognition.

**UNDERSTAND**
Cognitive systems understand imagery, language and other unstructured data like humans do.

**REASON**
They can reason, grasp underlying concepts, form hypotheses, and **infer and extract ideas**.

**LEARN**
With each data point, interaction and outcome, they develop and sharpen their expertise, so **they never stop learning**.

**INTERACT**
With abilities to see, talk and hear, cognitive systems **interact with humans in a natural way**.
Executives in charge of cyber security see three gaps to address

<table>
<thead>
<tr>
<th>Intelligence gap</th>
<th>Speed gap</th>
<th>Accuracy gap</th>
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<tbody>
<tr>
<td><strong>#1</strong> most challenging area due to insufficient resources is threat research (65% selecting)</td>
<td><strong>The top cybersecurity challenge today and tomorrow is reducing average incident response and resolution time</strong>&lt;br&gt;This is despite the fact that <strong>80%</strong> said their incident response speed is much faster than two years ago</td>
<td><strong>#2</strong> most challenging area today is optimizing accuracy alerts (too many false positives)&lt;br&gt;<strong>#3</strong> highest cybersecurity challenge today is keeping current on new threats and vulnerabilities (40% selecting) due to insufficient resources is threat identification, monitoring and escalating potential incidents (61% selecting)</td>
</tr>
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Platforms are driving and shaping innovation today, tomorrow and beyond.

<table>
<thead>
<tr>
<th>Applications, solutions and services</th>
<th>Deploy new, industry-specific, differentiating capabilities fast</th>
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<tbody>
<tr>
<td>AI/Cognitive</td>
<td>Allow your accumulated expertise to shine through in everything you do</td>
</tr>
<tr>
<td>Data</td>
<td>The ability to derive insights and knowledge from your data while governing regardless of location, respecting compliance and sovereignty</td>
</tr>
<tr>
<td>Cloud Infrastructure</td>
<td>Integrate mission critical applications alongside new, cognitive and data loads and accelerate AI data ingestion and training on a secure cloud, with visibility across clouds.</td>
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</table>
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Processes Across the Insurance Value Chain are being transformed with evolving capabilities to drive both big T and little t transformation.

- New products and services empowered by sensor and other IOT data and insights
- More accurate risk assessment, account rounding, expertise sharing and decision making.
- Improved finance, asset and risk management, automation of auditing/compliance activities, end to end support for claims handling and legal advice, counter fraud management
- Enhanced insights and processes to improve overall learning and performance

Understanding the customer DNA and better ways to engage and interact

Personalized access to insurance expertise, advice and support for producers, contact centers and direct to consumer

End to end support for claims handling and legal advice, counter fraud management

Enhanced insights and processes to improve overall learning and performance
A true customer centric set of capabilities uses information across all points of interaction, to support informed and relevant interactions

<table>
<thead>
<tr>
<th>Capability</th>
<th>Description</th>
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<tbody>
<tr>
<td>Consumer Guided Experience</td>
<td>Proactively reach out to existing customers about renewals, coverages and other risk mitigations.</td>
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<tr>
<td>Digital Virtual Agent for Consumer</td>
<td>Engage with new customers in a personalized conversation to explore relevant offerings, recommend the right mix, and bind across policy options</td>
</tr>
<tr>
<td>Marketing Assistant</td>
<td>Capture and use new insights on individual customers, customer segmentation, and marketing trends through streamlined sources of internal/external data, to enhance targeted recommendations to agents, CCC, and</td>
</tr>
<tr>
<td>Agent Assistant</td>
<td>Provide integrated insights to agents while preparing for and throughout an interaction, to help them know their customers and make personalized recommendations and leverage proven practices</td>
</tr>
<tr>
<td>Customer Care Assistant</td>
<td>Provide relevant information to customer to enable transparent support, including providing answers and recommendations to the customer during live chat and calls</td>
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Art of the Possible: We add capabilities to augment, improve and drive consistency across the Underwriting process.

Majesco
SAP
Other

Am I in compliance with external and internal guidelines and regulations?
Transformations Across Claims Have Been Successfully Implemented

Meiji Yasuda Life pays customers with greater speed and accuracy by using WEX (Watson Explore) to standardize medical terms.

- 22% fewer mistakenly unpaid claims—from 435 cases to 339 in the first year
- 90% accuracy in coding medical terms and treatments during claim assessment
- 20% reduction in assessment workforce, saving several hundred million yen each year
IoT (Internet of Things) is providing new sources of information and insights to transform the way we anticipate and manage risk.

IBM’s Internet of Things (IoT) Enabled Insurance Offerings

IBM offers end-to-end consumer, life and commercial insurance solutions enabled by the internet of things (IoT). Each solution has sensors communicating in real time to a protected platform, applications, dashboards, analytics and mobile applications.

Protected Lifestyle
Consumer and Life Insurance
- Protected Car
- Protected Home
- Protected Personal Assets
- Protected Banking & Wealth Management
- Protected Wellness, Patient & Elder Care

Protected Business
Commercial Insurance
- Protected Assets & Cargo
- Protected Workers
- Protected Equipment
- Protected Fleet
- Protected Buildings
- Protected Energy
- Protected Agriculture

IBM Watson IoT Platform

Moving Objects
Mapping Analytics
Partners & Enriched Data Sources
Customer Data

IBM Cognitive and Cloud 2017
**Objective:**
- AIG was looking to issue & record a multinational umbrella policy on Blockchain to improve transparency, efficiency, and servicing
- AIG recruited a client, Standard Chartered, to create an initial Blockchain business network, selecting Directors & Officers (D&O) insurance

**Benefits:**
- Removes friction and administrative burden, and increases transparency

**Scope of Transformation:**
Minimum Viable Business Network between AIG, Standard Chartered Bank, and Regulators across multiple countries to provide full transparency around “Master” & “Local” Policies, associated premiums & payments, and Policy Issuance
The project converted a controlled D&O master policy (UK), and three local underliers (Kenya, US, Singapore)

**Business Components**
- Multinational Policy Overview
- Multinational Payment Overview
- Multinational Policy Management
- Payment Management
- Notifications Management

**Blockchain Technical Components**
- Store policy documents, with signatures on Blockchain
- Events feature for notifications
- Security using Hyperledger v1.0 alpha

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**Multinational Policy Lifecycle:**
1. **Client Need**
   - Client goes to market for comprehensive risk transfer agreement
2. **Policy Structured**
   - Policy structure determined by AIG, Broker, and Client
3. **Transaction Set Up**
   - Preferences and in-country specific regulations are met
4. **Policy Issued**
   - Controlled Master Program (D&O, D&O)
5. **Midterm Adjustments**
   - Policy coverage is maintained and payments made to fit client needs
6. **Claims Paid**
   - Claim payments processed and addressed

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**AIG Multinational Blockchain Initiative with Standard Chartered Bank**
Metlife, Majesco and IBM are defining and delivering a transformative digital experience across Group Benefits as the first product line on the IBM Insurance Platform.
Today’s Discussion

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Think Big, Start Small, Expand Quickly

Start Small
- MVP
- Small Apps
- Plug into Existing

Scale Fast
- Agile Methods
- Multiple Hills
- COC

Drive continuous Improvement

Think Big
- Drive Innovation
- Define the Vision
- Shape the Role of Emerging Technologies
- Develop teams around outcomes
- Develop COC’s focused on capabilities

Successful Transformation is supported by
- Strategy
- Leadership
- Communications
- Skills
- Active Change Management
Align across the Business and IT to drive an integrated approach

**Business**
- Define the business architecture and priorities for cloud, with a clear line of sight to value

**Technology**
- Define architectural standards and characteristics for cloud prioritization

**Together**
- Integrate the enterprise’s innovation & cloud strategies, including leadership and organization, to optimize returns.
- Define and agree to an enterprise cloud strategy
- Ensure regulatory, security models and frameworks are imbedded as part of your Cloud initiatives.
- Review Cloud security in the context of business and regulatory priorities
Cross Industry Leaders and Evolving Insuretechs

Learn from Others
A cognitive strategy incorporates and augments existing capabilities to deliver differentiated experiences.

- Integration with existing core capabilities from policy, claims and UW, CRM, MDM, etc. systems.
- Supported by advanced analytics, rules, case managers, and recommendation engines.
- Augmented by insights derived from internal and external sources.
Use Technical Building Blocks to Define a Roadmap that Delivers the Vision: Cognitive Claims > Art of the Possible

1. Authentication – Watson confirms claimant existing policy is in-force by extracting key “pre-defined” features from claim form
2. FNOL BOT – real time natural language AI Bot to gather information from the claimant (e.g. PH, Claimant, Agent)
3. Good Order Checking – Extract key features from unstructured and semi-structured content (e.g., images, claimant description, inspector notes)
4. Claims classification – Identify attributes of claims to determine most appropriate next steps
5. Assignment – Assign claim to the appropriate expert/workflow queue (e.g, expertise finder, claims like this)
6. Augmentation – Discover and generate greater insights by extracting information from unstructured data (e.g., voice, weather, drones, sensors)
7. Robotic Process Automation – End-to-end execution of “pay out” for cases that meet all requirements
8. Post Settlement Analysis – Extract key insights to generate learnings for future processing of claims
9. Analyze and monitor legal/collections invoices to supports improved overall management of cost and services
10. Fraud/Legal Risk – Real Time Claims Score based on the information collected at each step to determine potential fraud or risk indicators, case management and investigative capabilities (e.g., CFM)
11. Multi-Channel Claims Servicing Bot – Real Time status update and query handling for the claimant, support internal CSRs
12. Cat Response – leverage weather, drone and other unstructured information to more effective deploy and manage cat responses

IBM Capabilities
- Discovery (W)
- Conversation (W)
- Personality Insights (W)
- Visual Recognition (W)
- Consumer Insights (CII)
- Counter Fraud Management (CFM)
- Drone Analytics
- Weather Data and Analytics
- Tone
- Sentiment
- Skills Matching
- Sensors/IOT
- Health Data

Consumer Facing
Non Consumer Facing
Define the architecture, the platform and the ecosystem you will leverage

<table>
<thead>
<tr>
<th>Applications, solutions and services</th>
<th>Watson Oncology</th>
<th>Watson Cyber Security</th>
<th>Weather</th>
<th>IBM Services and Industry Solutions</th>
<th>Watson Virtual Agent</th>
<th>Watson Explore and Discover</th>
<th>IBM Risk and Compliance</th>
<th>Asset Management (Maximo)</th>
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<tbody>
<tr>
<td>Targeted solutions for enterprise businesses</td>
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<tr>
<th>AI</th>
<th>Cognitive building blocks for developers</th>
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<td>API Conversation</td>
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<table>
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<tr>
<th>Data</th>
<th>Tools to prepare data for cognitive</th>
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<td>Ingestion</td>
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<table>
<thead>
<tr>
<th>Cloud Infrastructure</th>
<th>A highly scalable, security enabled infrastructure</th>
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<tr>
<td></td>
<td>Cloud Integration</td>
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<tr>
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<td>Networking</td>
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- Cloud Integration
- Cognitive Micro-services
- DevOps Tooling
Consider aligning with proven principles
IBM’s Principles for the Cognitive Era

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Transparency</th>
<th>Skills</th>
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| • Augment human intelligence  
• Based not only on principle, but also on science  
• Embedded in the processes, systems, products and services by which business and society function – all of which will and should remain within human control | • When and for what purpose AI is applied in cognitive solutions  
• The major sources of data that inform solutions and the methods to train  
• Work with our clients to protect their data and insights, and encourage others to do the same | • Work to help people acquire skills and knowledge to engage with cognitive systems  
• For new work and jobs that will emerge in the cognitive economy |
How will you get started?

Thank you!
Additional Resources
Short Illustrative Clips (for you to watch later)

IBM Watson: Proactive program integrity

<iframe width="560" height="315"
src="https://www.youtube.com/embed/3Jw71o15rTU" frameborder="0"
allowfullscreen></iframe>

70 Miles From Shore with Watson: Woodside Energy and IBM

<iframe width="560" height="315"
src="https://www.youtube.com/embed/GFZ2laTVkY8" frameborder="0" allowfullscreen></iframe>

Explore YouTube on the IBM Watson Channel
IBM Watson’s cognitive capabilities organized into 6 categories and available as API’s on www.bluemix.com> Sign up for a free subscription and explore what you can do

**Language**
- Natural Language Classifier
- Language Translator

**Speech**
- Speech to Text
- Text to Speech

**Empathy**
- Personality Insights
- Tone Analyzer

**Vision**
- Visual Recognition

**Discovery**
- Natural Language Understanding
- Discovery
- Discovery News
- Retrieve and Rank
- Watson Knowledge Studio

**Conversation**
- Conversation
- Watson Virtual Agent

*Watson sees, hears, speaks, feels, converses, translates, finds*
Explore the IBV

IBV Home Page and App:

Insurance Focused

Capability and Cross Industry
– Blockchain:
  • https://www-01.ibm.com/common/ssi/cgi-bin/ssialias?htmlfid=KU912398USEN&
  • https://www-935.ibm.com/services/studies/csuite/blockchain/
Outside of IBM

Digital Adoption: Tufts and MasterCard.

https://hbr.org/webinar/2016/04/how-platform-businesses-are-transforming-strategy#comment-section

Center for Global Enterprise

https://thecge.net/archived-papers/the-rise-of-the-platform-enterprise-a-global-survey/

World Economic Forum