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of Actuaries

InsurTech and How Actuaries Can Help

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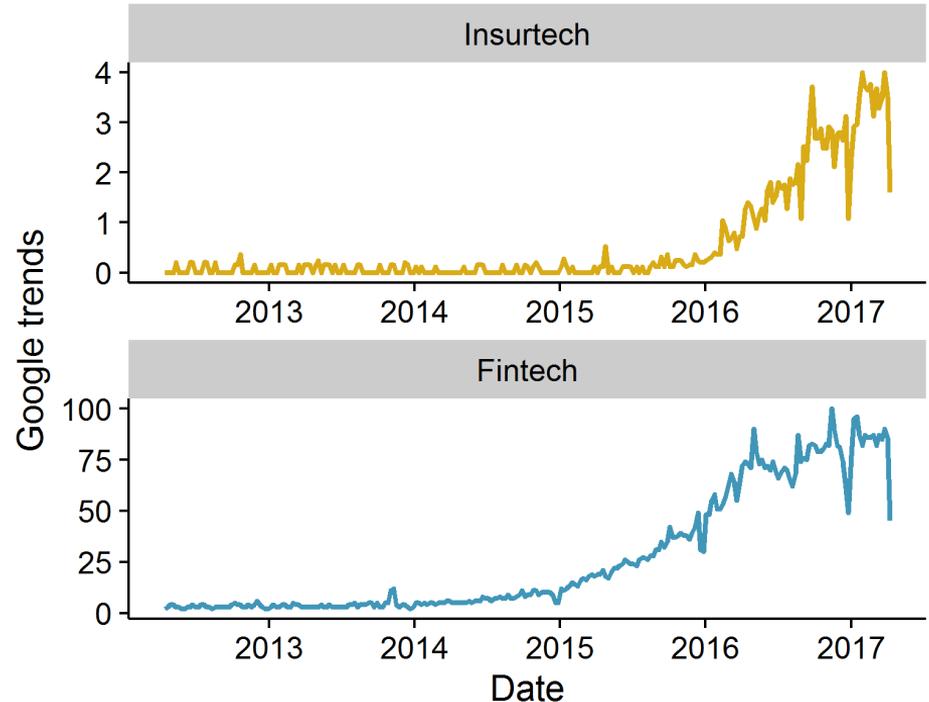
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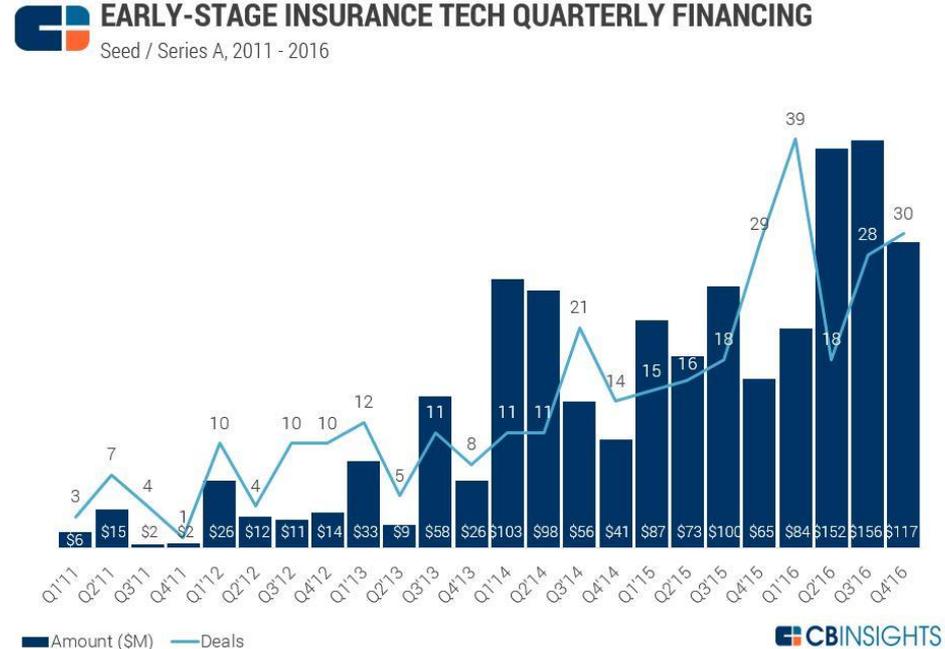
What is InsurTech?

- InsurTech encompasses the new start-ups and technologies that are bringing *innovation* to insurance.
- There is a thriving InsurTech 'ecosystem' in London which is easily accessible and welcoming.
- Commentators differ on how revolutionary InsurTech will be. Regardless it is exciting!



What is InsurTech?

- \$1.7bn was invested in InsurTech in 2016:
 - US continues to dominate deal activity (59%)
 - UK only 5% of total
 - Source: CB Insights
<https://www.cbinsights.com/blog/2016-insurance-tech-funding/>
- Both insurance industry and non-insurance industry backers.
- What is the perspective of the incumbent insurers?



What do InsurTech firms do?

Distribution & Customer Engagement  <p>Shoal Lemonade WRISK</p>	Peer 2 Peer model  <p>friendsurance insure — a — thing GUEVARA</p>	Advanced Analytics  <p>GUIDEWIRE DataRobot Analyze Re</p>
Internet of Things  <p>insure the box neos FITSENSE</p>	Operations & Infrastructure  <p>SPIXII RightIndem ChainThat DIGITAL FINEPRINT Blockchain Innovation</p>	New Products & Markets  <p>Cuvva Slice tröv Digital Risks</p>

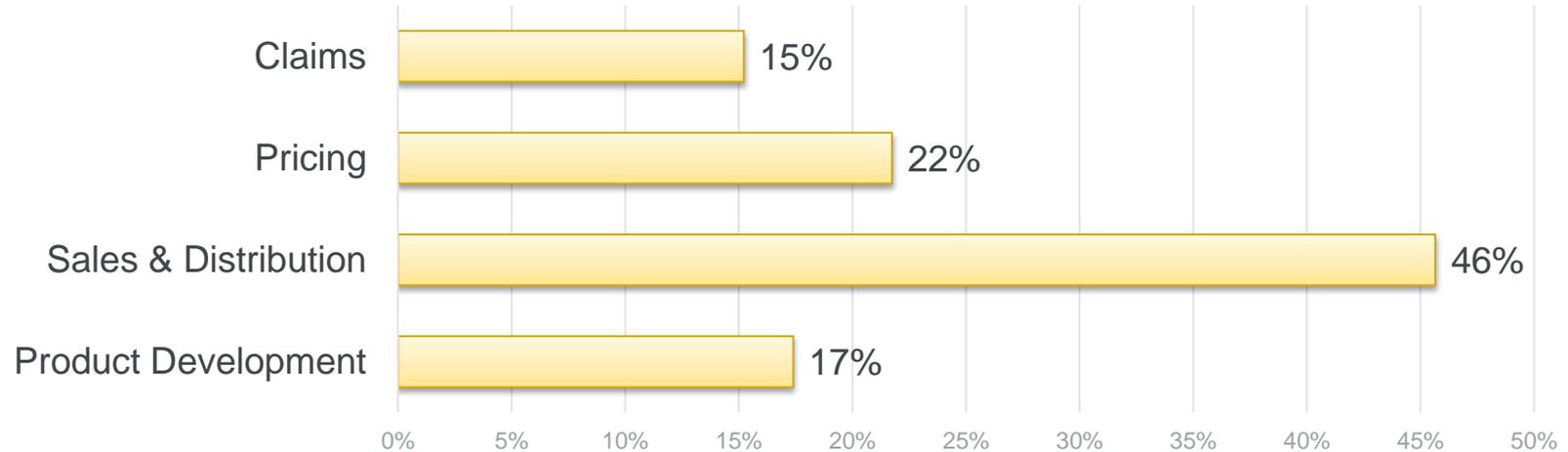
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What do InsurTech firms do?

Innovations as % of Total P&C Line of Business



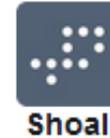
Source: McKinsey Panorama InsurTech Database

Note - Pricing includes underwriting and policy issuance



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Distribution & Customer Engagement



Shoal



Lemonade



- Use of new technology platforms or apps, combined with a fresh perspective, to reach and interact with customers.
- This is distribution via a new breed of **digital intermediary**.
- Latest intermediaries are analysing **customers' needs** linking to concierge services and insurance one-stop shops.
- Insurer buyers and increasingly expecting:
 - Transparency
 - Immediacy
 - Seamless UX

Actuaries are not the obvious choice... Perhaps the firm should hire a Chief Marketing officer?



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Peer 2 Peer model



- Small groups of people get together online to pool their risks
 - Private group with friends
 - Public groups with a common cause or “connection”, e.g. favourite charity
- A modern take on an old concept – similar to mutual societies
- Advantages could include fewer fraudulent claims
- More transparency with cashback features
- “P2P ... didn’t work as we hoped” - Lemonade

Actuaries could be useful as they understand diversification and homogenous risk groups! Otherwise, it depends on what else the firm plans to do.



Advanced Analytics



- Use of tools and techniques such as **data science** and **machine learning** to:
 - Convert **data** into meaningful **information**
 - Find patterns, trends and regularities to assist insurer's decision making
- InsurTech firms and partner insurers will increasingly use social profiles, online search and “big data” to improve:
 - Pricing
 - Underwriting
 - Detection and prevention of fraud

Oh yes, this is the sweet spot! Actuaries are perfectly positioned to help a firm utilise advanced analytics within its business.



Internet of Things



- Connected **vehicles**
 - Telematic boxes in cars and industrial equipment
- Connected **homes**
 - Data-collecting sensors and devices in everyday devices, e.g. fridges, toasters, televisions, ...
- Connected **wearables** (“e-Health”)
 - Lifestyle intelligent apps for health device users such as runners, skiers and surfers
- Significant potential benefits for society when linked to risk mitigation...

It depends on what the firm wants to do with all this new data. The actuarial need is with the previous category in the use of that data.

Operations & Infrastructure



- **Efficiency gains** in day-to-day operations of insurers:
 - Underwriting
 - Compliance & regulation
 - Customer payments
 - Policy management
 - Claims handling
 - Renewals
- **Blockchain:** a type of distributed ledger
 - **R3i consortium** is the insurance equivalent to the R3 consortium for FinTech
 - MetLife became its 60th member

Probably no actuaries are needed for this type of firm. Hires are more likely to be 'engineers'.

New Products & Markets



- Enabling customers to purchase coverage for their needs.
- On-demand insurance (“**Pay-as-you-go**”)
 - Pay-by-mile or hour car insurance
- Micro-duration insurance
 - Travel insurance for single journey
 - Item-wise “one-off” cover
- Sharing economy is creating new risks that need insurance

Whether pricing, reserving or capital modelling, these firms (or the capacity providers supporting them) have a new actuarial challenge. This is traditional actuarial work, without any data.



Why actuaries are still needed

- Which business models are more likely to need actuaries / data scientists?
- For InsurTech firms, **pricing** is the key skill needed rather than reserving or capital modelling.
- Why don't more start-ups become **full stack insurers**? Because it's hard!
- Existing insurers will therefore **continue to need actuaries** across all disciplines.
- **Smarter technology** will change the way we work and what we do.
- Conclusions from data-driven analysis will always need to be put into the context by **technical humans with domain knowledge**.
- ... and not forgetting **The Actuaries Code**.





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