InsurTech
A FORCE FOR GOOD

How InsurTech can reconnect insurers with their customers while simultaneously boosting the bottom line

startupbootcamp InsurTech in association with pwc

Contents

Executive summary

Insurance technology (InsurTech) is a burgeoning phenomenon that has the potential to help the insurance industry reconnect with its customers following a period of increasing alienation and disengagement. Not only does InsurTech offer the insurance industry huge commercial potential, it can also help insurers reaffirm their purpose in society - to protect and support policyholders.

That is imperative. Trust is, or should be, the cornerstone of insurance. Yet the industry is facing a crisis of consumer confidence, with PwC research suggesting just 27% of consumers trust their insurance providers whilst less than half would turn to them for advice.

InsurTech start-ups have the potential to help insurance improve its relevancy to customers and rebuild trust. Whilst consumers have a need for insurance, most don't recognise this need as a reason to buy. New entrants can not only provide insurers with a profitable way to turn this customer need into demand, but can also serve to re-engage customers and demonstrate that insurance serves a valuable purpose.

They do so in a number of ways: by designing new products that meet changing customer needs, by establishing greater levels of transparency, by helping to tackle some of society's biggest problems, and by enabling customers to head off problems, as well as being there to fall back on when disaster strikes.

Looking beyond the front office, InsurTech start-ups also deliver new forms of data and risk insight to improve underwriting accuracy and loss prediction. They offer established insurers products that generate greater operational efficiencies, not only lowering costs, but also enabling insurers to better and more profitably serve their customers.

Whilst some insurers are fearful of rising competition, PwC and Startupbootcamp consider InsurTech start-ups to be important players in a broader ecosystem that includes corporates, venture capital investors, accelerators, consultants and others. Some new players pose a threat to established insurers, but the majority are enablers, rather than disruptors – that is, they will complement incumbents' offerings rather than replace them.

The opportunity exists to improve insurance for the greater good while innovating for commercial gain, but this will require effective collaboration amongst all players across the InsurTech ecosystem. From our positions at the heart of the InsurTech ecosystem, in this paper we look at how that ecosystem has developed so far, the key trends now shaping the InsurTech environment, and how existing insurers and start-ups can work together, overcoming key challenges and grasping emerging opportunities.

Our key findings include:

Whilst InsurTech is rapidly growing, it has not yet reached the large scale of the FinTech industry. InsurTech activity, including investment, has spiked rapidly upwards over the past year, though the FinTech phenomenon continues to attract greater attention.

InsurTechs are more likely to operate as enablers than disruptors. The majority of InsurTech start-ups are focused on activities that will help incumbent insurers to do a better job, rather than to steal their business. This is not to say insurers can afford to dismiss InsurTechs who are increasingly taking margins from elements of the value chain.

The majority of InsurTech start-ups are innovating in customer-facing areas. New entrants providing customer-facing tools and technologies which improve customer experience and engagement represent the biggest share of start-up activity. There are currently fewer start-ups focused on delivering back office efficiency and core insurance processes.

Many insurers see InsurTech's huge potential for transforming the back office. Two-thirds of insurers point to the potential impact of InsurTechs' innovations in data and analytics. More than half point to new approaches to underwriting risk and predicting loss.

Leveraging emerging technologies is one way in which InsurTechs innovate, but not the only way. Whilst many start-ups are using an emerging technology to have an impact in the market, for the majority, their power and potential for disrup-

tion come from their innovative business models and compelling value propositions.

Collaboration is the biggest opportunity of all. Given the enabling role InsurTech firms can now play, as well as the challenges facing the established insurance sector and the barriers to entry for new businesses seeking to act alone, collaboration for mutual benefit – and the benefit of the customer – must be the goal of insurers and InsurTechs alike.

Contrasting cultures present both a hurdle and a learning opportunity. Insurers and start-ups can learn from the way each operate, but preventing culture clashes is crucial in the collaboration process.

I. The InsurTech landscape

If the idea of the 'FinTech' sector is well-established, the concept of 'InsurTech' which it is often compared with, is less widely-recognised. But that is changing very rapidly as start-ups, investors and the established insurance industry increasingly focus on the potential of InsurTech innovation. This is a landscape that is evolving at pace.

InsurTech in the spotlight

"The most exciting development this year has been the massive increase in the number of innovative companies focusing their efforts on insurance-related topics," says Ori Hanani of Admiral. "This is the year in which InsurTech reached a tipping point into mainstream awareness."

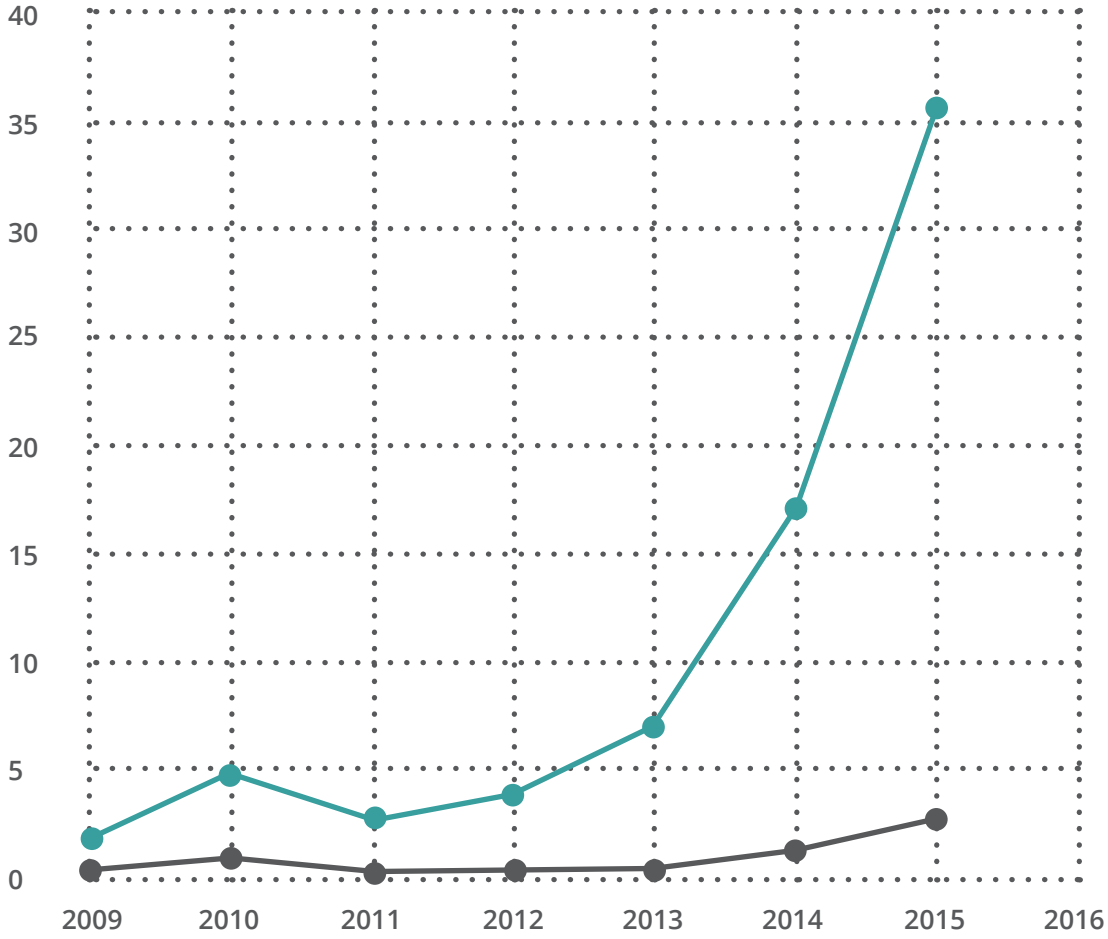
That instinct is widely shared – Michael Juhler-Nøttrup of Tryg says: "the InsurTech scene has exploded over the past year" – and reflects the global scale of activity in the sector. The first quarter of 2016 saw more money invested than ever before in InsurTech businesses, according to CB Insights, with 45 deals raising $650m. Notable funding rounds over the past year have included Zhong An (which picked up $931m), Zenefits ($500m) and Oscar ($400m).

Increasingly, these investments are coming from established insurers, who recognise the threat and opportunity that InsurTech businesses represent - almost three-quarters (74%) of insurers said they saw disruption by start-ups as a challenge for their industry in PwC's most recent Global FinTech Survey. Notable investors include Allianz, Aviva and XL Catlin – and 2016 is set to be a record year for deals featuring such units. Insurers completed almost 20 investment transactions during the first quarter according to CB Insights, more than twice as many as in the same period of 2015.

In response to the increased investment and interest, this year saw the launch of Startupbootcamp InsurTech, the first global InsurTech accelerator, which is working with 14 corporate sponsors.

However, inevitably insurers are not alone in investing in InsurTech. Funding for this sector from traditional venture

Investment ($ billion) in InsurTech & FinTech



capital has accelerated at the same pace – corporate ventures account for 13% of venture capital funding in the insurance sector today according to LeoTech, the same proportion as five years ago.

Playing catch-up

Despite the rapid growth InsurTech is now experiencing, it still attracts relatively little attention compared to the FinTech sector. As the charts show, while interest and investment in InsurTech have both spiked sharply upwards, the focus on FinTech, which has seen similar spikes, has been much more intense.

FinTech

InsurTech

Still, while a complex regulatory landscape, relatively high barriers to entry and some complacency within the insurance sector have so far shielded insurers somewhat from new entrants, it would be wrong to expect this to continue. The 258% increase in investment in InsurTech last year, according to CB Insights, underlines how this is a sector that is gaining momentum.

Insurers themselves must recognise the need to respond. Currently, there is a disconnect between their perceptions of the disruption to come and their willingness to invest accordingly. While PwC's Global FinTech Survey found 43% of industry players believed they had put FinTech at the heart of their corporate strategies, less than a third of insurers are exploring partnerships with start-ups and less than 14% said they were actively participating in InsurTech ventures or incubator programmes. "We have seen incumbent insurers adopt a "we can do this in-house" attitude to development. However, increasingly they recognise the value that partnering with the InsurTech community can bring, particularly in terms of accessing technology, skills and innovative ideas" says Jonathan Howe, UK Insurance Leader at PwC.

As more insurers begin to engage – whether defensively or offensively – we will see investment in InsurTech grow even more dramatically. This is not to suggest the insurance industry will experience some sort of sudden 'Uber' moment – rather than any single tipping point, the InsurTech sector is likely to develop over the medium to long-term.

> "This is the year in which InsurTech reached a tipping point into mainstream awareness."
>
> Ori Hanani, Admiral

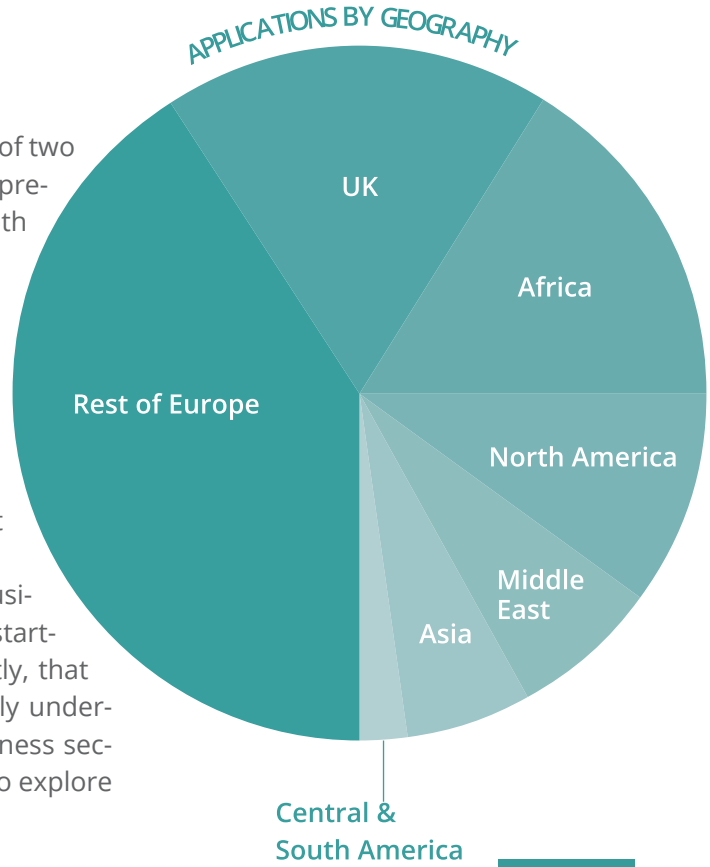
II. Top trends shaping InsurTech

The key trends highlighted in this report were identified following an analysis of two different datasets picked in order to give us a perspective from both entrepreneurs and the established insurers. We wanted to understand the views of both incumbents and challengers.

• To gauge challengers' views, we looked at data from applications to the Startupbootcamp programme and fast-track events. These applications came from businesses in 37 different countries all around the world, underlining the role of London as a global hub for the insurance industry;

• Our incumbents' data is drawn from the 2016 PwC Global FinTech Survey, which captured the views of 544 C-suite and digital officers in 46 countries – in this report, we considered the responses of 79 senior executives at insurance companies around the globe.

Startupbootcamp has had conversations with more than 1,300 start-up businesses. It is striking that many of these ventures do not identify as insurance start-ups – they may not even have considered their use case in the sector. Partly, that reflects the complexity of the insurance industry, which is sometimes poorly understood by non-insurance players (particularly in the life and business-to-business sectors). Addressing this issue will be important in encouraging more start-ups to explore new propositions.



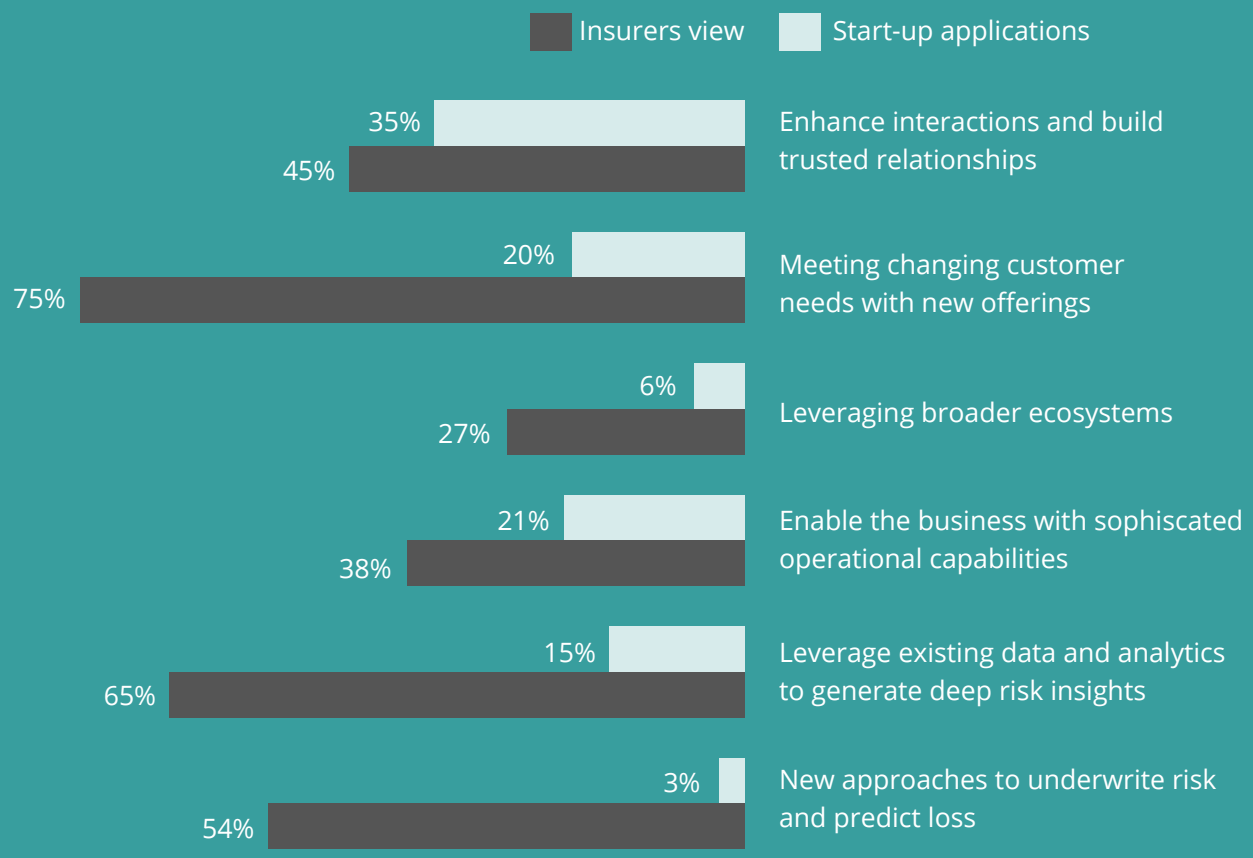
The start-ups were each categorised against one of our six key trends, whilst insurers were asked about the potential impact of each trend on their businesses. We are therefore able to compare the number of start-ups active in each trend against the expected importance of the trend to established insurers. The trends were categorised into external-facing (focusing on customers) and more internalised themes (focused on the back office and process), as follows:

External view:

1. Enhancing interactions and building trusted relationships
(Highest number of applications to Startupbootcamp vs 4th most impactful trend for corporates)
2. Meeting changing customer needs with new offerings
(Third biggest category of start-up applications vs number one most impactful trend for corporates)
3. Leveraging broader ecosystems
(Fifth biggest category of start-up applications vs sixth most impactful trend for corporates)

Internal view:

4. Enabling the business with operational capabilities
(Second highest number of start-up applications vs fifth most impactful trend for insurers)
5. Leveraging data and analytics to generate risk insights
(Fourth highest number of start-up applications vs second most impactful trend for corporates)
6. New approaches to underwriting risk and predicting loss
(Lowest number of start-up applications vs third most impactful trend for corporates)


Insurers view
Start-up applications
35%
45%
Enhance interactions and build trusted relationships
20%
75%
Meeting changing customer needs with new offerings
6%
27%
Leveraging broader ecosystems
21%
38%
Enable the business with sophiscated operational capabilities
15%
65%
Leverage existing data and analytics to generate deep risk insights
3%
54%
New approaches to underwrite risk and predict loss

1. Enhancing interactions and building trusted relationships

This theme represented 35% of applications to Startupbootcamp, more than any other theme. Around 45% of corporates considered this theme impactful, ranking it as the 4th most impactful of our six themes.

The largest volume of applications to Startupbootcamp came from start-ups aiming to enhance the quality and frequency of insurers' interactions with customers and, as a result, to build more trusted relationships with them.

That reflects the evolution of the broader digital economy, where customer expectations are constantly increasing. Having dealt with customer-centric organisations in industries such as retail and leisure - consider Google, Amazon, Uber, John Lewis and so on - customers want the same levels of service and engagement from other businesses, including insurers.

This is tough for the insurance industry, which has traditionally focused on distribution through brokers, financial advisors (and more recently comparison sites) and typically lags behind other industries in its ability to provide seamless, multi-channel customer experiences. The latest annual survey conducted by Engine, the service design consultancy, ranked insurance as the worst of all industries for customer experience.

Start-ups recognise this issue and are well-placed to exploit it – customer service represents an obvious starting place for founders in the sector. Unburdened by complicated legacy processes and technologies, they find it easier to offer seamless customer experiences and to bypass the traditionally negative connotations of insurance purchases, which are often one-off and resented by customers. Using a variety of approaches – online aggregation and comparison, self-service, new distribution channels, education and engagement of customers and omni-channel offers – these start-ups can enable ongoing engagement that leads to trusted relationships.

"Traditionally, the insurance industry has been overwhelmingly frustrating for the average individual consumer and ranks among the lowest of overall customer satisfaction across industries," says Ben Britt of Route 66. "By focusing on relieving major customer pain-points, savvy InsurTech start-ups can fill a gap."

> One of the most valuable trends over the next year could be robo-advice for wealth management that helps people to manage their assets with life insurance.

Federica Strobino, Intesa Sanpaolo

The most powerful innovators do more than simply digitise an existing interaction. Rather, they combine digital with the human touch, often using technologies such as artificial intelligence (AI), machine learning and robotics. Indeed, while AI has previously been seen as most useful to underwriting, its application in distribution is helping insurers increase conversion results. AI and robotics help insert a human characteristic into what might otherwise be an impersonal digital experience.

Examples include:

Spixii is an automated insurance agent. Its AI-powered, mobile-first chatbot helps individuals purchase insurance much in the same way a human telephone agent would have done. Spixii also connects to existing messaging platforms with its founders aiming to deliver a fully digital insurance distribution model.

Insurify is an AI-powered agent that enables customers to start a car insurance quote by texting a photo of their number plate. It uses natural language processing to respond to users in an accurate and engaging way.

MyFutureNow helps people consolidate old pension plans into one low-cost online pension account helping them make better financial decisions. They are developing their proposition to include machine learning, artificial intelligence and a smart comparison engine to aggregate the data and find customers one better value plan.

Robo-advice, including applications of AI, is now starting to gain traction in insurance. Robo-advisers provide customers with 24-hour access to information that empowers them to take financial decisions at a much lower cost. "This new generation of robo-advisors will help to provide a quality user experience on mobile devices at any time," says Ross Walker of Swiss Re. Technology is now evolving to glean better intelligence on customer needs and to enable goal-based risk and financial planning.

Knip, for example, are focused on providing easier ways to experience and interact with insurance policies. The Knip app aggregates a user's policies in one place (including price, service and expiry), and automatically analyses coverage to identify over- and or under-insurance. This example underlines the potential for crossover between wealth management and the insurance sector, "One of the most valuable trends over the next year could be robo-advice for wealth management that helps people to manage their assets with life Insurance," says Federica Strobino of Intesa Sanpaolo.

More broadly, the developments in this area are good news for customers, who will not only appreciate easier and more convenient interactions with insurers, but also reap the benefits of a stronger relationship with their insurer and a perception that they are being supported to achieve their outcomes. From an insurers' perspective, this should boost loyalty and retention.

Quantifyle is a start-up that does just this. Its unique 'Momentum Score' captures intent and behavioural data from employees who receive income protection from insurers, helping to motivate individuals and improve the efficacy of rehabilitation services. Individuals are encouraged to meet their wellbeing goals and outcomes, while insurers may be able to reduce their long-term income protection costs and employers benefit too. PwC's recent survey indicated that 65% of workers want their employer to take an active role in their health and wellbeing and feel that technology should be used to help them do this.

For the challenger firms, this theme primarily sees them disrupt the brokerage model, rather than the entire insurance stack. For insurers, they may represent enablers rather than disruptors. Incumbents will often want to partner with these start-ups (many offer white label solutions) in order to improve their relationships with customers. For this reason, it is surprising that insurers see this area as only the fourth most impactful InsurTech trend, despite being the biggest source of challenger applications. These rankings may change as InsurTech matures.

2. Meeting changing customer needs with new offerings

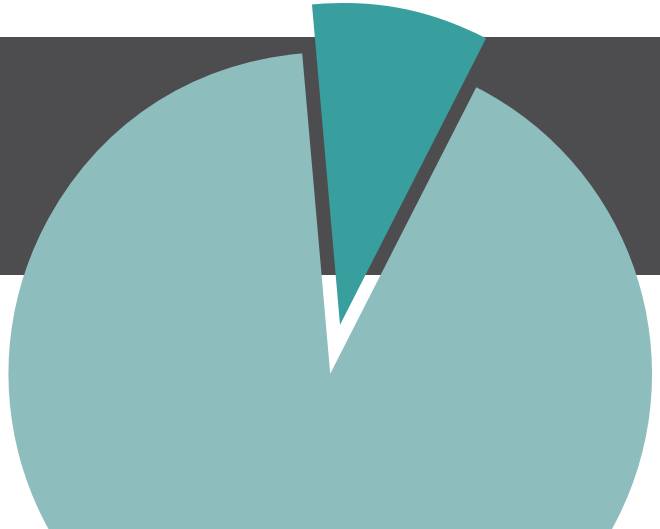
This theme represented 20% of applications to Startupbootcamp, the third largest category. Some 75% of corporates considered this theme impactful, ranking it as the most impactful of our six themes.

As insurers struggle to adapt quickly enough to meet the changing needs of customers, nimble new entrants offering flexible and personalised solutions are emerging to address gaps in the market. Often, these start-ups cater to customers who have been overlooked by traditional insurers. Others are focusing on the sharing economy or peer-to-peer principles that challenge the sector's existing business model.

No wonder insurers see this as the trend most likely to have an impact on their business. They recognise new entrants have the potential to disrupt their business model and to acquire and quickly build customer loyalty. This is prompting insurers to rethink their relevancy and to evolve in order to remain competitive.

i. Microinsurance

Some 9% of applications to Startupbootcamp came from micro-insurance businesses offering protection to low income groups. The majority of these ventures focus on the developing



9% of applications to Startupbootcamp were micro-insurance businesses offering protection to low income groups


Benny Marty / Shutterstock.com

world where, according to their 360 Risk Insight report, Lloyd's of London estimates there to be a potential market of between 1.5 and 3 billion policies. The trend now is typically for traditional global insurers to be largely replaced by new competitors in emerging markets; these new players bring local underwriting expertise, relationships and capital.

For example, **bimaAFYA** offers a mobile micro-health insurance product in Tanzania where 75% of the population do not have health insurance. No private insurer has previously tried to build a solution for this marketplace, with the high administration cost of traditional insurance meaning cover is unaffordable to low-income customers. Recognising the high mobile penetration across Tanzania, bimaAFYA has reduced administration costs by 99% by allowing customers to use their phones for policy registration, selection, premium payment, benefit management and hospital claims.

For insurers, providing microinsurance offers a new profit stream, a more diversified risk profile and market intelligence. It gives them a route into developing countries where future business opportunities may be a powerful engine of growth. It also represents an opportunity to reconnect with the original purpose of insurance – to protect and help people to prosper.

However, microinsurance isn't only for low income groups. Based on the principle of improved operational efficiency that is largely made possible through technology, microinsurance ideas are also now being deployed in the developed world.
For example, **massUp** is a business-to-business player offering specialty and short term insurance. massUp offers 150 insurance products for goods with such low profit margins that incumbents aren't usually prepared to offer cover, even though the market for gadgets and speciality consumer items (for example, mobiles, musical instruments and sports equipment) is growing so fast. The company's SaaS solution can be quickly plugged into every digital sales channel, increasing ecommerce volumes and providing a cross-selling opportunity while removing the operational and distribution inefficiencies that make protecting such low value items unprofitable for insurers.

"Powerful new technologies and the innovative and hyper-scalable business models that they make possible hold out the prospect of addressing the low end of the insurance market, profitably serving customer segments that were previously neglected by the incumbent business model owing to their being unprofitable to acquire and serve," says Jonathan Stewart of MMI Holdings. "The extent to which these business models can march up-market and satisfy the mainstream insurance customer segment needs will in large part determine the extent of the disruption of current incumbents."

ii. Peer-to-peer

Some 7% of applications to Startupbootcamp came from peer-to-peer insurance start-ups. These ventures have the potential to both disrupt the status quo and improve the image of insurance. Built to deliver trust and transparency, they address these key concerns of many customers today.

Peer-to-peer insurance businesses are now beginning to take off. Examples include Lemonade, which recently raised a $13 million seed round, Guevara and Friendsurance, which is growing at 20% a month and has plans to expand globally.

The model is tough, however, as it is much more capital intensive than other types of InsurTech start-up. It may take time for customers to get to grips with the concept of peer-to-peer in insurance, and for start-ups to prosper.

3. Leveraging broader ecosystems

This theme represented 6% of applications to Startupbootcamp, the fifth largest category. Some 27% of corporates considered this theme impactful, ranking it as the least impactful of our six themes.

A number of start-ups see partnerships across the insurance sector, as well as with different industries, as the key to their success. Such partnerships are effective ways to augment capabilities, develop mutually beneficial relationships and access new customers via different routes.

The relatively low number of applications to Startupbootcamp from ventures of this type is not surprising, since the partnership model often relies on a business having demonstrated its value proposition in practice – Startupbootcamp applicants are not generally at this level of maturity. Equally, insurers are not accustomed to working with other sectors, which may be why they see this theme as less impactful.

Nevertheless, we expect this to be a long-term growth area. "We guess that the potential for real disruption is more in business models that are not restricted to the InsurTech area," argues Martin Pluschke of ERGO.

The potential is demonstrated by a start-up such as **Domotz**, which provides diagnostics and remote-support software applications for the digital home and office. It has successfully partnered with Best Buy, the multinational consumer electronics retailer, and is currently exploring opportunities to work with utility companies, telecoms companies, hardware manufacturers and insurers in order to increase the penetration of its products. In return, these organisations are able to offer their customers additional value added services.

4. Enabling the business with operational capabilities

This theme represented 21% of applications to Startupbootcamp, the second largest category. Some 38% of corporates considered this theme impactful, ranking it as the fifth most impactful of our six themes.

A significant number of the applicants to Startupbootcamp offer solutions that could improve the way insurers operate. By increasing the efficiency of insurers' back office processes and systems, these start-ups have the potential to enable insurers to operate more profitably at greater scale.

There are barriers to entry here. For example, the cost of developing and implementing new systems has often been considered prohibitive. Also, start-ups that lack insurance sector expertise may struggle to develop solutions that reflect the complexity and technicality of the back office of an insurance business.

However, these problems can be overcome. Cloud computing and open-source frameworks have dramatically reduced the cost of developing scalable and flexible solutions, as well as ongoing infrastructure spending. The as-a-service model is an increasingly effective way to deliver back office insurance tools, with examples including:

RightIndem offers insurers a white-label software-as-a-service tool that streamlines the claims process, making it more transparent for the customer and reducing costs and customer churn for the insurer.

CoVi Analytics offers compliance-as-a-service to insurers. Its software simplifies regulation and automates ongoing compliance activities, reducing cost and enabling insurers to accelerate business decisions.

OutsideIQ offers an as-as-service solution which leverages artificial intelligence and big data to assess and address complex risk related problems.

As for insurance sector knowledge, a number of start-ups have founders with a background in the industry. Both RightIndem and Covi, for example, have founders who have been able to capitalise on deep industry expertise in order to offer their particular solutions.

Incumbent insurers are less likely to expect start-ups offering new operational capabilities to have a significant impact on their businesses. However, assuming that insurers want more help solving the inefficiencies in their back offices and core processes, they need to encourage innovation – not least by setting out exactly which problems they regard as most in need of solving.

The potential is clear – and the strides that back office-focused FinTech start-ups are already making in the banking sector of financial services is likely to see InsurTechs follow suit. "Over time, as the InsurTech ecosystem evolves and matures, we'll see more solutions aimed at optimising the back office, with increasing focus on start-ups looking to disrupt the claims, underwriting and pricing processes," says Dan Smith of MMI Holdings. "I certainly expect next year's applications to Startupbootcamp InsurTech to include more start-ups focusing on process improvement and efficiency – utilising blockchain technology for example" adds Jonathan Howe of PwC.

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>
> Dan Smith, MMI Holdings

5. Leveraging data and analytics to generate risk insights

This theme represented 15% of applications to Startupbootcamp, the third largest category. Some 65% of corporates considered this theme impactful, ranking it as the second most impactful of our six themes.

Established insurers should have a natural competitive advantage over new entrants to the sector: their ability to leverage many years of detailed risk data. The fact that two-thirds of insurers see the potential impact of new entrants' data and analytics tools reflects recognition of this advantage. Insurers know they need capabilities that will enable them to extract more meaningful insights from their existing data or new data - for more accurate underwriting, say, to underpin the launch of more personalised products, or for a whole range of other applications.

Technologies such as the Internet of Things, sensors and wearables will substantially increase the data insurers have at their disposal, helping them to move from relatively reactive protection models to a more sophisticated approach based on prediction and prevention. A good example is Cytora, an InsurTech firm that uses machine learning and analysis to collate information from news feeds, social media and other sources. It is able to identify real world events such as floods, fires or political unrest, either in real time for risk prevention or historically to provide enhanced underwriting and assessment.

i. The Internet of Things

Gartner predicts there will be 20.8 billion connected devices in use worldwide by 2020. Large companies, both from within insurance and beyond, are already investing in Internet of Things technologies – they include Generali, Aviva and Allianz, as well as Google.

"We've seen applications of the Internet of Things that may significantly improve underwriting, and others that provide a robust, scalable method to better understand customer behaviours and needs," says Ben Britt of Route 66. "Start-ups leveraging the Internet of Things have the powerful potential to provide improved, tailored, and more transparent insurance products for the individual customer."

The earliest applications in this area focused on vehicle telematics, but use cases are becoming increasingly broad and span both the connected home and connected health.

ii. Connected health

Sensor technology and wearables enable individuals to monitor their wellbeing, detect early signs of illness and to make smarter and healthier lifestyle choices. The knock-on effect of improved health will be reduced liabilities for insurers.

A number of connected health start-ups are tapping into new data sources and developing end-to-end propositions that are compelling to life insurers. The granular risk insights these firms can generate enable insurers to offer more relevant and compelling offerings to existing customer segments, or even to define new value propositions for underserved segments.

For example, **FitSense** offers a platform-as-a-service model that provides companies in the health and life insurance sectors with superior customer insight based on data from mobiles and wearables.

However, there is a stumbling block. Insurers have not yet fully understood how best to use the insights becoming available to them. Their underwriting processes are robust but largely inflexible so their ability to adapt to and use this data will take time. And in some cases, insurers will feel new segments aren't commercially viable.

Start-ups therefore need to be prepared to find the use cases and be able to clearly articulate the value they can deliver. Jan-Philipp Kruip, co-founder of FitSense adds: "Reinsurers play a critical role here: in our experience, reinsurers have the expertise and resources to help us evaluate and de-risk the solution so that it's valuable and viable to their direct insurance clients."

> "Start-ups leveraging the Internet of Things have the powerful potential to provide improved, tailored, and more transparent insurance products for the individual customer."
>
> Ben Britt, Route 66


Fitness Dashboard
Select workout
3 mile run
GO
Steps today
612 steps / 12,000
Current heartrate
82 BPM resting
Music
Running playlist

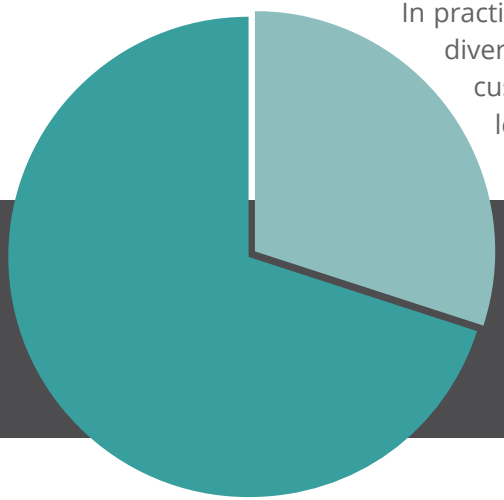
iii. The connected home

There is a clear appetite from consumers for connected home devices. In one recent Consumer Intelligence survey, 93% of consumers said they would welcome a device that would monitor and keep their home safe.

Connected homes offer insurers a unique opportunity to develop an ongoing relationship with customers with a service that adds value to their lives. Insurers can move from being the responder that steps in when disaster strikes, to the facilitator that prevents disaster happening in the first place. The insurer therefore becomes a trusted and relied-on service provider in its customers' everyday lives.

In practice, the use cases in this theme are diverse. For example, Buzzmove also focuses on the home space, but not by leveraging the Internet of Things. By digitising the home survey process when a customer moves, **Buzzmove** has tapped into a new and valuable data set – customers can track the value of their household contents and assets in real-time and find personalised cover that accurately reflects the ongoing value of their goods.

In the future, the number of start-ups who are leveraging data and analytics, particularly via the Internet of Things, is set to rise – these businesses will identify an increasingly broad range of applications in different industries. "The Internet of Things and big data afford opportunities to turn insurance upside down," says Jehangir Byramji, Senior FinTech Lead at Lloyds Banking Group. "Disruption comes from being unusually smart about combining layers of information - proprietary or public - in order to make better decisions to automatically underwrite and price policies tailored precisely to individual circumstances."



Two-thirds of insurers see the potential impact of new entrants' data and analytics

6. New approaches to underwriting risk and predicting loss

This theme represented 3% of applications to Startupbootcamp, the smallest category. Some 54% of corporates considered this theme impactful, ranking it as the third most impactful of our six themes.

Traditionally, insurance has operated on a protection model where it supports policyholders following a loss. However, we are now seeing a move towards more advanced, preventative models that enable insurers to mitigate such losses. Real-time data capture from sensors and advanced analytics enable insurers to predict an impending liability and underwrite in more precise and sophisticated ways.

The small number of Startupbootcamp applications in this area reflects the very technical nature of underwriting, the extensive data required, and the need for actuarial expertise. For these reasons, insurance incumbents have a competitive advantage. That is not to rule out the start-ups. "Many of the incumbents' data models are somewhat outdated," says Dan Smith of MMI Holdings. "What start-ups introduce is alternative data types, sources and time series that can enrich the existing incumbent underwriting process as opposed to competing with them."

We have already begun to see more start-ups that are capturing and analysing data (see theme five) that insurers can leverage in order to refine or re-engineer their underwriting processes. Further growth will come if start-ups are able to access deep industry knowledge and combine this with improved data capture and analysis and machine learning. A partner-led model where insurers and new entrants work together will be the key to success. "Alone, start-ups still lack a number of essential competencies that incumbents have built up over the years," says Martin Pluschke of ERGO, while Rod Willmott of LV= adds: "The start-ups lack historical data without partnerships and in some cases there is no history for what they are trying to do."

Discovery provides a good example of the potential for partnerships. It is a health-focused insurer that has partnered with Human Longevity, which is able to provide whole genome and cancer genome sequencing to clients. Customers benefit from personalised health and medical treatment strategies and will be able to better manage or avoid serious health problems.

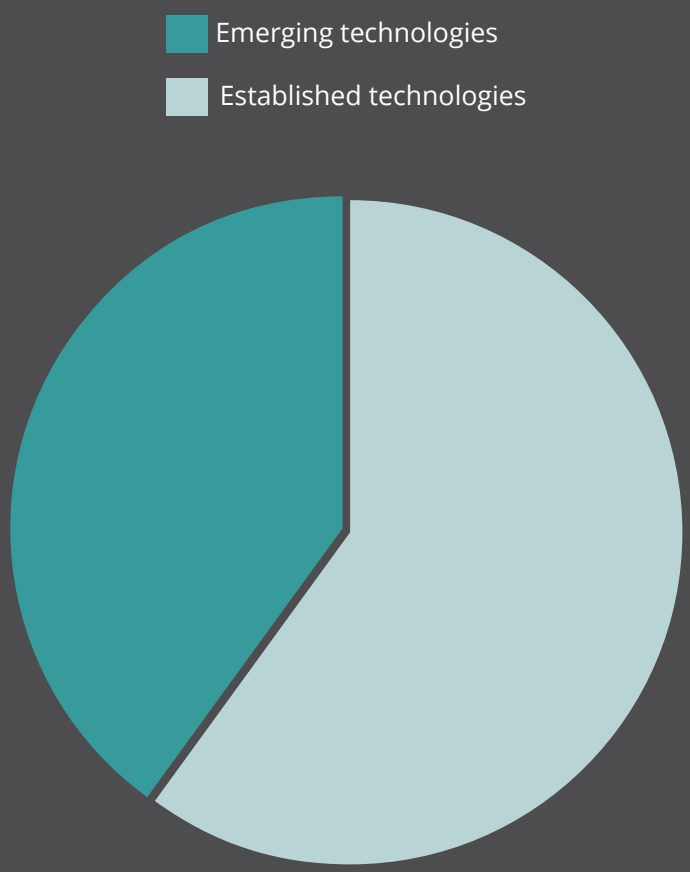
Technology isn't always the key to success

While considering all of these themes, it is important to not get overly fixated on new technologies. Developments such as the Internet of Things, AI and blockchain get people excited and generate media interest, but only 40% of applications to Startupbootcamp came from firms leveraging an emerging technology. The remainder work with more established technologies such as mobile or cloud in ways that make operations faster, better and cheaper.

This underlines the driving force of these start-ups: their power and potential for disruption comes from their innovative business models, their compelling customer value propositions, their use of multi channels and their ability to identify and exploit a gap in the value chain. In other words, it's not about the kit.

We see this in other industries too. Uber, for example, has been hugely disruptive to the taxi sector because of its business model and the end-to-end customer experience it offers, not because of its ability to leverage an emerging technology.

"It's not about technology, it is all about the people," says Martin Pluschke of ERGO of InsurTech start-ups. "The commitment and the way these bright young entrepreneurs work on their vision is absolutely amazing."



III. Start-ups and corporate collaboration

Incumbent insurers recognise InsurTech start-ups are bringing change to their industry. PwC research shows 90% of executives at established companies believe at least part of their business is at risk from the challengers. However, fewer than half the insurers in our research are taking action to counter the threat, or to exploit InsurTech opportunities. Just 43% say they have put FinTech at the heart of their corporate strategies; only 28% are exploring partnerships with start-ups; and only 14% are investing in or supporting incubators.

This is to risk missing an opportunity – and countering a threat - and those incumbents not engaging with InsurTechs may come to regret it. "The biggest risk we can take at the moment is not taking any risk," argues Martin Pluschke of ERGO.

Moreover, as those insurers that have chosen to collaborate with start-ups are discovering, there are a multitude of options. The approach (or approaches) that an insurer takes to co-operate with InsurTech players will depend on its strategy, ambitions and appetite for risk, but the options include:

Partnerships

There is much to be said for insurance companies partnering with InsurTech start-ups that align to their corporate strategy. This will require proactivity, suggests Graham Jackson of PwC. "Insurers have to engage with the InsurTech ecosystem, but if an industry player is waiting for an interesting start-up to approach them, it will be disappointed," he warns. "Those insurers that proactively engage with start-ups are best placed to spot the winning ideas, the winning teams and forge the winning alliances and relationships."

Partnerships are mutually beneficial, but work best when each side plays to its strengths: large corporates bring attributes such as their data, their underwriting expertise, their credibility and their global capabilities – as well as the ability to help InsurTech start-ups to scale.

The start-ups provide new ways of thinking, entrepreneurial drive and ambition, a more customer centric approach, and often very detailed understanding of a complex issue in the value chain; they provide solutions and offers that will help insurers achieve their broader strategy. And, if insurers are right in predicting that digital and software development skills will become increasingly hard to find over the next year – data from PwC and CBI research suggests exactly that - InsurTechs will also provide a means by which insurers can begin to fill their burgeoning skills gaps in these areas.

Startupbootcamp's corporate partners recognise this as a good approach – 80% are already actively engaged in partnerships with start-ups. In some cases, they are exploring relationships with the 10 start-ups of the 2016 Startupbootcamp InsurTech cohort as well as a number of other businesses.

These partnerships are proving invaluable. "We are continually learning from the start-ups we work with and are always happily surprised by their creativity in solving complex, deep-rooted problems," says Ben Britt of Route66. "Working with innovative companies, we've introduced new ways of working and improvements to some of our new ideas" adds Claire-Anne Coriat of Admiral. "We've also become better at launching new pilots and tests that make our advancement even faster."

Not that incumbents should assume that their size and scale means they will automatically have the upper hand when partnering with a smaller business – or that they can pick and choose their partners at will. Many InsurTech start-ups offer such a compelling proposition that they hold the balance of power in who they choose to partner with. Insurers will need to think hard about how they can persuade such organisations to team up with them, rather than a rival.

The start-ups in the Startupbootcamp cohort cite a number of attributes that make a larger player appealing as a partner. Many cite culture and attitude as the most important factors – the corporate should be open to new ideas and treat the start-up as their equal, demonstrating a desire to collaborate and achieve a shared outcome. Start-ups want agile partners prepared to commit sufficient resources and energy to the initiative to give it the best possible chance of success.

There will inevitably be false starts. InsurTech businesses may be frustrated by the slow pace of decision making at larger firms; incumbents may struggle to adjust to the culture of their new partners. "We need to change the way we

work, so that we make decisions faster and accept the possibility of failure," says Mikael Toke Hvolgaard of Tryg. "You can't approach start-ups with a traditional corporate mindset."

Accelerators such as Startupbootcamp provide a vehicle for bringing together these very different organisations, in an environment that helps to align their different expectations and ways of working. This may be the ideal way for partnerships to begin, as partners and programme participants work together on new ideas and use cases.

Acquisitions

Some incumbents' strategy is to identify what they expect to be the winning challengers, or the start-ups offering the best-fit solutions for their own businesses, and then to acquire them. This has been a more popular approach in the past than today, though several Startupbootcamp partners continue to work this way. Acquisition may mean outright purchase or taking an equity stake in the business.

Corporate venture arms

Many large insurers looking to take an active role in InsurTech are choosing to set up corporate venture arms through which they invest in start-ups at arms-length from the established business. This reflects an increasing realisation that the difficulty of integrating a start-up into the culture and working practices of a large corporate organisation has often lead to a loss of the value the acquirer hoped to gain.

Large insurers have already committed over $1 billion of investment into InsurTech start-ups with the list of insurers setting up their own venture capital arms, which already includes Allianz, Axa, Aviva, XL Catlin and AIG, growing each year.

Digital innovation labs and internal innovation initiatives

Some insurers are seeking to bring innovation within their businesses by setting up their own internal innovation labs, providing them with in-house digital and design capabilities. Examples include IAG's Digital Labs, Axa Lab, Allianz's Digital accelerator and ManuLife's LOFT (Lab of Forward Thinking). Some 80% of Startupbootcamp's corporate partners are forming internal innovation initiatives as part of their strategy for engaging with InsurTech.

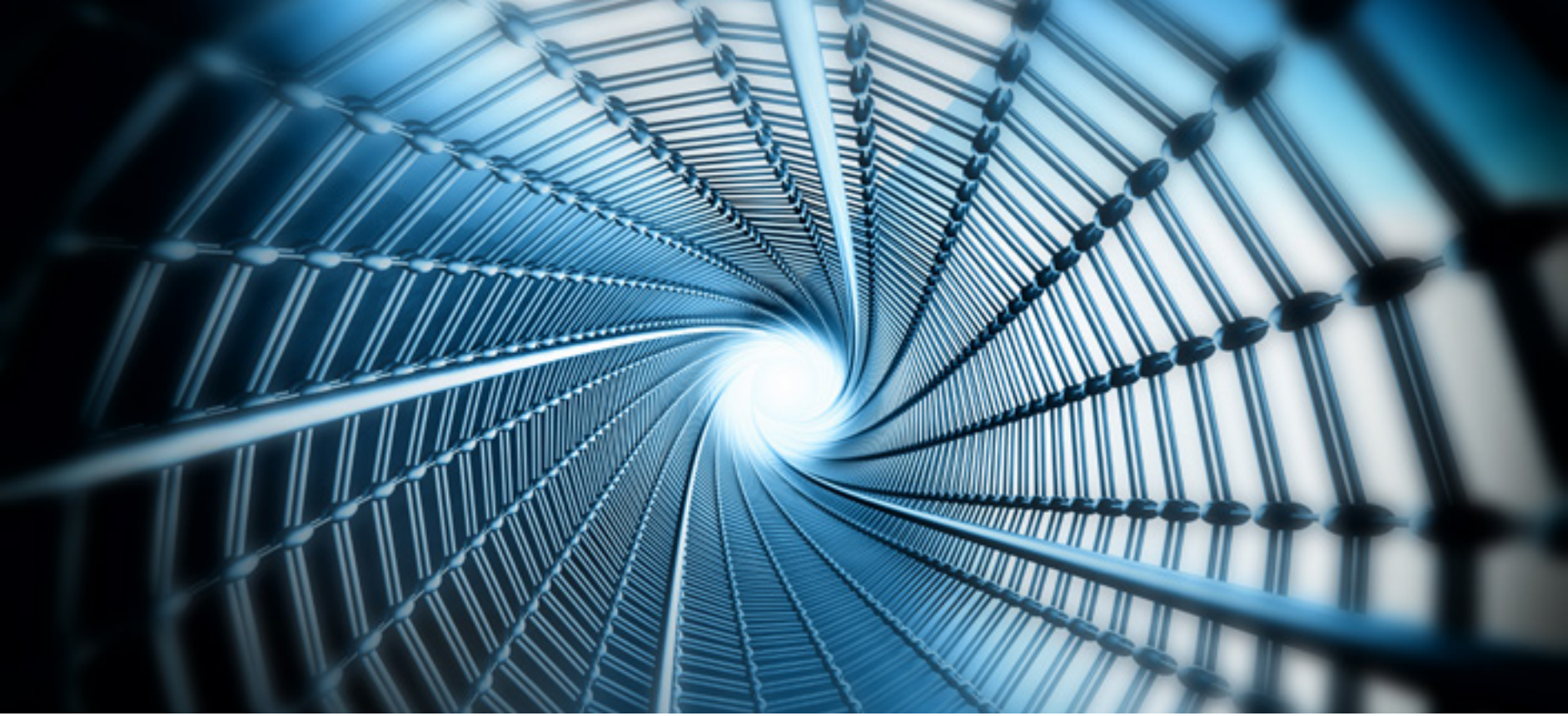
Rethinking organisational structure

Regardless of which collaboration approach they choose, insurers are now restructuring their organisations in order to ensure their innovation activities can flourish. One common strategy is to carve the innovation arm out of the business, so that it operates separately from the insurer's other activities – the aim is to give such ventures greater freedom, unfettered from legacy processes or conservative and risk-averse attitudes. Examples include:

ERGO Group has set up ERGO Digital Ventures to take responsibility for all of the group's digital and direct business activities. "We thereby created the cultural environment for innovation as well as – for the first time – a strong separate digital pillar within ERGO Group," says Martin Pluschke of ERGO. "Its detachment from the traditional business will make it easier for us to rapidly and boldly implement new ideas."

MMI Holdings has created an entirely new disruptive innovation capability it has christened Exponential. The unit is autonomous in its decision making and falls outside the governance and management processes of the parent company. "We are setting up venture investment partnerships in the market to avoid the common pitfalls of corporate venture funds, such as selection bias and political dynamics," says Dan Smith of MMI. "We absolutely realise the need to drive cultural change and a big element of that is to be vocal in celebrating progress, to be inclusive with senior leaders and to ensure that objectives, KPIs and compensation are structured to drive engagement with start-ups."

> "Those insurers that proactively engage with start-ups are best placed to spot the winning ideas, the winning teams and forge the winning alliances and relationships."
>
> Graham Jackson, PwC



IV. The road ahead

As InsurTech start-ups evolve and their collaborations with incumbents develop, they will be confronted by new challenges and uncover new opportunities. But while established insurers and start-ups will be affected in different ways as the future unfolds, their ability to embrace opportunities will be enhanced if the ecosystem is able to work together. Moving forward, here are four areas to look out for;

i. Emerging blockchain use cases

Blockchain technology, a decentralized ledger of all transactions across a peer-to-peer network which is increasingly being considered across financial services as a secure storage and distribution solution, has undoubted potential to disrupt insurance and financial services, but almost a third of insurers in PwC's research said that they are not familiar with blockchain at all. The InsurTechs, by contrast, are eyeing this opportunity. While it remains very early days for blockchain in insurance, 6% of the applications to Startupbootcamp came from start-ups looking to leverage blockchain technology.

Early use cases include claims auto-settlement, shared and on-demand economies, streamlined reinsurance and capital flows across the ecosystem. More broadly, the opportunity exists for insurers to leverage their deep industry knowledge to not only assess the viability of these emerging use cases but also to identify other opportunities where it may be possible to measurably improve efficiency and transparency, particularly in back office operations.

"Over the next five years, we will see a more fundamental transformation within the insurance industry, as decentralized, autonomous and self-organised 'insurance companies' based on blockchain technology emerge," predicts Michael Juhler-Nøttrup of Tryg. "The interesting question is whether the winners in this game will be InsurTech start-ups, technology businesses from other sectors moving into insurance, or incumbent insurers transforming their own business model."

ii. Robotics

PwC and Startupbootcamp expect to see a massive ramp-up in the possibilities of robotics automation technologies that aggregate AI, data analytics and rapid software development. We are already seeing robotics successfully executing manual and repetitive back-office tasks with insurers experiencing drastically improved processing times and accuracy. Not only will this have a significant impact on their bottom line, but it releases valuable resources which can be redirected towards high value, customer related activities to boost top line growth.

However, in the longer term, the revolutionary power of robotic technology won't come from simply improving and automating existing functions or processes, rather from the new roles and innovative business models that robotics may create.

iii. The rise of the sharing economy

In recent years, the sharing economy has evolved from a means through which family and friends transact to a movement of global businesses that include household names with valuations in the billions. And given the familiarity of consumers with the likes of Uber and Airbnb, other start-ups in this area will find it easier to gain momentum. PwC estimates that global revenues from five key sharing sectors (P2P finance, online staffing, P2P travel, car sharing and music streaming) could increase to approximately $335 billion globally by 2025.

The sharing economy has the potential to not only change how insurers manage risk in the future (flexible insurance policies which cover both private and occasional commercial use) but also bring about new insurance models where like-minded consumers come together to pool their risk

This may not happen overnight. There will be regulatory barriers to overcome and as companies scale up, they will have to find ways of maintaining their authenticity and uniqueness. Still this isn't a phenomenon that incumbents can afford to ignore.

iv. Colonising the entire value chain

As we have seen, most of the InsurTech start-ups emerging to date have been enablers rather than disruptors. But while start-ups may currently focus on single elements of the value chain, namely distribution, over time the new entrants will collectively cover the waterfront. Insurers risk being reduced to risk carriers forced to survive on ever-shrinking margins, a threat that they are acutely aware of: 73% of insurers stated that the increased pressure on margins was the greatest threat posed by InsurTechs.

"Vertical software-as-a-service integration models can be highly disruptive - think of Opentable's approach to restaurants, but for insurance," says Ben Britt of Route66. "A great deal of the insurance value chain revenue is under threat of being compressed into part of a vertical-centric software solution; these solutions solve a multitude of their customers' unique pain points, and enable them to provide a full-scale experience that insurance players will struggle to match."

The transparency and choice that InsurTech offers to consumers threatens the same result, as the balance of power shifts. Insurers unable to respond to consumers who are empowered and engaged risk further erosion of margins. Exploiting data more successfully may be one such response.

Conclusion

The InsurTech sector can be transformational for the wider insurance industry and we are only just beginning to see the potential applications of new ideas, technologies and processes. Some of the examples detailed in this paper give a flavour of where the future lies, but there are many more to come.

Incumbent insurers should welcome these new entrants with open arms. For one thing, as we have seen, they represent an opportunity for all insurance businesses to reconnect with customers who have become disengaged, either directly, or via others in the sector. New entrants can help insurers serve existing customers better and reach new customers for the first time. Nor does the promise of the start-ups end there: they will also enable insurers to operate more effectively and efficiently throughout the back office.

Indeed, so much of what start-ups currently offer is enabling rather than disruptive. As InsurTech develops and matures there will no doubt be more start-ups that aspire to take market share from insurers, and incumbents will need to respond to these. But for now, the bigger challenge will be to respond to the opportunity start-ups offer.

There will be roadblocks along the way. Not least, the regulatory landscape is complex and while some regulators are doing their best not to impede innovation – the sandbox initiative of the UK's Financial Conduct Authority is a good example – others are less encouraging. New rules such as the General Data Protection Regulation will only add to the complexity.

Nevertheless, insurers must look beyond these hurdles to the promise of improved commercial performance and greater customer engagement. To secure this potential, they will need to embrace the collaborative ecosystem that is now developing, working alongside InsurTechs and other stakeholders for the good of all – new entrants, incumbents and customers alike.

A closing note from Sabine VanderLinden

"It won't happen in my lifetime." This was still the common response only 18 months ago to my conviction that startup-led innovation could transform the insurance industry. I remember in early 2015 talking about the subject to practitioners from Lloyd's, leading London insurers and the wider market. They seemed overwhelmed by what I was saying – that InsurTech could prove to be as influential as what was happening in FinTech.

Indeed, it seemed as though the success of FinTech was not enough to convince these executives that the same was possible in InsurTech. Or that they could harness this innovative energy for their own huge long-term benefit. "What will it take for them to see the opportunity I see?" I wondered.

Since then, Startupbootcamp InsurTech has delivered its first programme with the support of 14 amazing leading insurers and insurance experts, 100 mentors and over 200 investors. The start-ups we selected were largely – though not exclusively – early stage. This was the first truly global programme dedicated to them, so there was a need for some catching up, as it were.

In the few short months since that first InsurTech programme the landscape has continued to evolve at breakneck speed. And much of the scepticism of 18 months ago has gone. Now there are thousands of start-ups dedicated to transforming an insurance market that yearns for change. And while we often hear about the innovative potential of the technology involved – Artificial Intelligence, Internet of Thing, Robotics, Blockchain, Drones, Augmented and Virtual Reality – it's their dedication to solving compelling insurance problems in unconventional ways that distinguish many of these businesses from what went before. The best of them are asking why large corporate processes are so complex and convoluted – and this drive to find pertinent answers to impertinent questions is what will truly transform the industry.

Those incumbents that take the time now to listen to this impertinence are the ones who will likely reap the biggest rewards. Those who close their ears to it may well lose out. So I urge you to embrace the InsurTech evolution sooner rather than later. The transformation has already begun.

PwC

PwC works with insurance companies to implement InsurTech innovation, from strategy through execution, and helps InsurTech start-ups accelerate and scale their businesses to reach their full potential.

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