



City of London Corporation PwC FinTech series: India–UK InsurTech landscape





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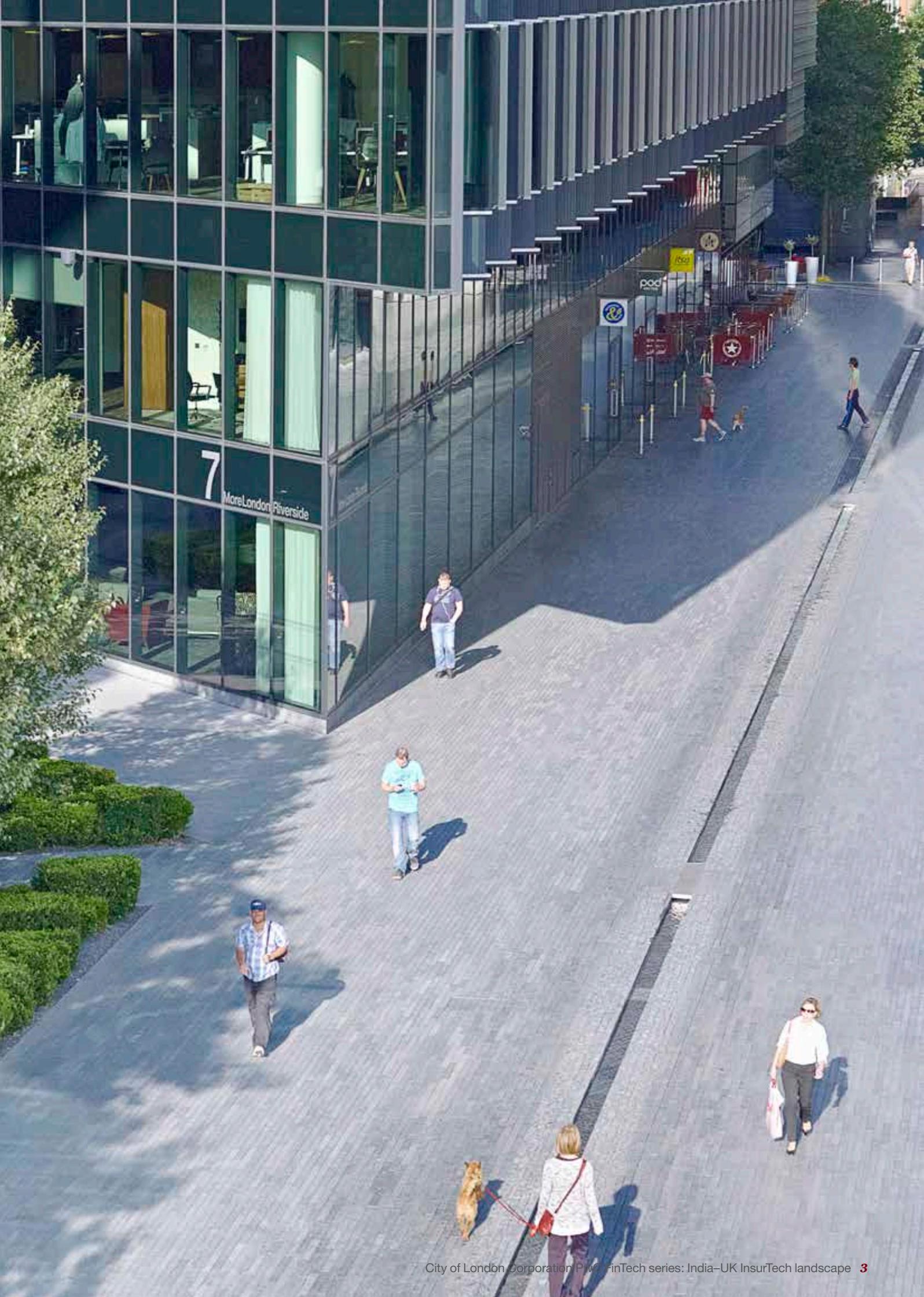
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Executive summary

Objectives of this research

Based on the FinTech round-table events organised in India over the past 12–18 months by the City of London Corporation representative office in Mumbai, there is an increasing appetite from both the UK and Indian FinTech players to consider inbound and outbound investments to take advantage of the dynamic markets and scale of opportunities offered by the UK (London in particular) and India. In particular, UK FinTech players are keen to gain an understanding of the challenges faced by their Indian FinTech counterparts in the insurance space and look to leverage their existing solutions to address these problems. The UK players view this as an opportunity to proactively engage with the Indian InsurTech ecosystem. To foster deeper engagement between the UK and Indian insurance sector, the City of London Corporation has commissioned PwC India to develop three FinTech research reports around the governance, risk and compliance over InsurTech and RegTech during 2018–19.

The objective of undertaking this research is to create the required visibility into the opportunities and challenges within the FinTech ecosystem in the UK and India and how the opportunities in India and the UK could be tapped in a seamless manner by UK FinTech firms, as well as Indian FinTechs planning international expansions in London/the UK. This research paper maps the landscape of the InsurTech scenario as part of the Indian insurance landscape; it also consolidates statistical data, historical information and policy initiatives that suggest the possibility of a major transformation of the Indian insurance sector.

India's economic rise combined with low insurance penetration means future growth is now likely to be rapid. The sector could expand as much as fourfold by 2025, according to McKinsey¹, reaching 17000 billion INR in annual premium payments and becoming one of the world's largest markets.

A summary of the insurance penetration within the Indian sector will help in understanding the potential of the Indian insurance sector compared to a few other economies.

Executive summary

The world average for insurance penetration is 6.13%.

In 2016–2017, India's insurance penetration (total premium underwritten as a percentage of Indian GDP) had reached 3.49% from 2.71% in 2001. In comparison, the emerging economies in Asia such as Malaysia (4.77%), Thailand (5.42%) and China (4.77%) have a higher penetration than India. Indian insurance density has increased to 4,060 INR from 782 INR in 2001, with life insurance density of 3,162 INR and general insurance density of 898 INR. This compares to a global average insurance density of 24,004 INR for life and 19,380 INR for non-life².

According to the Swiss Re Sigma report, 'In India, insurance growth was impacted in November 2016 by demonetisation, real estate regulation, and goods and services tax reforms. Consequently, private consumption growth was a little weaker than expected, and private investment was also sluggish, but government investments accelerated in the final quarter of the year, providing momentum into 2018.'³

Needless to say, despite the challenges there is huge potential to tap the market through modern and technologically advanced approaches.

InsurTech start-ups have the potential to provide and store data as well as offer risk mitigation to help improve underwriting accuracy and loss predictions. InsurTechs could offer incumbent insurers greater operational efficiencies, lower cost and also enable insurers to better serve their policyholders. Furthermore, the various initiatives by the Indian government and progressive policies⁴ will create more opportunities for the InsurTech and Indian insurance sector. These are compelling reasons which make India a unique market for the InsurTech space. However, with opportunities that are opening up, there continue to be challenges that companies will be faced with, within India as well as globally.



1. India Insurance Vision 2025- prepared by CII and McKinsey

2. <https://timesofindia.indiatimes.com/business/india-business/insurance-penetration-in-india-has-risen-to-3-49-economic-survey-says/articleshow/62696220.cms>

3. <https://www.moneycontrol.com/news/business/economy/indias-insurance-penetration-premium-per-person-up-marginally-in-fy18-swiss-re-2681721.html>

4. <https://www.livemint.com/Industry/AjKydVIS6l68IH2Xq4mhDO/Irdai-to-develop-sandbox-approach-for-fintechrelated-prod.html>

We have highlighted some of the typical challenges relevant from an InsurTech perspective.

Challenges faced by the sector:



Business environment

The pace and scale of technological and structural change is one of the biggest challenges affecting the global insurance industry over the next few years. Customer expectations have changed over time, markets have also evolved, and traditional insurance business models have been continuously challenged. Due to the advent of technology, different types of products are being created and life insurers are having to think about how to price these products.



Technology

Another major challenge that has affected the insurance industry has been the advent of technology. Traditional methods, including telephone or letters, are still being used to interact with customers. It is believed that by using technology to strengthen existing internal processes, companies can reduce their administration costs as well. There is also the perception that the use of outdated technologies has given insurers a stale and unfriendly image. Due to this, new entrants have posed a threat to incumbents by introducing lean processes, low costs and high-technology systems that help to offer different services.



Cyber threats

Cyber threats have also affected all types of insurance in recent years. The biggest challenge for life insurers is the theft of customer personal data or even financial information of the company. The fallout from cyberattacks has been loss of intellectual property as well as high reputational damage for the company. Insurance companies are having to continuously invest in improving their security framework to avoid incidents.



Competition

The intense competition prevalent in the insurance market is seen as one of the most important ongoing challenges. Competition in the insurance industry comes from new global entrants who are adopting digital platforms and implementing new business models. These companies are entering different global regions and offering low-cost products to customers, which is making the market more competitive.



Low interest rates

One of the key challenges affecting the global insurance market is the prevalence of low interest rates. Low rates have affected the ability of life insurers to come up with attractive savings products. Due to this, investment returns have reduced, which has ultimately reduced company profitability. It was suggested that due to the low interest rates, there would be a decrease in investment income of around 13, 60,000–27, 20,000 million INR for the year 2017 for the global insurance industry. On the other hand, low interest rates are favourable for insurance companies as this allows for their liabilities to be valued at a lower rate, helping to improve their balance sheet.⁵



5. <https://www.pwc.in/assets/pdfs/ras/financial-services/compliance-cco-advisory-services/insurance/pwcs-insurance-insights-june-2018.pdf>

InsurTech landscape in India

- 1. Government initiatives:** Strong digital initiatives by the Indian government and regulatory authorities, such as Aadhaar-based identification, eKYC, digital lockers, Unified Payments Interface and, more recently, the mandate for e-insurance accounts, are creating enabling systems for simplification of transactions. The government has provided strong support and taken up various initiatives in order to help the insurance sector in India to grow. They have introduced various schemes in the market such as:
 - Pradhan Mantri Bima Yojana (PMBY) – an accidental insurance cover scheme
 - Pradhan Mantri Fasal Bima Yojana (PMFBY – special schemes for farmers
 - Ayushman Bharat National Health Protection Scheme – Pradhan Mantri Jan Arogya Yojana (PMJAY) – largest government-sponsored healthcare scheme in the world

InsurTechs can help support the government initiatives; for instance, InsurTechs can provide digital platforms that can connect micro-insurers, insurers, policyholders, and intermediaries, and perform automated underwriting within the defined boundary conditions, digital enrolments and enablement of collaboration between various stakeholders. It will also help in integration by aggregating data from various sources for easy access while helping insurers to better assimilate information through technology. Digital technologies can enable efficient platforms and cost-effective channels to expand the scope and coverage of insurance, especially in the field of microinsurance. The above-mentioned government-backed schemes, coupled with innovative technologies that harness the advantages of eKYC and Aadhaar, are allowing companies to reach hitherto untapped customers throughout the country and especially in the hinterlands.

- 2. Regulatory initiatives:** Currently, about 780 life insurance and over 1,000 general insurance products are being sold in the Indian market for individuals and groups⁶. As per industry estimates, for every 10 new products that are filed, two fail to make the market at present. To encourage companies to develop and apply new technologies and products to enhance value for customers, increase efficiency, manage risks better, create new opportunities and improve people's lives, the Insurance Regulatory and Development Authority (IRDAI) has recently set up a committee to develop a regulatory sandbox⁷ and a working group focused on InsurTech in the context of risk assessment, product design and product pricing in India.

- 3. Accessibility:** The rapid upheavals caused by technology and super-speed Internet have led to an enormous growth in the number of smartphone users in India. The unprecedented demand for smartphones in India has made it the second largest smartphone market in the world. The latest forecast by eMarketer,⁸ a US-based market research firm, suggests that more than a quarter of India's population will be using smartphones by the end of 2018. The number of smartphone users in India is expected to grow by 15.6% to reach 337 million in 2018, according to the report. The advent of smartphones is enabling insurers and InsurTechs to reach markets that were not be cost-effective to service earlier.¹⁰
- 4. Changing customer expectations:** Due to the e-commerce revolution, incumbent insurers are rethinking how best to meet the changing customer needs and how to meet those demands.⁹
- 5. Rising competition:** Margin pressures are pushing traditional Indian insurance companies to look at more efficient ways of doing business. Whether by reducing costs or improving efficiency, this offers an excellent opportunity for InsurTechs.
- 6. Lower barriers to entry:** On the supply side, recent advances in cloud and digital have made technology very easy to create, transfer and adopt. For example, Acko is a young and nimble start-up bringing technology and data-led innovation to the insurance sector to deliver a better insurance experience for customers.¹⁰
- 7. Funding:** InsurTechs have benefited from an overall interest by investors in the FinTech and start-up landscape in India, the latest being Acko – Amazon has led a 816 Million INR funding round for Acko General Insurance in India.¹¹



6. <https://www.moneycontrol.com/news/business/economy/irdai-to-allow-insurers-to-undertake-product-testing-before-launch-2929331.html>
7. <https://www.indiatoday.in/pti-feed/story/irdai-to-develop-sandbox-approach-for-fintech-related-products-1343757-2018-09-19>
8. <https://www.emarketer.com/content/more-than-a-quarter-of-india-s-population-will-be-smartphone-users-this-year>
9. Covered as part of leading Insurtech firms in India
10. <https://www.thenewsminute.com/article/acko-raises-12-million-funding-round-led-amazon-82024>
11. Ibid.

Opportunities

- **Product design and pricing:** Technology will have an impact on product design, as well as on the participants and their roles in the overall value chain. All these aspects hold great potential and promise for greater insurance penetration by including those who were previously excluded due to the traditional business models. A simple example of achieving the objective through InsurTech would be insurers customising need-based products relating to customer behaviour and past trends and pricing them based on the usage of service/benefit by the policyholder. Fitbits/wearable technology that constantly monitors heart rate, breathing and other parameters related to body functioning will help insurers track the activities of a policyholder and provide him/her with insurance cover while the policyholder goes running, jogging, swimming or undertakes any other form of physical exercise.
- **Claims assessment and settlement challenges:** Accurate loss assessment and its timely reporting are the prerequisites that lead to faster and accurate claim settlement. The time-consuming process across the claim cycle can be brought down and the claim management process can be made more efficient through automation. Automation in claim assessment calculation can help the claim assessment and settlement to be done not just in time but also as per the terms and as per usage (e.g. using data for analysis). From assessing accident spots for insurance claims to assess property loss and claims. A drone can be used similar to health trackers, which can help the insurance companies to reduce their turnaround times (TATs) significantly.
- **Healthcare:** Seamless integration of the healthcare ecosystem is required, which will enable integration of data from various sources for easy access and faster decision making. It is also essential to develop streamlined digital processes which facilitate automated underwriting, digital enrolments and hospital management.
- **Weather forecasting:** In India, which is a 60% agro-based economy, we still rely on old methods of weather forecasting, conducted by using traditional methodologies. Given the increasing level of global changing weather conditions and increasing number of natural calamities in India (floods, tsunamis, earthquakes, it becomes critical for India to have accurate forecasting technologies to safeguard life and property.

- **Assessment of property:** In India, correct valuation as well evaluation of property is a challenge. It is also necessary to acquire real-time data on customers' loss exposure and timely response and early intervention from the insurer at a sign of danger so that that the losses will be minimised and reduced to the greatest extent possible.
- **On-demand insurance:** There is a need for design and a full insurance business based on a model with lower premium size and higher risks, which will help bridge the gap between covering everything every time and covering precisely the risks faced at a certain moment. This is called as on-demand insurance. It could also be simply termed as covering only those risks faced at a certain/particular moment. A simple example of how this can be achieved is activation of insurance cover while a person is driving a car and pay-as-you-stay insurance, which only insures while one stays in his/her apartment.

Overall, slowly but surely, an ecosystem is developing in India that is encouraging innovation and in turn inducing insurance companies to leverage the benefits from InsurTech and move forward on technology adoption and process maturity in a big way.

Implications of InsurTech for insurance incumbents

InsurTech firms and insurance companies can work together in a variety of ways by exploring upcoming opportunities:

- Helping insurers become more customer centric
- As insurance increasingly goes digital, there is a compelling need to simplify product offerings, distribution and processes. Several InsurTechs are currently focused on customer-driven solutions that can help insurance companies understand requirements, engage meaningfully and deliver more relevant services to the customer.



Benefits across the insurance value chain

InsurTech-led innovations are expected to aid automation in areas such as underwriting, claims management and policy servicing, bringing in significant cost savings to insurance companies.

Robotics, artificial intelligence (AI) and analytics can help improve service TATs by reducing the need for intervention, as well as providing radically different experiences for customers through faster claims settlement, easier on-boarding and renewals, fraud control, etc.

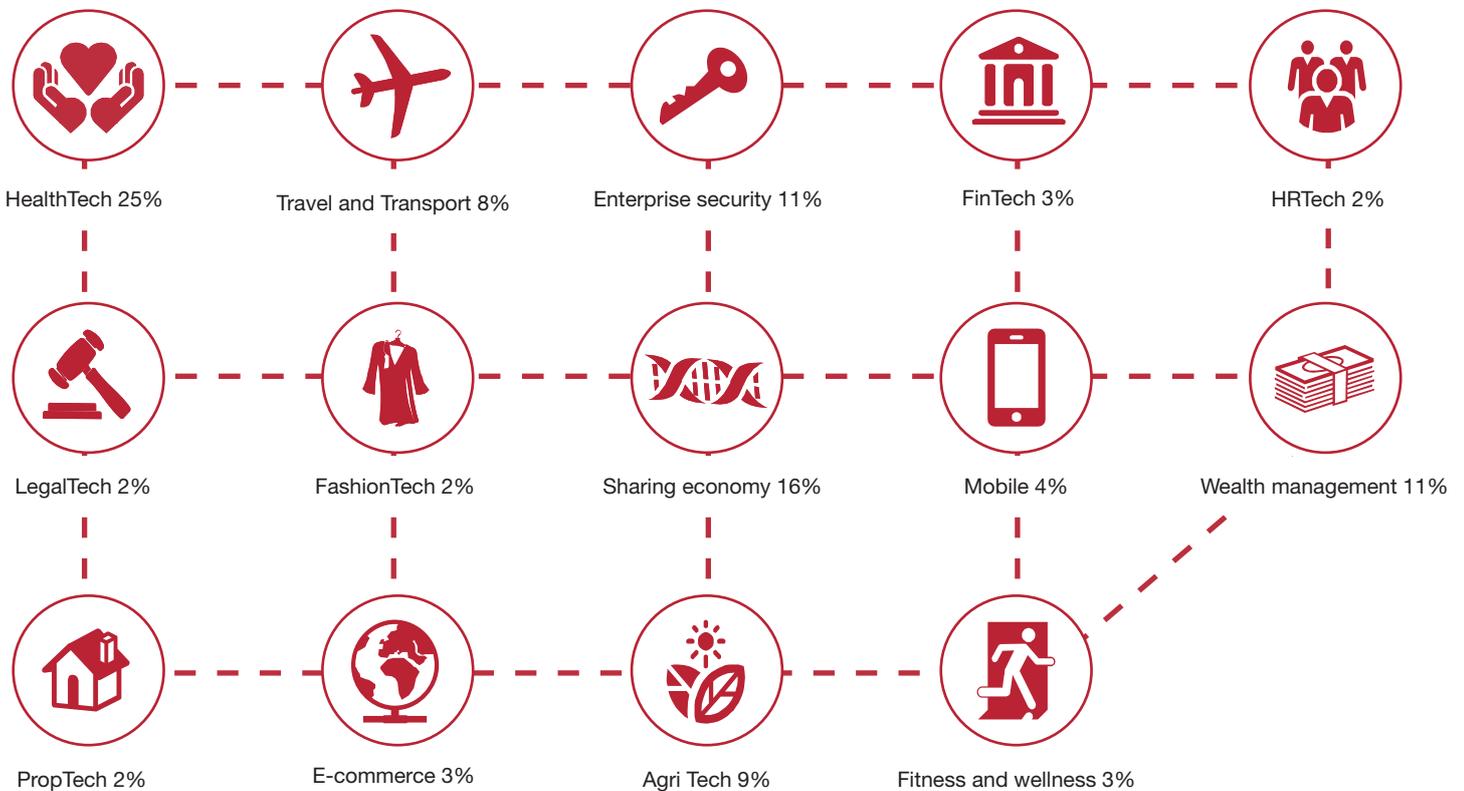
Newer technologies such as telematics, wearables and Internet of things (IoT) are helping insurance companies map large amounts of newly generated data to pricing and risk assessment decisions to the mutual benefit of insurance companies and customers.

The InsurTech value chain is represented below, indicating opportunities for the Indian market to build up the InsurTech ecosystem:¹²

Speed and agility in technological adoption

Start-ups are bringing in much-needed agility and flexibility to the technology modernisation process for insurers. Cloud and platform-based models are enabling quick adoption of new solutions. In many cases, insurers can plug in and instantly start using systems that earlier took years to build, test and launch, and that too at a fraction of the cost. Moreover, InsurTech provides an ongoing cost-saving opportunity as companies will no longer need to keep aside huge budgets for creating and maintaining IT infrastructure.

The InsurTech ecosystem – startup applications with a focus on adjacent industries



12. <https://www.pwc.co.uk/industries/financial-services/insurtech-startupbootcamp.html>

Opportunities for collaborating with UK InsurTech companies

A regulatory sandbox approach can be used to carve out a safe and conducive space to experiment with FinTech solutions—one where the consequences of failure can be contained. The said approach will help look into the key issues that FinTech poses across the insurance value chain as well as leverage the practices prevalent in other industries.

InsurTech is changing the way in which propositions can work by taking a holistic view of the customer. Insurers acknowledge that to expand their existing value chain, they should be offering additional value to clients. As data becomes more real-time and extensive, each risk pool effectively shrinks to one, and value is derived from preventing predictable risks from occurring now. A few distribution models which can help India collaborate with the UK from an InsurTech standpoint are discussed below.

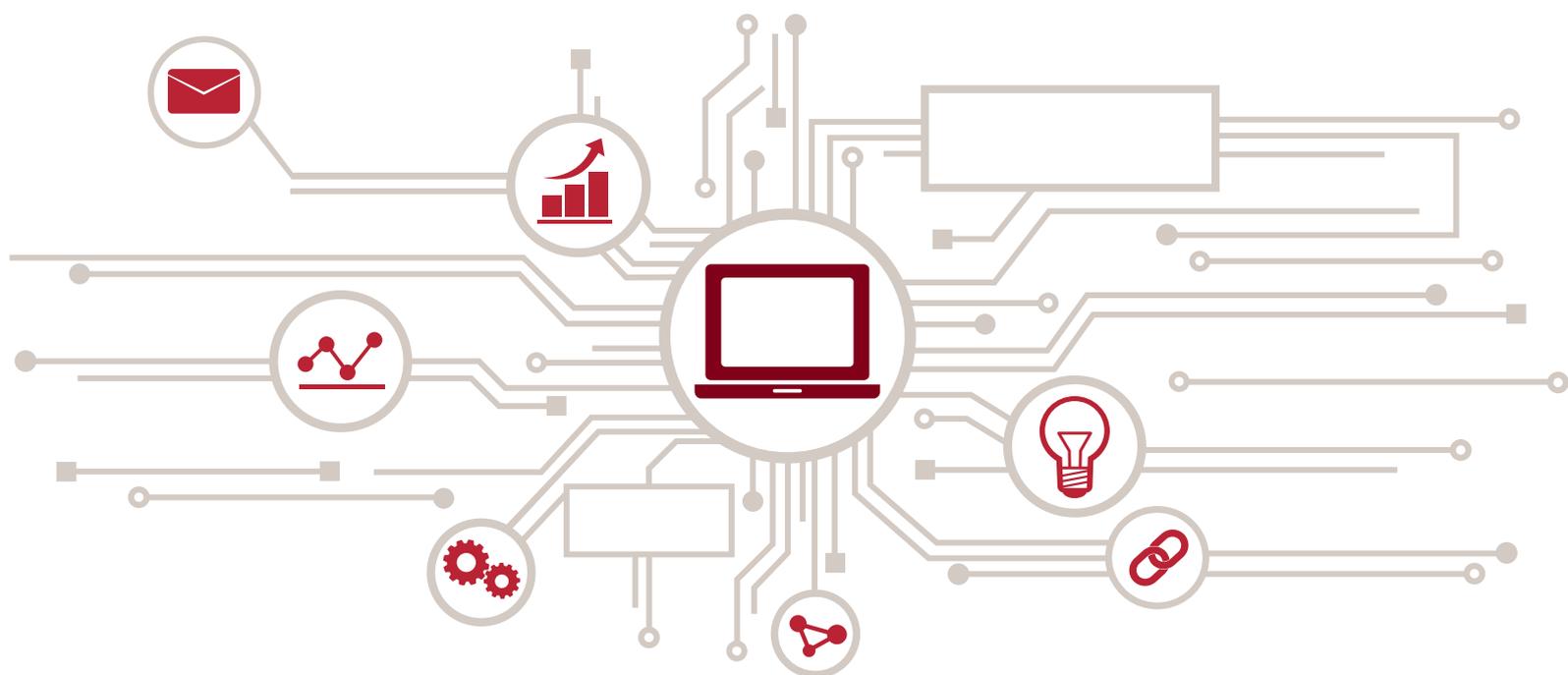
- 1. AgriTech:** The use of drones and satellite technology in agriculture is increasing: Satellite data is helping to predict environmental factors to support farming activities and improve yield, and to help farmers tackle localised issues. For example, this available data offers insurers a means to reduce crop claims with precision agriculture and to extend cover to the uninsured.
- 2. PropTech:** At its most basic, PropTech gives users a remote control for property features such as lights, heating and blinds, but sophistication is growing. For example, the increased use of IoT in property is helping commercial property managers and homeowners to predict and prevent events such as fire from faulty equipment, water leaks or theft.
- 3. HealthTech:** HealthTech tools are harnessing IoT and wearable devices to give individuals access to a wealth of information about their well-being and provide opportunities such as the means to encourage change or manage medication. For insurers, opportunities include the possibility of new value-added services, better prevention and increased risk data.

- 4. Enterprise Security:** PwC's research suggests that just 53% of companies have an overall information security strategy.¹³ More start-ups are entering this space to help firms understand and mitigate risk. Cyber insurance has the potential to be the fastest-growing sector of the industry. Insurers are moving beyond offering cover to partner with cyber security experts offering risk management and prevention platforms.

Key messages for InsurTech players in the UK and India

The true power of InsurTech innovation has still to unfold; however, an ecosystem is gradually developing in India and insurers can no longer distance themselves from this. For InsurTech to truly make an impact and bring value to the conversation, there are a few things that will need to be considered:

- a. Assess:** InsurTech firms should undertake a deep study on the successes of InsurTech initiatives and identify niche areas to create solutions for the Indian market.
- b. Proposition:** Given that this is an upcoming domain, it is important for InsurTech firms to create compelling propositions which can stand the test of time.
- c. Collaborate:** InsurTech firms should leverage the experiences of successful models in the UK and collaborate to bring these learnings into the local market.
- d. Contextualise:** The insurance market in India is different compared to the rest of the world when it comes to customers; however, technology-enabled solutions for customer touchpoints and upgrading efficiencies will reveal its true potential and thereby its acceptability.
- e. Build:** This is a great opportunity for UK firms to invest in creating innovative solutions through their experiences, addressing the concerns faced by the Indian insurance market.



13. <https://www.pwc.co.uk/industries/financial-services/insurtech-startupbootcamp.html>

The way forward

Thus far, insurers have moved forward cautiously on InsurTech innovation, seeking a clear value proposition and prior experience. InsurTechs, on the other hand, expect a hand-holding approach in the form of a partnership, in which both parties are invested in the success of the engagement.

As InsurTech start-ups evolve and their collaborations with incumbents develop, they will be confronted with 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 some areas to look out for:

- 1. Blockchain:** Blockchain technology, a decentralised ledger of all transactions across a peer-to-peer network, is increasingly being considered across financial services as a secure storage and distribution solution. It has undoubted potential to disrupt insurance and financial services, and InsurTechs are eager to exploit this opportunity.¹⁴
- 2. Analytics:** There is expected to be a massive ramp-up in the possibilities of robotics automation technologies that aggregate AI, data analytics and rapid software development. In the long term, the revolutionary power of analytics won't come from simply improving and automating existing functions or processes, rather from the new roles and innovative business models that analytics may create.

The full potential of India in terms of insurance has not fully been realised. This can be understood by the various statistics presented in the paper and the penetration levels. The UK start-ups with their use of technology in the InsurTech space will help in penetrating the Indian markets to a higher level. This will be beneficial to insurers as well as the people who will be covered under the various policies.

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. New entrants can help insurers serve existing customers better and reach new customers for the first time. The promise of start-ups does not end there; they will also enable insurers to operate more effectively and efficiently throughout the back office. 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.

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.



14. <https://www.willistowerswatson.com/en-IN/insights/2018/06/emphasis-blockchain-use-in-insurance-from-theory-to-reality>



The insurance and InsurTech story in India so far

Public sector insurance companies and private sector insurance companies of India: Life, general and health insurance

Life and non-life (also called general, which excludes health insurance from a standalone statistical viewpoint, is part of the category) insurance are the categories in India within which private and public sector operate to provide services. Both are governed by the IRDAI. The Indian sector consists of 57 insurance companies. Of these, 24 companies are life insurance providers and 33 are non-life insurers, and seven are public sector companies.¹⁵

Crop, motor and health insurance boosted general insurance GDP premium growth in FY 2016–17 by 33% YoY to 13,00,000 million INR, the highest growth level since 2000–2001.¹⁶ Life insurance premium grew 14% to 41, 80,000 million INR against 36, 70,000 million INR in the previous fiscal year.¹⁷

As far as the industry is concerned, LIC, New India, National Insurance, United insurance and Oriental are the only public sector entities that have a high market share within the life and general insurance sector along with their penetration and contribution to the insurance sector in India. There are two specialised insurers, Agriculture Insurance Company Ltd for crop insurance and Export Credit Guarantee of India for credit insurance. The others are private insurers who have entered into joint ventures with foreign insurance companies to start their insurance businesses in India.

General Insurance Corporation (GIC)

The entire general insurance business in India was nationalised by the General Insurance Business (Nationalization) Act, 1972 (GIBNA). The Government of India, through nationalisation, took over the shares of 55 Indian insurance companies and the undertakings of 52 insurers carrying on general insurance business. General Insurance Corporation of India (GIC) was formed in pursuance of Section 9(1) of GIBNA.

GIC was formed for the purpose of superintending, controlling and carrying on the business of general insurance. As soon as GIC was formed, the Government of India transferred all the shares it held of general insurance companies to GIC. Simultaneously, the nationalised undertakings were transferred to Indian insurance companies.

After mergers among Indian insurance companies, four companies were left as fully owned subsidiary companies of GIC National Insurance Company Limited: the New India Assurance Company Limited, the Oriental Insurance Company Limited and United India Insurance Company Limited.

The next landmark event took place on 19 April 2000, when the Insurance Regulatory and Development Authority Act, 1999 (IRDA), came into force. This act also introduced an amendment to GIBNA and the Insurance Act, 1938. An amendment to GIBNA removed the exclusive privilege of GIC and its subsidiaries from carrying on general insurance in India. In November 2000, GIC was renominated as the Indian reinsurer and through administrative instruction, its supervisory role over the four subsidiaries was ended.

With the General Insurance Business (Nationalization) Amendment Act, 2002, coming into force from 21 March 2003, GIC ceased to be a holding company of its subsidiaries. The ownership of the four erstwhile subsidiary companies and also of GIC was vested with the Government of India.

Insurance products offered in India

This section discusses the type of insurance products/policies provided in India. What differentiates them is their underwritings and bundle structures. They are parametrically distinct from one another in terms of scope of covering various risks related to life and general insurance. With advances in big data and machine learning, it is possible to see their role in Indian InsurTech.

Non-life

A variety of sectoral products and bundles are offered within Indian territory by the above-mentioned named companies, namely household insurance, auto insurance, business insurance, health insurance, travel insurance, education insurance, art insurance, and other such related products. Within these products, competitors offer similar bundles of policies and underwritings between products, differentiated by benefits and premium-costing mechanisms. These are such as Bajaj Allianz's extended warranty, Education package and banker's indemnity policy.¹⁸

Credit Insurance products are such as Trade Credit insurance provided by Tata AIG¹⁹ and New India Insurance's Business credit shield.²⁰ These are a few of the vast range of products offered to secure the advent of risks against physical assets, credit and financing activities, and business systems.

With InsurTech, products offering cyber security insurance are symbiotic to the evolution of the industry. Health insurance products offered have underwritings and policies on the basis of India's social, cultural and economic construct with vastly differentiable and somewhat relatively niche products such as Tata AIG's²¹ 'Wellsurance Executive', 'Wellsurance Woman', 'Wellsurance Family' and group accidents and Universal Sompo's complete healthcare policies.²²

15. IRDAI website

16. <https://economictimes.indiatimes.com/industry/banking/finance/insure/crop-motor-health-insurance-sectors-drove-non-life-sector-economic-survey/highest-earners/slideshow/62694802.cms>

17. http://www.indiainsure.com/pdf/2017-Insurance%20Industry%20Report-OnRegister_open.pdf

18. <https://www.bajajallianz.com/Corp/commercial-insurance/commercial-lines-documents.jsp>

19. https://www.tataaiginsurance.in/taig/taig/tata_aig/corporate/trade_credit/index_old.html

20. <http://insurancejuxtion.blogspot.com/p/business-credit-shield-insurance.html>

21. <https://www.tataaig.com/health-insurance/wellsurance-woman1>

22. <https://www.universalsompo.com/products/health/complete-healthcare-insurance>

Life

Life products are differentiated from non-life products in that they can be categorised into six distinct groups:

Unit-linked insurance plan (ULIP): It gives investors both insurance and investment under a single integrated plan.

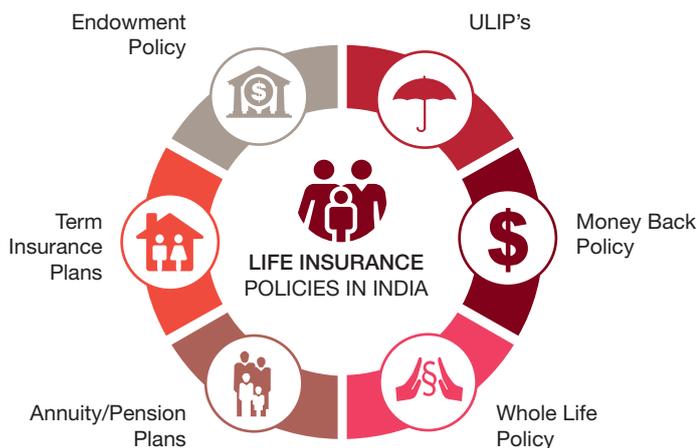
Endowment policy: It is a life insurance contract designed to pay a lump sum after a specific term on its maturity. Typical maturities are 10, 15 or 20 years up to a certain age limit. Some policies also pay out in the case of critical illness.

Annuity/pension plans: (a) Deferred annuity: A deferred pension scheme allows policyholders to accumulate a corpus through regular premiums or a single premium over a policy term. After the policy term is over, the pension will begin. (b) Immediate annuity: In an immediate annuity scheme, pension begins immediately.

Whole life policy: It is guaranteed to remain in force for the insured's entire lifetime, provided required premiums are paid, or to the maturity date.

Money back policy: This policy pays the sum assured to the insured party on maturity. It provides certain amounts called survival benefits in addition to the sum assured and a bonus from the insurance company based on its performance.

Term insurance plan: It offers a high sum assured at a low premium. The life assured is covered against the risk of an unexpected death.



Policies and regulations circumventing the InsurTech initiative and a positive way forward for collaboration among UK and Indian companies

This section discusses the regulatory efforts that have been made to provide a landscape for India to strengthen its InsurTech exposure and efforts towards financial inclusion that create parametrically stable economic, social and political conditions for this.

IRDAI has undertaken initiatives for the development of the insurance sector, including:

- The IRDAI has put in place the process of registration and operation of insurers and re-insurers in International Financial Services Centre (IFSC) special economic zones (SEZ), in alignment with the objectives of IFSC-SEZ. This opportunity opens the doors for many players, enabling them to avail benefits in terms of custom and excise, ease in licence and approvals, and 100% FDI under the automatic route.
- IRDAI has allowed insurers to invest up to 10% in additional tier 1 (AT1) bonds that are issued by banks to augment their tier 1 capital, in order to expand the pool of eligible investors for banks.²³

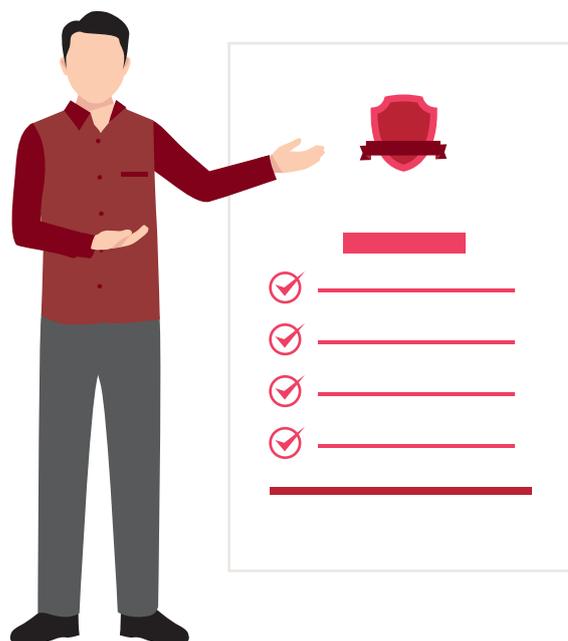
Role of the regulator within the evolving framework for InsurTech – ensuring the effective transition of technology enablement

The regulators play a vital role in terms of shaping of the sector and at the same time protecting the interests of policyholders. It is imperative for the regulator to maintain a balance between the growing technical and business innovations and deal with increasing digitisation. In many ways, regulators can harness the very trends that have enabled disruption and use them as a means to modernise regulatory practices and increase effectiveness.

While there have been efforts by the regulator to support the sector, there remain aspects which need to be considered for enabling the future of insurance.

A few of the challenges that regulators need to be aware of to foster an effective technological environment are discussed below.

- Maintaining the conditions for a fair, safe and stable insurance sector for promoting healthy competition
- Shrinking barriers to the entry of new suppliers
- Commercially viable regulations



23. <https://www.livemint.com/Industry/PomO7QjuTwFrh7CHP3gPtL/IRDA-allows-insurers-to-invest-in-additional-tier-1-bonds.html>

IOT in InsurTech: How corporations can underwrite in India with efficient use of the technology

IoT plays a pivotal role in shifting the proposition for homeowners' carriers and other types of insurance.

- IoT connectivity is surging and the technology's potential to reshape the way homeowners' insurers assess, price, and limit risks is promising. In 2015, 47 million connected smart home devices were shipped globally. The market is projected to broaden at a compound annual growth rate (CAGR) of 60%, reaching 477 million devices in 2020.²⁴ This also presents a unique opportunity for insurers to transform the insurer/customer dynamic from a defensive to an offensive posture by helping policyholders prevent losses and driving down claims costs.
- Smart home sensors could facilitate an insurance revolution. For example, sensors can monitor indicators of possible problems—such as wall strength, pipe or plumbing fissures, faulty wiring, or even home invaders. Alerts can be sent to homeowners and insurers, as well as trigger automatic shut-off valves and notifications to local service providers who can pre-emptively intervene prior to major incidents. With wider deployment of InsurTech safeguards, carriers may receive fewer and less-severe claims and be able to gather data for more personalised and profitable pricing.
- Control4 is an IoT-utilising mobile app that uses a connection to an IP address to control the functioning of a home as universal remotes. InsurTechs and their inclusiveness of IoT use similar algorithms and data recording measures as Control4.²⁵ It is a niche segment in India as smart lifestyles, connected homes, buildings and embedded homes are emerging segments. Healthcare and manufacturing are the leading verticals that demand IoT solutions, which may lead to the discontinuation or altered underwriting of current policies.
- Bajaj Allianz General Insurance Company in India provides group personal accident insurance cover for students in school. Bajaj Allianz General Insurance uses IoT through pre-registered school buses having a GPS that tracks the location, and beacons are inserted identity cards of the students.²⁶ The premium cost is inexpensive and based on the school's decision of coverage. Another prominent IoT-InsurTech, as reported by IRDAI, is fitness wristbands and vehicle sensors beyond the Bajaj Allianz example. These means provide regular streams of data about their policyholders and reduce fraud risk. These IoT devices help insurers develop frameworks through the life cycle of the insured to build attractive product propositions beyond what medical tests and disclosures can provide to the underwriting.

- In the UK, the start-up Neos is combining IoT with home insurance with a focus on prevention rather than payouts. Neos's home insurance product leans on sensor tech and wireless connectivity to reduce home-related risks like fire and water damage, break-ins and burglary, by having customers install a range of largely third-party Internet-connected sensors inside their home, included in the price of the insurance product. It's a smart home via the insured backdoor.²⁷

During the first decade of insurance sector liberalisation, the sector has reported a consistent increase in insurance penetration from 2.71% in 2001 to 5.20% in 2009. Since then the level of penetration has been declining. However, there was a slight increase in the years 2015 (3.44%) and in 2016 (3.49%). The level of insurance density reached an apex of 4,379 INR in 2010 from 782 INR in 2001.²⁸

This is further explained by trends in premium data and attributed to the problems with the traditional supply and distribution system. InsurTechs' propositional, distribution and operational models are innovative in this aspect on the basis of the value chain. India is yet to adopt propositions within InsurTech such as on-demand insurance, controlling insurance cover through a smartphone app, and a disintermediated customer-oriented experience, to name a few.



24. <https://news.ihsmarkit.com/press-release/technology/rapid-expansion-projected-smart-home-devices-ihsmarkit-says>

25. <https://www.control4.com/docs/product/myhome/setup-guide/latest/myhome-setup-guide-rev-b.pdf>

26. <https://www.bajajallianz.com/Corp/content/aboutus/press-release/Press-Release-Bajaj-Allianz-General-Insurance-introduces-IOT-based-Personal-Accident-cover-for-school-children.pdf>

27. <https://techcrunch.com/2017/11/06/neos-launches-iot-powered-home-insurance-uk-wide/>

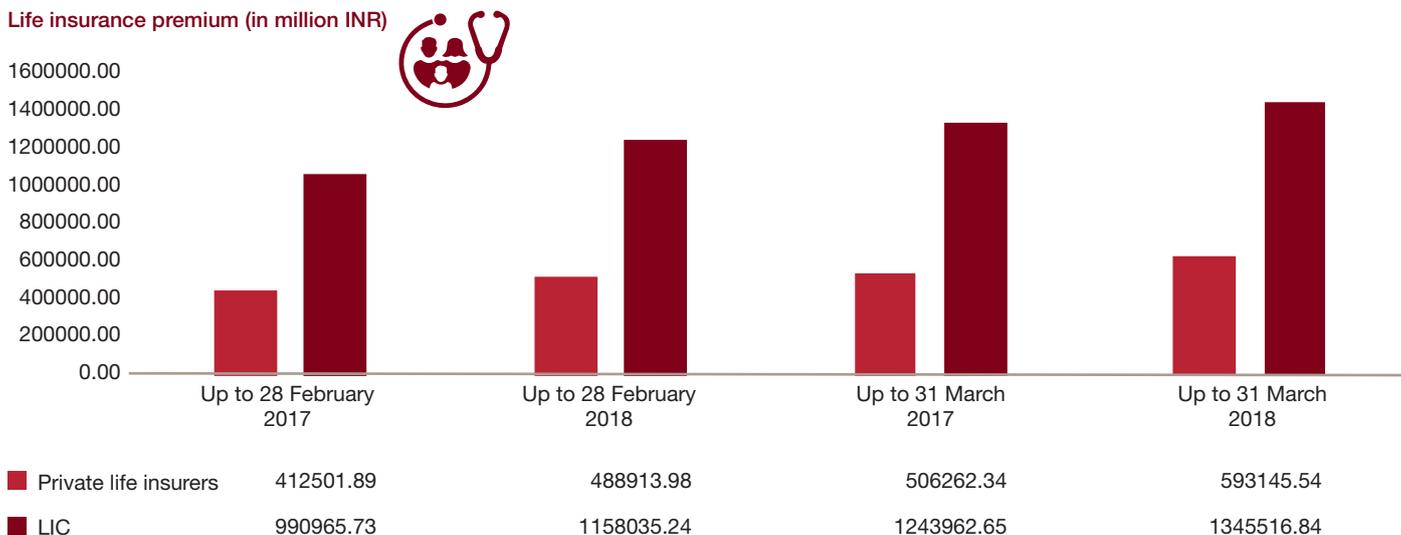
28. https://www.irdai.gov.in/ADMINCMS/cms/frnGeneral_NoYearList.aspx?DF=AR&mid=11.1

Overview of the current size of the Indian insurance market

In order to identify the underlying opportunities available for UK InsurTech companies in the Indian Insurance market, it is important to understand the size of the industry in

terms of premium generated YoY and the number of policies issued by insurers in the non-life and life insurance industry and the number of claims received. A summary trend of the performance of the public and private companies is presented for reference.

Life insurance premium (in million INR)

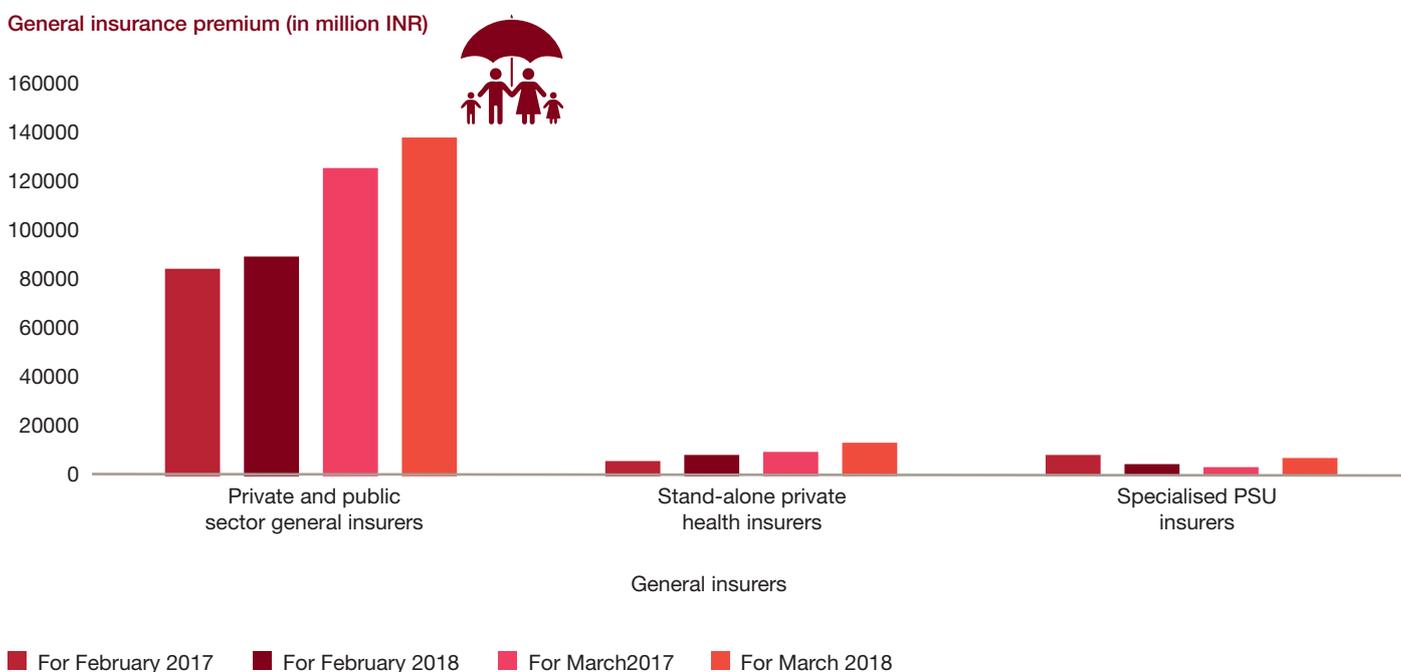


Source: IRDAI monthly new business numbers

The above figure demonstrates the total amount of premium received by the government-owned Life Insurance

Corporation (LIC) as well as other private life insurers over the timeline mentioned.

General insurance premium (in million INR)

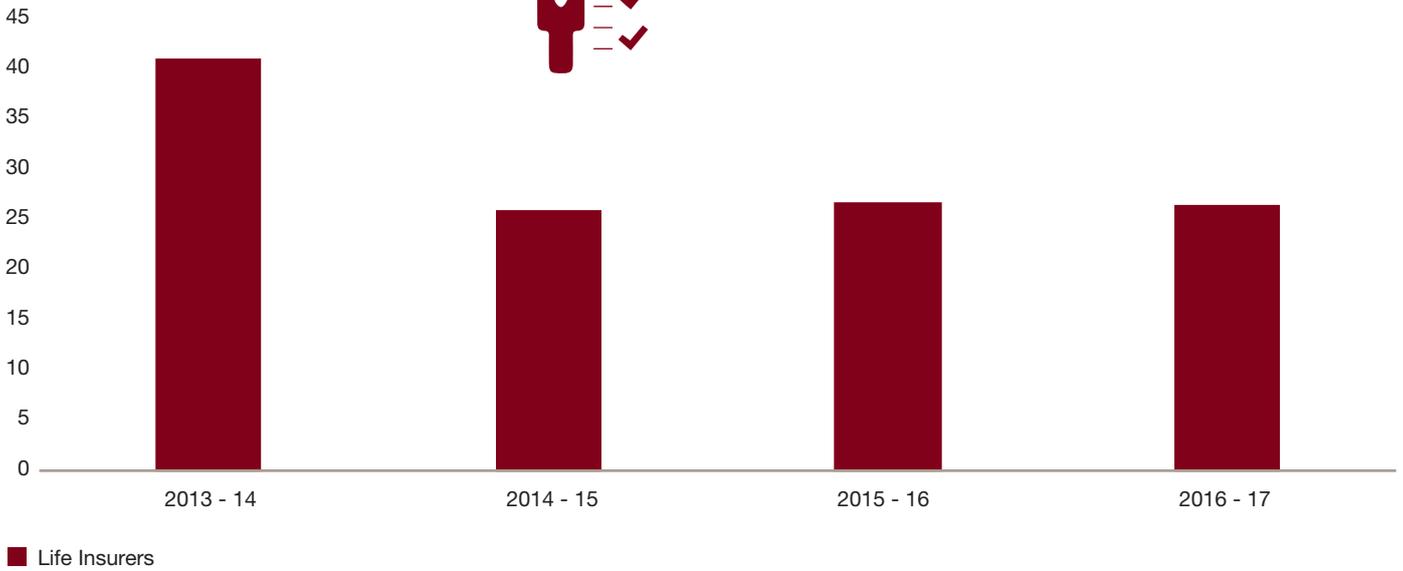


Source: IRDAI monthly new business numbers

The above figure shows the premium received by general insurers over a period of time. Though there have been ups

and downs, it is predicted that the general insurance market will grow at a steady pace.

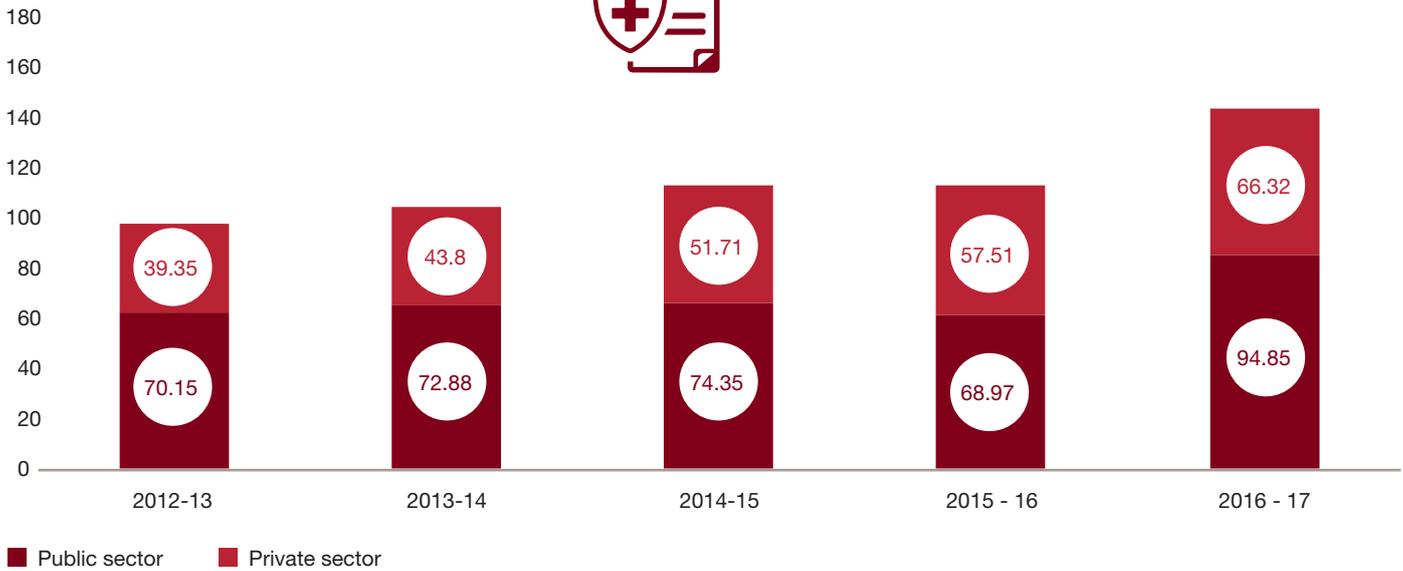
Number of policies issued: Life insurance (in million)



Source: IRDAI

The above graph shows the number of policies/schemes available to the public over a span of 4 years.

Number of policies issued: General insurance (in million)



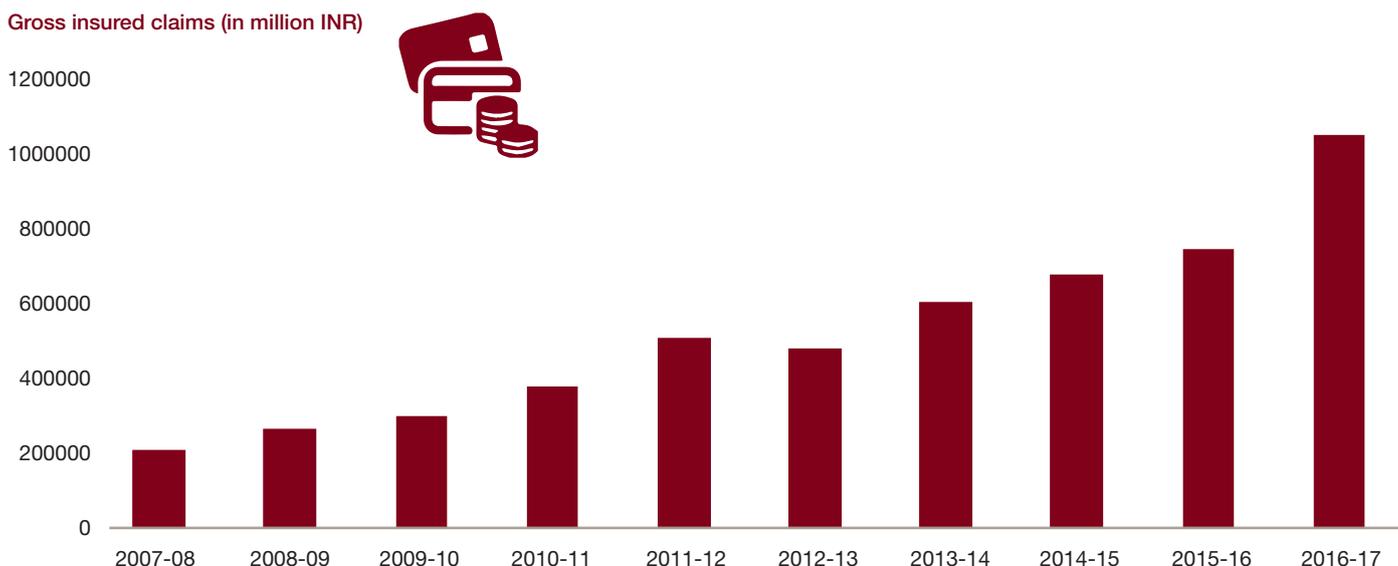
Source: IRDAI

The above figure shows the number of policies issued by general insurers over 5 years. Over the last 5 years, there has been a significant increase in the number of policies issued, with a majority of them being issued by public sector insurers.

The statistics reinforce the potential for growth in the insurance space. This growth is not just in the form of more premiums or policies issued but also in terms of improved profit margins through use of tech-enabled insurance life cycle management.

Claims history of the Indian insurance sector and potential for InsurTech

Gross insured claims (in million INR)



Source: IRDAI

The above figure shows that over the last 10 years, the gross insured claims in the general insurance sector have risen from 2,20,360 million INR in 2007–08 to 11,23,710 million INR at the end of 2016–17. The CAGR was 19.8% during this period.

Role of insurance intermediaries and InsurTech in widening financial inclusion in India:

Insurance intermediaries are brokers or agents who represent consumers in insurance transactions. They are contracted with multiple insurance companies so they can focus on matching their clients' needs with the most suitable insurance products. The IRDA Act, 1999, section 21f lists intermediaries as insurance brokers, reinsurance brokers, insurance consultants, surveyors and loss assessors. The significance of brokers lies in how well they are connected in the industry. In InsurTech,

where transactions are seamlessly digitalised, it leads to disruption and thus disintermediation, meaning that the requirement dynamic of brokers will have changed.

Intermediaries include:

- Insurance brokers
- Insurance agents
- Bancassurance
- Microinsurance agents
- Web aggregators
- Referrals
- Direct marketing

Particulars	Amount	2013–14	2014–15	2015–16	2016–17
		FY	FY	FY	FY
Channel-wise new business – amount of premium (individual plus group)					
Individual agents	(Million INR)	488314.5	412467	411757.8	549838.1
Corporate agents – banks		113272	128305.2	152538.3	200492.9
Corporate agents – others		12523.6	14210.1	15820.2	13356
Brokers		12674.2	14510.3	14416.5	17579
Direct selling		574775.9	562183.8	789708.7	964517.4
MI agents			171.9	212.6	202.2
Common service centres (CSCs)			3.2	10	15.4
Web aggregators				0.3	463.6
IMF				0.3	145.2
Online				302.83	418.06
Others (if any)				-11.3	-11.2
Total		1201560.2	1131852	1384756	1747017
Referrals		196.4	79.8	146.1	258.3

Source: IRDAI Insurance Handbook 2016–17

As the above table shows, over the last two years, there has been a drastic increase in the amount of new business premiums collected. For FY 2015–16, the total amount of premium collected through web aggregators was 0.3 million INR. However, by the end of FY 2016–17, the total premium collected through this medium rose to over 460 million INR. One of the key factors highlighting the importance and applicability of web aggregators in India is that they are now permitted to sell low-cost unit-linked insurance plans (ULIPs) with premiums of up to 0.15 million INR.

One of the more popular applications of InsurTech is direct insurance, where technology cuts out intermediaries and incumbents such as brokers by directly linking carriers and customers. This causes disruption and is thus a threat among insurance intermediaries, with fears arising that technology could render them obsolete. Many start-ups are looking at intermediaries to understand the perspective of customer acquisition and experience, ranging from customer intelligence firms to distribution partners. 'In general, many of the entrepreneurs who were trying to disrupt the space have shifted towards enabling the intermediaries,' says Ali Safavi, founder of Plug and Play, an InsurTech accelerator based in Silicon Valley in California.²⁹

Disruption is often represented as a harsh shake-up of the market, but it also provides opportunities for incumbents and start-ups to work together. A majority of the insurance companies are new in engaging with start-ups. There is also an interesting shift from looking for only disruptive businesses, especially on personal lines, to a bigger focus on technologies that can improve the processes and reduce back-office cost.

Blockchain technology and its impact on intermediaries

Blockchain technology is a cryptographically secured form of shared record-keeping of payments between peers. It has the capability to be a transformative force for industries like insurance, which require coordination and cooperation among many different intermediaries with different incentives. Insurance companies and start-ups working with blockchain technology will have to overcome significant regulatory and legal hurdles before anything resembling an industry-wide disruption.

Blockchain technology targets data sharing between multiple parties and has the potential to automate it. This eliminates tasks that used to be part of personnel-controlled consultation and brokerage activities. The insurer is getting closer to the customer through disruptive solutions. Therefore, brokers must think about how their activities and their added value for customers should appear in the future. The impact on the broker is the increasing automation of insurers who can use blockchain technology to build trust between different parties. On the other hand, the customer is becoming more open to this type of automation. This raises the question of what added value the activity of a broker between these two sides can offer. It has proven to be practical to divide the change into two phases: the first being increasing efficiency and the second, disintermediation.

First phase: Increase in efficiency

Blockchain technology is still nascent. It is decentralised—and there are still questions surrounding the legal framework. Despite this, in recent months especially, more and more prototypes are gaining a status that is no longer far from a production solution.

At this stage, the projects will bring enormous efficiency gains, especially for the distribution of insurance. Through better connecting data sources, back-office processes can be streamlined. Customer data and details for new policies can be exchanged more easily.

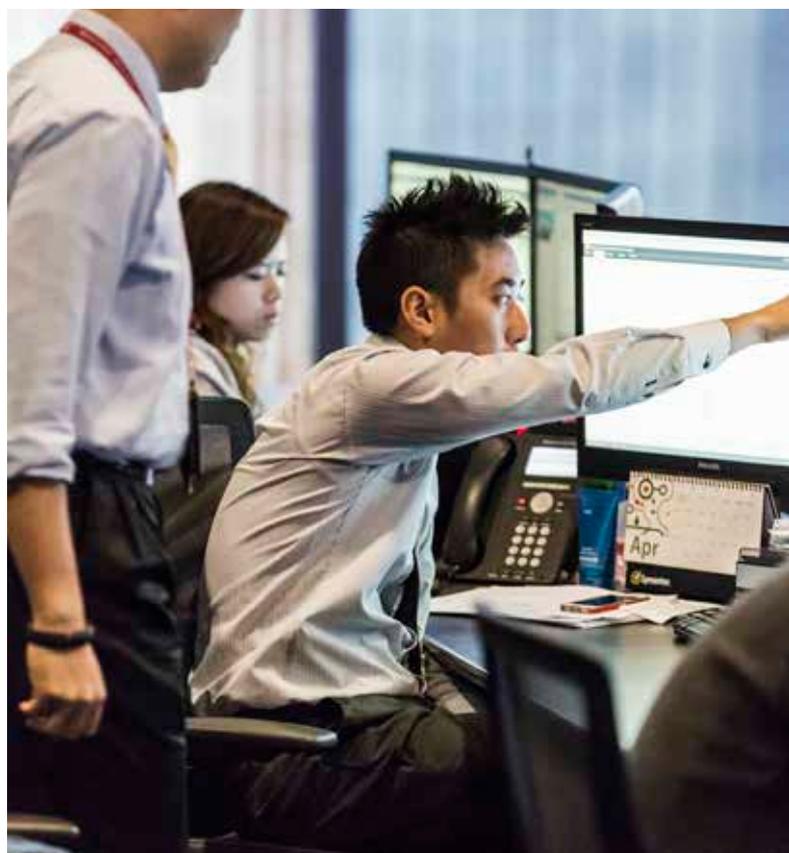
An example could be a platform that allows brokers to prevent risks and get pricing from insurers with whom they have not previously signed an agreement. Such a programme can safely make encrypted customer information interchangeable and manage the process through smart contracts until the deal is completed.

Advantages:

Fraud reduction: Blockchain technology makes it almost impossible to receive fake documents or unlawful invoices, as the data is stored in an unchangeable and decentralised manner. The more participants using this system, the more secure it becomes.

Purchasing policies and underwriting process: Blockchain can connect data providers and insurers when issuing policies. Thus, new business can be handled with very little effort on the customers' side.

Managing broker contracts: Blockchain can be used to review agreements and automate the picking process. For intermediaries, it becomes important to adapt personal consultation and the relationship with the customer to the new digital conditions.



29. <https://www.insurancebusinessmag.com/asia/features/interviews/insurtech-will-not-kill-the-broker-78471.aspx>

Second phase: Disintermediation

Intermediaries have to consider what their job and their added value to the customer looks like when this is no longer a part of their job but is carried out through automated processes.

It's not just the discontinuation of this activity, but also the approach of the insurer to the customer, who can build a higher level of trust with the customer through blockchain, in turn leaving less space for the intermediary. If they cannot communicate this surplus value, the threat of disintermediation arises—that is, the elimination of individual stages of the value chain.

For intermediaries, it is therefore very important to adapt personal advice and the relationship with the customer to the new digital conditions and, above all, to take their advantages into the digital world.

The danger of possible disintermediation in the future should by no means discourage the potential efficiency gains of blockchain technology today. As a result, brokers can gain a major advantage in the short term and position themselves in good stead for the future.³⁰

Strong governmental support for InsurTech in India – what can make it happen

PMBY is a scheme introduced by Prime Minister Narendra Modi. It provides one-year accidental insurance cover and is renewed on an annual basis on death. The scheme also includes disability cover on account of an accident for participating savings bank account holders between the age of 18 and 70. The premiums are charged through an auto-debit facility of 12 INR per annum for each individual. Their coverage ranges from 1 lakhs to 2 lakh INR. Pradhan Mantri Jan Dhan Yojana allows for more financial inclusion by creating bank accounts with Aadhaar KYC for the underserved population. Pradhan Mantri Bima Yojana is an insurance scheme which currently has premium pooled by 20% of Indians for accident insurance. The National Health Protection Scheme will be launched under Ayushman Bharat, providing coverage up to 5, 00,000 INR to more than 100 million families at risk. Over 47.9 million farmers were positively impacted by PMFBY in 2017–18.

Challenges faced by InsurTech in India and potential opportunities for the UK industry

- 1. Cost bearing:** InsurTech can be used in India in a lot of different spaces and the same can be used to reduce human efforts. However, at the initial stage, the cost of using technology in the insurance space will be high and not everyone will be able to bear such a high cost. Technology which is cost-effective and will provide results will be more effective in a market like India. In the initial stage, a technology that will help the insurance sector but will cost more compared to what can be actually spent will act as a challenge as it will be difficult to sell the same in the Indian market.
- 2. Understanding of technology:** Leveraging technology in order to make various processes in insurance easier and efficient is a noteworthy effort. However, the same requires to be properly understood by the person or the company that will be using it so that there is no discrepancy in the work performed and no mistake in the output provided. If there is a disconnect in understanding the nitty-gritty of the technology being used, the entire exercise would be in vain. Understanding the use of the technology in detail, what the technology is being used for, significance of the outputs and use of the outputs is very essential, which can again prove to be a hindrance in the Indian insurance market space.
- 3. Lack of availability of information:** Big data analytics can be used in order to develop a better segmentation of risk profiles. With the availability of correct data in the domain, risk profiles can be developed based on the area of operation, sector of the industry, age bracket of the people, etc. If appropriate statistics are available, then by leveraging technology, products can be designed and developed based on the risk profiles. The products thus developed will contain the required premium, cover and risk coverage for both the insurer as well as the insured, which will bring satisfaction to both parties. However, it is a challenge to obtain the information needed to perform elaborate research and analysis.



30. <https://medium.com/insurtech-vc/blockchain-becomes-the-touchstone-for-insurance-intermediaries-d31e57f8b50e>

Proposed distributional models of InsurTech for developing economies like India



Source: https://www.oliverwyman.com/content/dam/oliver-wyman/v2/publications/2017/may/OW-PD-Global_InsurTech_Report_2017-Executive_Summary.pdf

The figure above demonstrates InsurTech models in three distinct segments: proposition, distribution and operations. The three segments represent hierarchical activities. Coverfox offers vehicle, health and life insurance and was introduced with the goal of taking action against fraudulency. Its operational model is service and administration oriented as that entails 'fraud mitigation' and also holds a B2C online

broker value comparing website distribution model comparing multiple vendors.³¹ Each of these groups has distinct market potential and chances of success, so it would be interesting to see how other start-ups incorporate more than one model in their value chain. This model has been discussed in the case studies at the end of the report.

31. <https://www.coverfox.com/life-insurance/term-insurance/>



InsurTech distributional models

Below is a categorical breakdown of InsurTech distributional models that shed light on which intermediaries are appropriated and disrupted, and how insurance is offered to customers.

Direct to customer (D2C): To be the leading go-to website, InsurTechs must stress their cost benefit and develop a unique brand positioning with the customers. Typically, most InsurTechs in India focus on life insurance and retirement saving products. This distributional model is moderately attractive, offering both a medium level of activity and medium potential. The key issue is how to reach customers directly in a cost-efficient way. An example of a D2C model is RenewBuy (based out of Delhi, which is also a price comparison website), a motor and health insurance specialists (emerging InsurTech).³²

Services they provide:

1. Lowest premiums for motor and health
2. One-click renewal and instant policy
3. Expertise and advice to help you choose the right company and the right insurance type
4. Claim assistance
5. Free insurance reminder service

In the UK, Liss Systems follows a multi-channel distribution, including D2C and B2B distribution (described in the following model). It is a modern life insurance and pensions system for individuals and business groups and their InsurTech intermediary is their software under 'eLissia,' a web front-end system with powerful underwriting to enable a zero-touch model. Liss Systems evidently has differential offerings, indicating why it has scalable success, whereas RenewBuy, designed with a strong backend technology and its integration with leading insurance companies in India, can be perceived as perfectly competitive and thus with a low chance of much success.³³

32. <https://www.renewbuy.com/about-us/>

33. <http://www.liss.co.uk/company.html>
<http://www.liss.co.uk/products.html>

34. <https://www.policyx.incom/about-us.php>

35. <https://www.ukinsurancenet.com/about-us/>

Price comparison websites (PCWs)

App or website-based comparison engines allow customers to compare products and prices in a quick and easy manner. It involves insurance comparisons in multiple insurance lines, along with comparisons of non-insurance products. There exist niche PCWs focused on insurance of distinct segments/asset classes/purposes. In India, PolicyX is an InsurTech using this very distributional model by comparing prices online.³⁴ In the UK, there is UKInsuranceNET.³⁵

Affiliate integration: This model makes it simpler for insurers' products to reach customers in the business process of a partner organisation, mainly e-commerce shops. It integrates the sale of insurance with a related product or two complementary products.

The category's overall potential is moderately attractive, and given limited potential premium pools under today's business models, InsurTech's chances of success in this category are good. Another factor in favour of the category is that it sees only low levels of activity at present, leaving entrepreneurs and investors plenty of headroom and entry space.

Corporate insurance: It refers to insurance for employees or selling insurance through corporates as part of a larger offering, with HR as the platform carrier. Insurance is sold to employees through a platform in conjunction with another offering, namely wage-tax levy, reducing health and general life benefits, and is paid for by the employee if local tax rules permit. The distributional model here involves the InsurTech delivering free or discounted HR software to employers. The HR software is used as a platform to sell employees benefits and other insurance cover, with more or less active involvement of the employer. It also provides employee benefit platforms. Benefits platforms aim to negotiate group discounts with product and service providers (such as hospitals, clinics and gyms), including insurance companies. Usually, employers make the platform accessible to their employees through their intranet.



There is a high likelihood of success for InsurTech firms that get the model right. This area is particularly attractive in Europe and Asia, where levels of activity are presently much lower than in the Americas. Apollo Munich is an example of corporate health insurance in India.³⁶

B2C online broker/value comparison websites (VCWs):

They are intended to optimise personal insurance cover. There are online chatbots and call centres offering support for online models of personal insurance management (PIM) applications and websites for client interface. These bots and the interface aim to replace the offline broker, an indication of where InsurTechs cause disruptive disintermediation. The clients are provided with a portfolio that lists their products in a transparent way. B2C model InsurTechs claim to legitimise their client portfolios by advising the most suitable policies rather than the lowest cost.

This is a difficult area in which to build a sustainable business model, so the chances of success for founders and investors are limited to medium. Survivors in this category will include agile brokers, as well as InsurTechs.

B2B online broker/VCWs: They are intended for optimising corporate insurance cover. Online brokers of this model target freelancers, traders, start-ups and small and medium enterprises (SMEs) by using VCWs based on proprietary product comparison engines specifically targeted at the less complex B2B needs to provide tailor-made and cost-effective policies sold via a scalable platform. In the UK, SimplyBusiness is an example of one such InsurTech that has expanded globally.³⁷ Business need to cover themselves in the form of their necessary operations; thus, B2B online brokers have a better positioning than B2C online brokers, especially to SMEs. This platform is used to obtain offers from several insurers through a standardised tendering process without having to worry about committing to an individual insurer before comparing offers. This model has medium potential

but with tough chances of success. Reinsurers can find areas here to expand their digital capabilities. The level of activity is medium so therefore there is further room for investment.

Financial partner: Taking care of personal finances

They provide web or app-based products that give a transparent view of cash, saving deposits, investment funds, pension plans and insurance coverage. Sophisticated approaches aim to help clients to produce most appraisable and feasible investment strategies within their financial conditions, future plans and current risk profile. This service would help private banking services cater to less wealthy clients. These services will also include providing insurance. Bud is an example of one such FinTech in the UK providing insurance.³⁸ This model is an attractive category with high potential and high chances of success. It involves a fairly high level of activity and is divided into FinTechs and InsurTechs.

Life digitisers: Eliminates need for heavy paperwork

In this model, InsurTechs' documents are instantly accessible from the cloud where they are stored. Companies that adopt this model are not pure InsurTechs. Their offer includes digital storage of customer contracts, including insurance contracts. These documents generate a wealth of information about an individual's general life situation. This would allow a player to identify insurance coverage gaps, insurance policies that are too expensive and emerging insurance needs. All three represent immediate opportunities to initiate an insurance sale. Life digitisers are still at an early stage. In America and Europe, however, there are significant levels of activity; however, the current business potential of this category is low. No other judgements are suitable because insurance is not a priority for these firms, but is expected to be on its way to evolution.

36. <http://www.apollomunichinsurance.com/corporate-health-insurance/corporate-health-insurance-index.aspx>

37. <https://www.simplybusiness.co.uk/about-us/>

38. <https://thisisbud.com/about>



An overview of leading Indian InsurTechs

1. Acko General insurance and Ola Cabs³⁹

Introduction: Acko General Insurance has partnered with Ola to provide in-trip insurance cover for travellers under a customised domestic travel Insurance product for Ola Cabs. Acko has raised 2,040 million INR from venture capital with the aim to make insurance more affordable and accessible to ordinary citizens, representing a solution that the public sector could not. It has a low-cost propositional model, and also expects to see the future two stages and expand offerings and value.

Objective and goal: Acko intends to completely disrupt insurance. The system of distribution in India does not provide information on the user at all. 'There's not enough data to underwrite accurately on a real-time basis,' an associate claims. Sales are mostly offline with flat pricing, and insurance firms don't know much about a customer before underwriting him. The Acko CEO believes his firm can offer a 30–40% discount on incumbents by pricing its policies more accurately by gathering information and data online.⁴⁰ That's in addition to cost savings by operating without a physical presence. The CEO is digitalising pregnancy insurance, or policies for ride-sharing companies. Beyond selling on the Acko website, the plan is to collaborate with partners who already have relationships with consumers—for example, an e-commerce store selling baby items, or the ride-sharing firm itself.

Ola, which already offers an insurance programme to its driver partners, will offer an opt-in insurance policy of 0.5 million INR as well as cover for missed flights and loss of baggage. The programme will provide benefits in cases of loss of baggage or laptops, missed flights, accidental medical expense, ambulance transportation cover, among other facilities. The claims can be made through the Ola app as well as the provider's website and call centre. For a 10 premium INR, all of this can be operated through the Ola app.

2. Toffee insurance⁴¹

Introduction: Toffee is bite-sized insurance for millennials, offering coverage for everyday moments. Its policies are contextualised and built to fit people's lifestyles. It also understands the unique risks that common people would experience and covers them: nothing more, nothing less. Toffee raised 1.5 million INR from these investors in 2018 in a seed funding round. Since launching in December 2017, the start-up has been in pilot phase, and was released to market in April 2018. One of their main aims is to create simple and small-ticket size insurance products and distribute them in a very contextual way that has huge potential to drive the mass adoption.

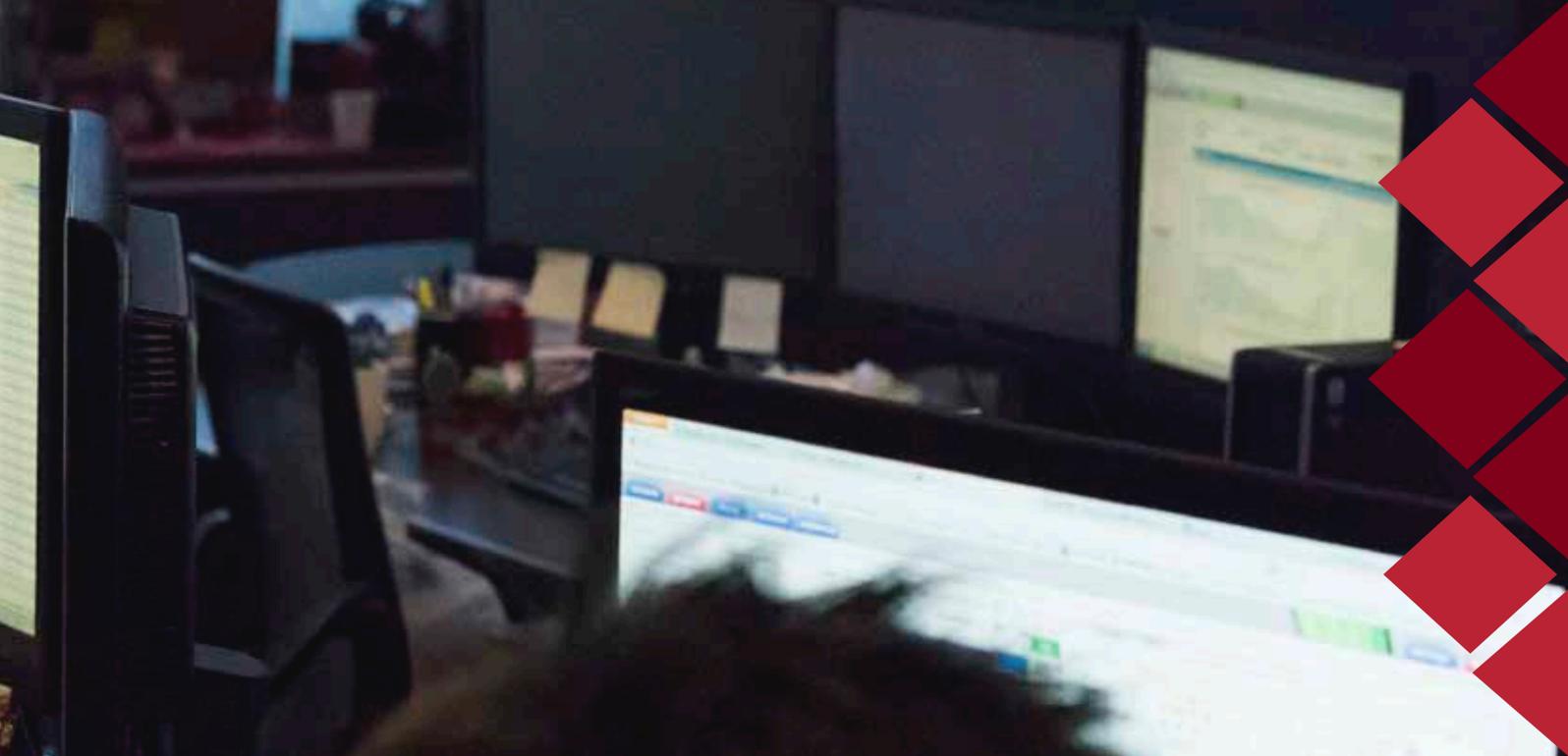
Objective and goal: Toffee has tied up with traditional insurance companies to create these products and is essentially setting up a future customer base for these larger companies. It has a licence from IRDA to act as corporate agent, and works with nine major insurance providers and underwriters such as Apollo Munich and Ergo to provide these tailor-made policies. Toffee is also looking to inculcate and make insurance buying a habit for the youth who, when they are older and have more income, will be ready to migrate to larger, more serious plans.

Toffee, which is a corporate agent, currently curates products from general and health insurance companies, mainly from Apollo Munich, HDFC Ergo and Future Generali. The company has already rolled out various offerings, priced between 600 and 1,500 INR. Designed in a fluid web app flow, Toffee claims to reduce purchase time to 90 seconds on average, along with simple claim processing in under two hours.

39. <https://sureclaim.in/ola/ola-launches-in-trip-insurance/>

40. <https://techcrunch.com/2017/05/24/acko-is-an-ambitious-digital-play-to-disrupt-indias-10b-insurance-industry/>

41. <https://www.financialexpress.com/industry/toffee-insurance-for-millennials-know-details/1065089/>
<https://toffeeinsurance.com/blog/>



3. Go Digit⁴²

Introduction: Go Digit General Insurance Limited provides non-life insurance through its digital platform. The start-up was incorporated in 2016 and is based in Bengaluru, India.

Objective and goal: Digit plans to disrupt the traditionally run Indian general insurance sector by introducing new products, services and giving a completely new dimension to various business models. It holds a general insurance licence which allows the company to sell P&C and health insurance products. In a price-sensitive domain, Digit aims to challenge predecessors by disrupting established business processes and by equipping and authorising partners and distributors more on policy issuance, quotes, documentation and claim processing. It employs a user-friendly UX, an average claim approval time of two hours to attract a younger audience, catering to the early-adopter market.

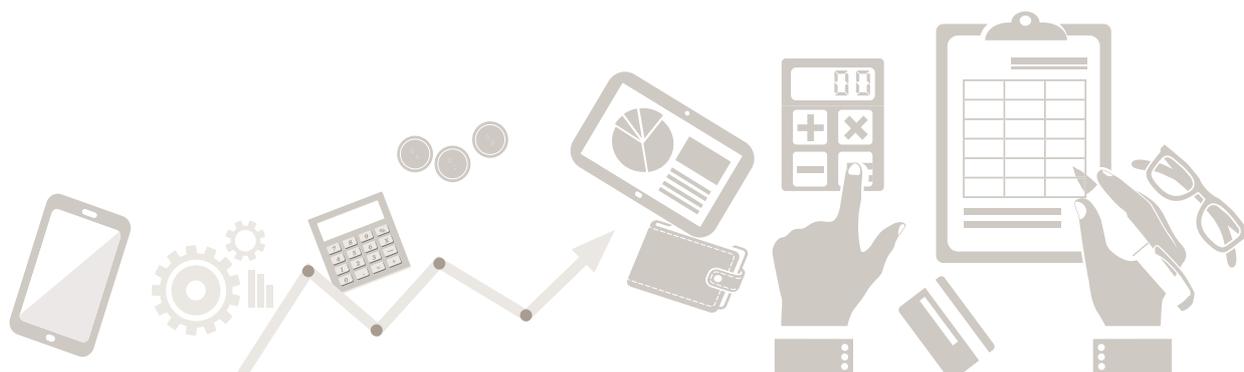
Digit's USP is that it promises an insurance coverage for flight delays starting from 75 minutes and up as opposed to traditional travel insurance companies, covering flights with delays from six hours onwards. Digit also has the technology to auto-detect delayed flights and send policyholders a text message to initiate their claim process. To avail the claim, policyholders need to submit a picture of their boarding pass to Digit.

4. Coverfox⁴³

Introduction: Coverfox is an online insurance aggregator. Founded in 2013, it raised has around 2,720 million INR thus far from investors including IFC (sister organisation of the World Bank Group). Coverfox claims to have integrated with more than 35 insurers, and offers more than 150 policies in motor, life and health insurance. It plans to expand insurance coverage into Tier II and Tier III cities within India, and address women's needs as it tries to diversify its product portfolio. Coverdrive, Coverfox's Android app, helps insurance agents go digital and grow their businesses.

5. Policy Bazaar⁴⁴

Introduction: This insurance web aggregator became a unicorn when parent company ETechAces Marketing & Consulting Pvt Ltd raised 13,600 million INR. Insurance is cross-leveraged as a subscription to cover OPD costs in hospitals while helping connect individuals to doctors. Once the consumer knows what kind of insurance/policy they need, they need to provide some information. Based on this, the engine will calculate the best quotes suitable for the consumer. A list of the insurers whose insurance/policy can be availed is also made available on the site. In this way, the web aggregators are leveraging technology in their business.



42. <https://www.godigit.com/about>

43. <https://www.vccircle.com/exclusive-aegon-invests-in-online-insurance-aggregator-coverfox/>

44. <https://inc42.com/buzz/softbanks-latest-investment-might-turn-policybazaar-into-a-unicorn/>



UK's InsurTech growth and regulatory landscape

UK InsurTech's growth so far

The UK hosts the fourth largest insurance market in the world and the largest in Europe, with a total premium volume of just under 1,91,25,000 million INR in 2016.⁴⁵ Taking account of population and economy size when comparing the top five insurance markets paints a somewhat different picture. The UK has the second largest market in the top five relative to its population, with premiums per capita in 2016 at just under 2,55,000 INR per person.

Lloyd's, the London-based specialist insurance and reinsurance market, opened its India office in April 2017. Lloyd's is looking to introduce new reinsurance solutions to support the growth of the Indian cedants, especially in the area of specialist reinsurance to complement the local market.⁴⁶ Lloyd's recently launched an Innovation Lab,⁴⁷ as the market looks to develop advanced technology solutions to meet its rapidly changing needs. The Innovation Lab will allow Lloyd's to test new concepts, design advanced technology solutions to solve market issues and give it a place that can act as a testbed for market modernisation efforts, all with the support and active involvement of market players.

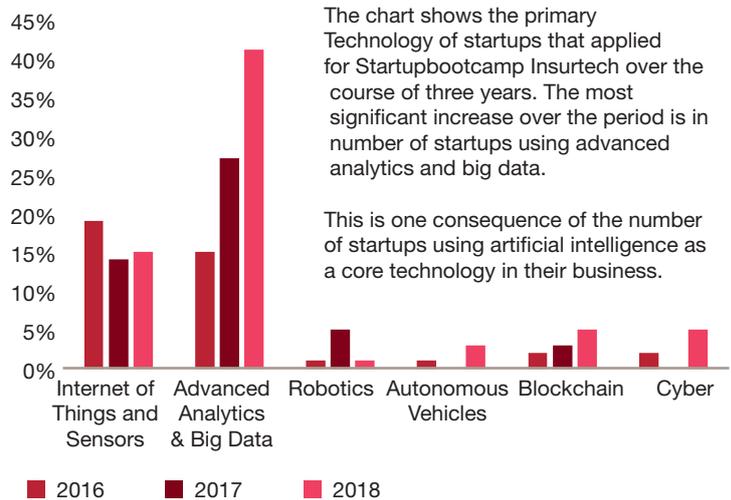
Some of the new technological developments and solutions could prove beneficial to developing markets such as India.

Some interesting facts from the InsurTech story in the UK are listed below:

1. 61% of the >1,000 applications to Startupbootcamp come from start-ups outside insurance.
2. AI is the primary technology for 41% of applicants.
3. 84% of surveyed Startupbootcamp partners are interested in creating cyber security offerings. Insurers and start-ups are increasingly looking at new products and services.
4. 5% of applicants are focused on customer interactions and 20% of applicants support operational improvements.
5. InsurTech has brought an influx of technology talent into the industry. This new talent has brought a change in culture, while innovation in insurance is moving from watch and learn towards executing proofs of concept and scaling them in the business.

Various studies have been published in the InsurTech domain and these help in understanding the journey of InsurTech in the UK:

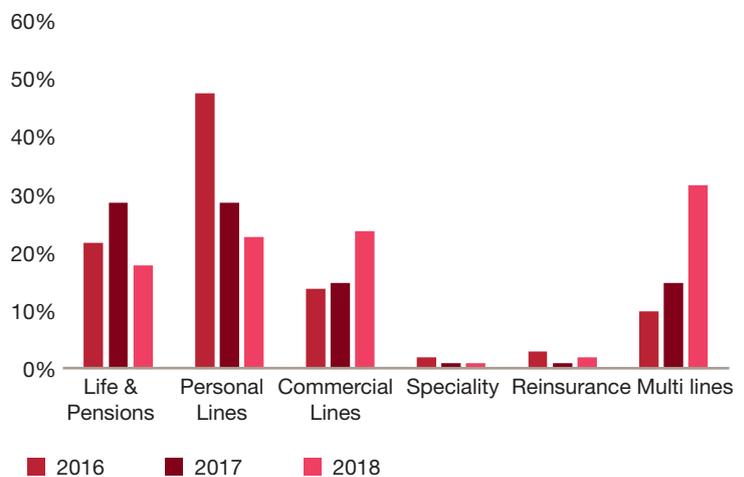
The Technology focus of applicants



The chart shows the primary Technology of startups that applied for Startupbootcamp Insurtech over the course of three years. The most significant increase over the period is in number of startups using advanced analytics and big data.

This is one consequence of the number of startups using artificial intelligence as a core technology in their business.

Startupbootcamp applications by insurance line: startups increasingly looking to solve problems in commercial insurance



Source: PwC report on 'Breaking boundaries'

The UK regulatory landscape

The Prudential Regulatory Authority (PRA), which is part of the Bank of England, promotes the safety and soundness of insurers, and the protection of policyholders.

The Financial Conduct Authority (FCA) regulates how these firms behave as well as, more broadly, the integrity of the UK's financial markets.

Lloyd's is regulated by the UK Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA), under the Financial Services and Markets Act 2000.⁴⁸

45. http://www.chinadaily.com.cn/business/2016top10/2016-10/20/content_27114518_7.htm

46. <https://www.lloyds.com/about-lloyds>

47. <https://www.lloyds.com/news-and-risk-insight/news/lloyds-news/2018/02/lloyds-to-launch-innovation-lab>

48. <https://www.lloyds.com/about-lloyds/regulation-of-lloyds>

The Sandbox approach⁴⁹

Much has been said about the doom that FinTech is set to spell for traditional financial services. However, this rivalry is now giving way to a more future-first collaborative approach. The simplification of complex processes, bundled with heightened user experience, has made FinTech appealing and has encouraged many players to open their doors to FinTech alliances that will enable the co-creation of solutions to foster a new wave of digital disruption.

Globally, innovative endeavours like the UK's Open Banking Standard—an approach that aims to transform and improve the experiences of customers—is showing promise not only in the UK but also in other countries and markets. The project already works in Germany and is creating an ecosystem of third-party applications for customers. The success of such FinTech initiatives has inspired developed markets to adopt them. Although this approach is most popular among banks, the set-up and its benefits can also be enjoyed by insurance and investment management firms.

What is a sandbox?

A FinTech sandbox or an application program interface (API) sandbox is an environment that innovators and testers can use to mimic the characteristics exhibited by the production environment on a real-time basis to help simulate responses from all the systems an application interfaces with. This enables FinTech players to experiment with innovative financial products or services within a well-defined space and duration. Moreover, the presence of appropriate safeguards helps in containing the consequences of failure. Essentially, the sandbox allows for the pilot testing of newly developed technologies

The need for a sandbox

The rising sophistication of FinTech solutions is leading to increasing levels of risks. In circumstances where it is unclear whether a new financial product or service complies with existing standards, some financial institutions may err on the side of caution, thereby hindering innovation. Furthermore, every organisation is trying to do pilots with dozens of FinTechs and managing the process is becoming very complex. We believe that a FinTech sandbox can help innovators overcome these challenges.

A sandbox acts as a layer between company and their innovation initiatives and facilitates smooth collaboration between FinTech companies and incumbents. Additionally, companies are relieved of the stress of dealing with multiple data requests (often the first step to solution development) as the sandbox serves as a ready reservoir of process-related information.

Benefits of a sandbox

- Piloting a product or business model through a sandbox will help companies manage their regulatory risk during the testing period itself.
- There are no restrictions on transaction size as the sandbox is in a UAT environment.

A sandbox could also facilitate more partnerships between legacy and start-up companies.⁵⁰

FCA initiated Project Innovate in October 2014 and now have a team working across all innovation services. FCA is encouraging innovation in the interest of consumers through, key among initiatives such as Regulatory Sandbox.

Recently, the Financial Conduct Authority (FCA) launched a global fintech regulatory sandbox, after the successful progress of their 2016 release of a UK sandbox that allows for innovative fintech development without requiring a full, strict regulatory process for testing.⁵¹

An overview of the leading UK InsurTechs

The UK insurance is the biggest insurance market in Europe and fourth biggest market in the world. The insurance market is a significant source of overseas income in the UK; it has a total of 3, 39,000 employees or 30% of employees in financial services. Insurance in the UK controls about 17% of total investment in the London stock market.

The main types of insurance in the UK are:

- General insurance
- Life and pensions
- Health and protection

General insurance companies provide insurance for common purposes. They play a vital role in providing risk-free life cover to insurers by minimising the impact of unexpected and unwelcome risk. General insurance protects individuals and businesses against unexpected future events, and helps them organise their lives and businesses with enhanced conviction. The net claims for general insurance per running day in the UK are about 6,290 million INR.

Life and pensions

Insurance industries also provide risk-secure cover for personal life and life after employment (i.e. retired people). The insurance industry is also making contributions to the nation's health by supporting the private medical sector. A life insurer offers valuable financial safety in the event of early death of insurers if members of the family are dependent on earnings, as well as a range of ways for saving in future. The net claims for pension and life insurance per running day in the UK are about 19,125 million INR.

Health and protection

Maximum risk is seen in health issues. Life insurance mainly deals with this category of health-related issues and providing insurance to minimise risk from health hazards. The UK insurance industry provides claim benefits for any kind of injury or illness. It also enables older people to plan and consider various benefit plans to suit their needs.

49. <https://www.pwc.in/consulting/financial-services/fintech/fintech-insights/the-sandbox-approach.html>

50. <https://www.fca.org.uk/>

51. <https://cointelgraph.com/news/uk-financial-regulator-introduces-global-fintech-sandbox-90-success-rate-domestically>

Recent statistics from the UK insurance market

As per recent statistics, the number of companies operating in the domestic insurance market in the UK is 443 as on 2018. The number of insurance companies saw an overall decrease throughout the period—2004–2018. There were 443 companies in the UK domestic insurance market at the end of 2018, compared to 673 companies in 2004.⁵²

The London insurance market continues to be the largest global centre for commercial and speciality insurance risks, controlling more than 59, 15,000 million INR in gross written premiums. 2017 was a very eventful year for the global insurance and reinsurance sector, with the beginning of the year seeing a continuing soft market with average premium rate reductions on renewals compared with 2016.

Political events and uncertainties resulting from them have come to the fore, affecting both the insurance and reinsurance markets, including:

- The UK's triggering of Article 50 of the Treaty on European Union has led to uncertainties around any final Brexit outcomes for the reinsurance market.
- Owing to the potential loss of the insurance 'single market', UK insurers (including Lloyd's itself) are seeking to establish post-Brexit EU subsidiaries to retain some benefit from the single market.
- The ongoing review of, and uncertainty surrounding, the Ogden discount rate (used in the calculation of awards in the UK for serious injuries requiring long-term care) continues to impact premium rates of UK liability insurance as well as motor insurance.
- In 2013, the government implemented wide-ranging reforms to the way the financial services sector—including insurance—is regulated. The body which regulated the UK financial services industry, the Financial Services Authority (FSA), was replaced by two new regulatory bodies. This is known as the 'twin peaks' system of regulation.

Emergence and growth of InsurTechs in the UK

In the UK InsurTech is speedily enabling the introduction of new business models, applications, processes and products. Innovations in InsurTech come from different sources—there are both demand side and supply side perspectives. The advent of InsurTech in the UK, is enabling the UK Insurers to assess the risk in a far better way.

Various companies and start-ups have come into the picture and are concentrating on InsurTech. Some of these companies are discussed below:

1. Wrisk⁵³

Introduction: Wrisk is a smartphone app for insurance regulated by the Financial Conduct Authority and HM Treasury. It is starting with contents insurance for goods such as iPhone and laptops, and will soon add cover for car, health, home and more. It wants to reinvent insurance for the mobile age, calling it macro insurance. The way Spotify innovated music, Uber innovated the taxi industry, Wrisk is to do the same for personal insurance.

It is working in collaboration with, Munich Re, BMW and Hiscox and acting on their behalf, respected incumbents known to support innovation in their partners. The agency model is known as a managing general agent (MGA), where the insurance liabilities lie with the partners.

How will Wrisk will make its revenue?

1. Commission per transaction, paid by its insurer partners
2. Profit commission, calculated annually and paid to Wrisk by its insurer partners
3. Licence fees for the use of Wrisk in those territories where an MGA model is not appropriate

Objective: It offers transparency to users by generating a Wrisk Score (a proxy rating tool like a credit score), which helps customers understand the different factors that affect their risk, how these impact their price and what they can do to improve things. It bills consumers differently and it is more like a subscription model for something like Netflix. Wrisk ends the hassle of multiple providers and disconnected policies. Wrisk is creating a single seamless experience where 'the whole is more than the sum of its parts'. It is building a single plan that adapts to fit your life, rather than forcing you into the traditional industry's ideas of what should be different products. Eventually, this means you'll never need to purchase separate home, contents, motor, travel or any other kind of insurance.

Wrisk was selected to join 2016 BMW incubator lab, the first-ever FinTech business incubator in the automotive industry. Wrisk will be BMW Group FS UK's provider of motor, travel and home insurance.

Wrisk working model

Wrisk operates as a B2C and B2B2C distributional model, focusing on a customer orientation to reach the mass market. For the B2B2C model, various commercial partners have signed LOIs, and Wrisk seeks to connect with them where they are already digitally connected to customers. For B2C, Wrisk will track campaign effectiveness beyond acquisition, through underwriting, performance and claims. Better risks can be selected through acquisition channel

52. UK statistics

53. <https://www.raconteur.net/sponsored/startup-wrisk-rethinking-insurance-connected-generation>

2. CyStellar (part of start-up boot camp demo)⁵⁴

- **Introduction:** A cloud-based analytics platform for data-driven decision making (big data). It provides such services to AgriTech, FoodTech and InsurTech.
- Found in 2017, using satellite imagery and IoT (collaboration with Sweden for agriculture precision with remote sensing) and drone-based surveillance to integrate information
- The team comprises big data specialists that crunch large amounts of data in order to help data-intensive organizations. Cystellar's platform also provides predictive analytics to sectors such as AgriTech, FoodTech and InsurTech, particularly helping insurers and their clients avoid damaging events.
- Founded by Peter Buns and Serdar Uckun, this company uses AI support tools for predictive maintenance and logistics.

3. Brolly⁵⁵

- It is powered by AI, and it tells you when you are over-covered or under-covered. It also tells you whether there are cheaper policies that suit your insurance needs.
- This company leverages AI in the insurance space to give customers a mobile insurance locker, advisor and shop, cutting down on costly renewals and coverage gaps. Lockers store existing and expired policy docs, and the advisor suggests coverage you may need.
- It has a machine algorithm database to help customers find policies they are insured for and where they can reduce and implement cost-benefit.
- The ultimate vision is to totally re-design the user experience of insurance based on data analytics and a centralised approach towards the UI/UX of insurance policies.

4. Laka⁵⁶

- **Introduction:** This company provides travel insurance to its consumers. It has built a community-based model for bicycle insurance.
- The monthly maximum is fixed at around 1,530 INR, but that comes down depending on how many claims are filed by the wider community. If there are fewer claims that have occurred, then the premium is lowered for everyone.
- Each policy comes with no excess, 60 days of travel insurance, a new for old replacement policy and roadside support.

5. In My Bag⁵⁷

- **Introduction:** InMyBag insures devices like laptops, phones and cameras. It works with Amazon Prime and Apple to guarantee same day replacement of the devices by either fixing them or loaning you a device, wherever you are in the world. InMyBag also recovers your data instead of having to wait weeks for a new device.
- The idea for the start-up came out of some research done by venture capitalist firm Hambro Perks that showed a gap in the insurance market for mobile workers who are reliant on their technology.

Since the process of claims and settlement is the most tedious part in the insurance process, this start-up tries and smoothens it out by giving customers the ability to better self-serve claims.

54. <http://www.mynewsdesk.com/se/iot-sweden/pressreleases/iot-sweden-and-cystellar-join-forces-to-offer-remote-sensing-solutions-for-precision-agriculture-2105748>

55. <https://www.techworld.com/startups/meet-brolly-uk-insurtech-startup-looking-fundamentally-change-insurance-3654651/>
<https://www.ormlondon.com/insights/6-insurtech-start-ups-disrupting-the-insurance-market/>

56. <https://www.laka.co.uk/>

57. <https://inmybag.co/>





Way forward

Key implications of InsurTech for the global insurance industry

There are multiple dimensions to the InsurTech landscape that need to be explored. We have highlighted a few examples of how InsurTech companies has enabled effective delivery of insurance. These present potential areas for India to adopt/leverage emerging and innovative practices to transform the insurance marketplace.

1. Meet changing customer needs with new offerings

Customers expect personalised insurance solutions. One size simply does not fit all anymore. Usage-based models are not completely addressing these expectations, but the sharing economy is also challenging more traditional insurance products. New players are able to work from a clean slate and leverage a variety of available resources to fill market gaps.

What kinds of insurance implement this value chain driver of InsurTech?

Metromile, a start-up, has developed a customer-centric value proposition for occasional drivers. It offers a low premium and then charges a few cents per mile driven. Metromile also offers an app that provides personalised driving, navigation and diagnostic tips, and can even remind drivers where they parked.

In the peer-to-peer space, Lemonade claims to be the world's first peer-to-peer carrier, but other companies like Guevara and InsPeer have been exploring variations of the same model. Bought by Many, a start-up that uses social platforms in its go-to-market strategy, helps individuals join or even create affinity groups, as well as find insurance solutions for their specific needs across different product lines.⁵⁸

2. Enhance interaction and build trusted relationships

Established carriers have to manage increasing customer expectations and provide seamless service despite their large and complex organisations. In contrast, new market entrants are not burdened with large, entrenched bureaucracies and typically can more easily provide a seamless customer experience, often using not just new technology but also new service concepts. For example, self-directed robo-advisors are convenient, 24/7 advisors that provide ready access to information about financial planning and investment management.

3. Augment existing capabilities and reach with strategic relationships

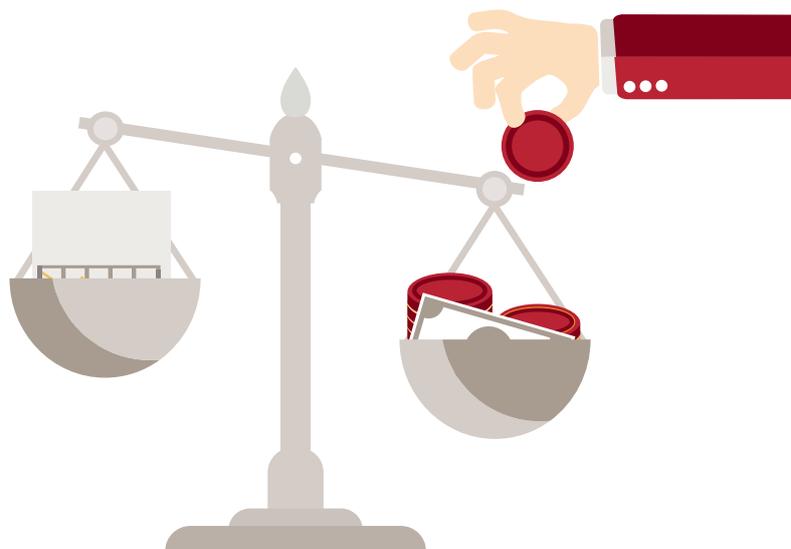
Historically, the insurance industry has included intermediaries, service providers and reinsurers. In most cases, the carrier has led the business relationship because of its retail market position and scale. However, companies are increasingly peers. Accordingly, joint ventures and partnerships are a good way to augment existing capabilities and establish symbiotic relationships. For example, BIMA Mobile has partnered with mobile telecoms companies to provide life insurance solutions to uninsured segments in less developed countries. It offers simple life, personal accident, and hospitalisation insurance products on a pay-as-you-go (PAYG) basis for a set time period (usually just a few months). Policyholders can obtain a pre-paid card and activate and manage their policy from a mobile phone.⁵⁹

4. Leverage existing data and analytics to generate risk insights

Established insurers have traditionally had an advantage over prospective newcomers of being able to leverage many years of detailed risk data. However, data—and new types of it—can now be captured in real time and is available from external sources. As a result, there are new market entrants who have the ability to generate meaningful risk insights in very specific areas.

Several Internet of things (IoT) companies, including Mnubo, provide analytics that generate insights from sensor-based data and additional external data sources like telematics and real-time weather observation. The promise of better risk assessment and management through this model is likely to appeal to personal and commercial carriers.

Facilitating this real-time data collection are drone start-ups, including Airphrame and Airware. Drones provide the ability to analyse risk with embedded sensors and image analytics. They also can operate in remote areas that it has traditionally been difficult for humans to reach, thereby saving time and increasing efficiency. In fact, American Family's venture capital arm is investing in drone technology in order to explore new approaches to access and capture risk data.⁶⁰



58. <https://www.pwc.es/es/publicaciones/seguros/top-issues-2016-insurtech-feb-2016.pdf>

59. Ibid.

60. <https://www.pwc.es/es/publicaciones/seguros/top-issues-2016-insurtech-feb-2016.pdf>

5. Utilise new approaches to underwriting risk and predicting loss

Protection-based models are shifting to more sophisticated preventive models that facilitate loss mitigation in all insurance segments. Sensors and related data analytics can identify unsafe driving, industrial equipment failure, impending health problems and more. More deterministic models like the ones that now exist for crop insurance are starting to emerge and new entrants are offering both risk prevention (not just loss protection) and a more service-oriented delivery model.⁶¹ For example SatSure, the company uses historical and current satellite imagery, along with local socio-economic and commodity pricing data (a mix of big data, AI and analytics) to reduce the risks associated with weather-based farming, help farmers get agricultural credit and insurance, and improve settlement times.⁶²

6. Enable the business with sophisticated operational capabilities

Effective core systems enable insurers to operate on a large scale. Because of cost, establishing these systems has typically been a barrier to market entry. However, access to cloud-based core solutions has facilitated scalability and flexibility. Developments like this, combined with new developments like robotics and automation, have provided new market entrants compelling market differentiators.

As just one example, underwriting automation is now available in life and commercial lines (notably for small and medium businesses). Some carriers have adopted simplified processes and 'jet' underwriting, in which they leverage external data sources to expedite approval. This has resulted from the availability of risk insights that support new underwriting approaches. Several companies are offering to optimise and augment processes via improved collaboration, AI and more. For instance: Outside IQ⁶³ offers artificial intelligence solutions via an as-a-service underwriting and claims workbench that uses big data to address complex risk-based problems. In addition, automating claims can improve efficiency and also effectively assess losses.

Thus far, insurers have moved forward cautiously on InsurTech innovation, seeking a clear value proposition and prior experience. InsurTechs, on the other hand, expect a hand-holding approach in the form of a partnership, in which both parties are invested in the success of the engagement.

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 some areas to look out for:

1. **Blockchain:** Blockchain technology, a decentralised ledger of all transactions across a peer-to-peer network, is increasingly being considered across financial services as a secure storage and distribution solution. It has the undoubted potential to disrupt insurance and financial services, and InsurTechs are eager to exploit this opportunity.
2. **Analytics:** There is expected to be a massive ramp-up in the possibilities of robotics automation technologies that aggregate AI, data analytics and rapid software development. In the long term, the revolutionary power of analytics won't come from simply improving and automating existing functions or processes; rather, it will derive from the new roles and innovative business models that analytics may create.

The full potential of India in terms of insurance has not fully been realised. This can be understood from the various statistics presented in the paper and the penetration levels. UK start-ups, with their use of technology in the InsurTech space, will help in penetrating Indian markets to a higher level. This will be beneficial to insurers as well as the people who will be covered under the various policies.

The InsurTech sector can be transformational for the wider insurance industry and we are only just beginning to see potential applications of new ideas, technologies and processes. Some of the examples detailed in this paper give a flavour of the future, but many more developments can be expected. Incumbent insurers should welcome these new entrants with open arms. New entrants can help insurers serve existing customers better and reach new customers for the first time. However, the promise of the start-ups doesn't end there—they will also enable insurers to operate more effectively and efficiently throughout the back office. As InsurTech develops and matures, there is no doubt that more start-ups will aspire to take a piece of the market share from insurers, and incumbents will need to respond to this situation. But for now, the bigger challenge will be to respond to the opportunity start-ups offer.

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.

61. https://www.pwc.ru/ru/industries/insurance/FinTech-report_InsurTach.pdf

62. <https://insuranceblog.accenture.com/agri-tech-the-opportunities-for-insurers>

63. https://www.actuariesindia.org/SeminarDocs/HCI/ppt/What_is_the_future_of_underwriting.pdf



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Assumptions

A rate of 68 INR has been considered for conversion of USD to INR.

A rate of 85 INR has been considered for conversion of GBP to INR.

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