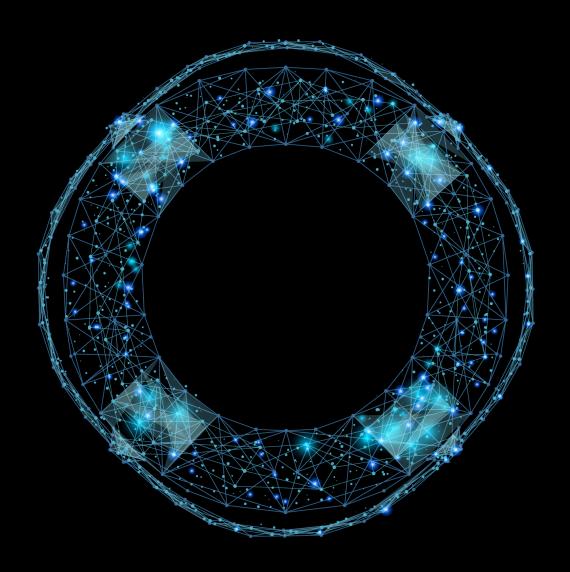
Deloitte.





Redefining Insurance The future ahead...

InsureInd

January 2018

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Foreword by CII

Insurance industry in our country plays a vital role in the growth of its economy. It greatly increases the opportunities for savings, forming an enormous pool of funds, which contributes significantly towards the capital markets. These augers well for the infrastructure development of the nation.

India's insurance sector has been continuously evolving since its inception in 1818. The last decade witnessed a major growth with the introduction of advanced products. Fast paced adoption of digitization with a huge push from the Government aided the growth. This industry is one of the most booming sectors of the economy and is growing at the rate of 15-20 percent per annum. The Indian insurance market positions itself 5th in Asia, after Japan, South Korea china and Taiwan and is 19th largest globally.

The country's insurance sector consists of 24 companies operating in the life insurance business and 29 non-life insurers. The life insurance sector is the biggest in the world with about 70,000 Crore premiums yearly, and it is growing at a positive rate of 17% every year. In India the insurance market is slated to increase four folds in size over the next 10 years. Owing to the economic growth and higher personal disposable incomes in the country the Indian insurance industry is expected to grow to US\$ 280 billion by FY2020.

With the passage of the Insurance Laws (Amendment) Bill, the tap for the flow of foreign investments was opened, as the foreign players were waiting for the composite foreign investment cap to be pushed to 49%. This has certainly helped in improving penetration levels. Insurance penetration reached 3.4 per cent in FY16 and is expected to cross 4 per cent in FY17.As the domestic economy is expected to grow steadily, the insurance industry is poised for further growth.

India's population is anticipated to touch 1.35 billion by 2020, with the life expectancy of 74 years. The life insurance sector is expected to comprise 35% of the total savings by the end of this decade. In spite of being the second most populous nation, India currently accounts for less than 1.5 per cent of the world's total insurance premiums and about 2 per cent of the world's life insurance premiums. The Indian insurance market has the potential to grow exponentially, if leveraged properly would prove to be a huge business opportunity. We are hopeful that this CII-Deloitte report on InsureInd Insurance-Industry Partnership will help industry understand the changing landscape of Insurance and facilitate risk management at optimum cost.



Umesh Chowdhary Chairman, CII Eastern Region

Foreword by Deloitte

As technology innovation, higher customer expectations and disruptive technology redefine the marketplace, insurers remain focused on growing top-line sales, bottom-line profitability, addressing challenges, and competing in a dynamic industry.

As digital capabilities, infiltrate nearly every industry, there appears to be a big opportunity for Insurance companies to transform their business model. In fact, unless the industry commits to integrating transformative technologies more rapidly into their operations, Insurance companies could risk not only continued stagnation, but potential leakage to InsurTech innovators as well.



Kalpesh. J. Mehta

Digitalization of underwriting can also enable online distribution capabilities, allowing insurers to cast their nets wider and embrace younger demographics that often prefer a more virtual experience and taking more informed decision for acceptance of risk. Further, use of innovative tools will not only reduce the turnaround time but will also help in minimizing the underwriting losses since the decision will be based on more accurate data thereby reducing the burn on profitability.

Insurance companies are now looking at claims settlement within 24 hours to 2-4 days and changing the outlook of reviewing turn-around times from the intimation date and requirement completion date. An efficient underwriting function supported by innovative data analytics tools will ensure that any potential cases of fraudulent claims are mitigated at the issuance stage itself. Use of innovative technology like Blockchain, Artificial Intelligence, chatbots etc. will further improve overall customer satisfaction.

While more insurers look to break into the cyber insurance market or expand what they're already writing, data-rich financial services companies including insurers themselves remain a prime target of cyberattacks. Until recently, insurers have been relatively free to follow their own path and timeline in their cyber risk management efforts. However, globally, many insurers now have to cope with new loss control and reporting standards laid down by regulators that could increase compliance budgets for those that haven't already taken such steps. Even the Indian regulators have issued guidelines on Information and Cyber Security for insurers.

As per the information reported to and tracked by Indian Computer Emergency Response Team (CERT-In), security incidents have increased from 44,679 in 2014 to 50,362 in 2016. In the first half of 2017 (till June) 27,482 cyber security incidents were already reported.

In our current environment, the ability to use data and predictive analytics to accelerate underwriting and reduce market friction could be both a competitive advantage and market expander. The question regulators and the industry face is where to draw the line.

There are exciting times for all the stakeholders. The organization which embraces the change and adopt measures and modern innovative tools will outperform in the market to upbeat the competition.

Insurance Disrupted through Exponential Technologies

The rate of technological change is accelerating so fast that our ability to understand the implications of it has never been so challenging and so important.

Startup companies unburdened by inertia or Wall St. expectations are growing faster than ever and displacing incumbents in record time. Recognizing and embracing exponential opportunities sets apart successful leaders who shape the future of an industry from linear thinkers at risk of being disrupted.

Over the next five years, financial services and indeed all sectors of the economy are likely to be dramatically disrupted, primarily by greater customer empowerment and technology driven innovation. Deloitte has evaluated the key trends impacting the insurance value-chain. Insurers need to understand these in order to position themselves to respond to the threats and opportunities disruption affords. Refer to Figure 1.0

The insurance sector is considered to be highly regulated, complicated, and impenetrable. This is no longer the case; more than ever, insurance start-ups are popping up and finding both funds and users within the space to give consumers more options than ever for every type of insurance experience or need one might have.

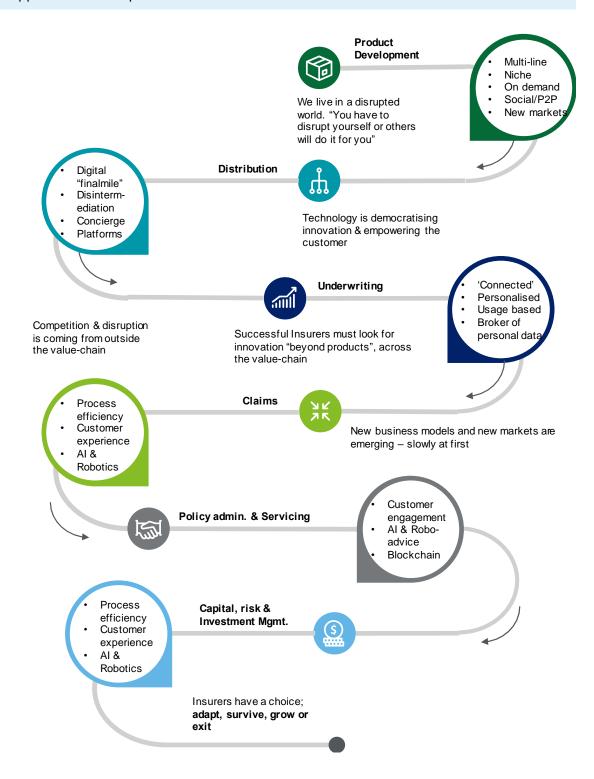
"Innovation distinguishes between a leader and a follower."

Steve Jobs

Figure 1.0: Disruptive Forces are Re-Imagining the Insurance Value-chain¹

Disruptive forces are re-imagining the insurance value-chain

Over the next 5 years, financial services and indeed all sectors of the economy will be dramatically disrupted, primarily by greater customer empowerment and technology driven innovation. Deloitte have evaluated the key trends impacting the insurance value-chain. Insurers need to understand these in order to position themselves to respond to the threats and opportunities disruption affords.



Exponentials in Insurance

We live in an era of unprecedented change, driven by rapid and exponential evolution of disruptive technology and game-changing ideas. These disruptors are not decades from reality —many have already realized mainstream adoption across multiple industries (e.g., 3D printing), while others aren't far away (e.g., nanotechnology, driverless cars). While Individual technologies and organizational enablers have the power to disrupt existing business models or even entire industries, their real power emerges when they converge. A diverse set of exponential technologies and organizational enablers are converging and disrupting the "old" way of doing business.

Some of the key exponential domains² that are emerging in the market place are below.

Technology Innovation

Artificial Intelligence & Analytics

Augmented/Virtual Reality Artificially creating sensory experiences and interactions with both real and imaginary



Advanced Robotics

Next generation robotics/automation technologies to work with humans



Additive Manufacturing

Producing consumer products faster, at a



Networks & Sensors

Advanced Materials

performance alloys

polymers, ceramics and composites, high

Energy/Environment Systems

Biotechnology & Bioinformatics

Digitization of the genome + ability to



Gamification

Sharing Economy

Mobile and Social Economy

Leveraging game mechanics to incentivize

Org/Process Innovation

Leveraging the public to fund a the creation

Crowdsourcing

specific goal

Crowd funding

Prize-based Competition

community to solve a problem

An economic model that focuses on



Maker-Movement

can make their own items



DIY (Democratization)

Digital Currency Economics

Crypto-currency, mobile payments, and other economic innovation





Personalized Medicine



In this article we will focus on some of these exponential domains which are making an impact on the Insurance sector such as the following:



Artificial Intelligence & Analytics
Cognitive capabilities that can augment or replicate human thinking



Advanced Robotics

Next generation robotics/automation technologies to work with humans





Networks & Sensors

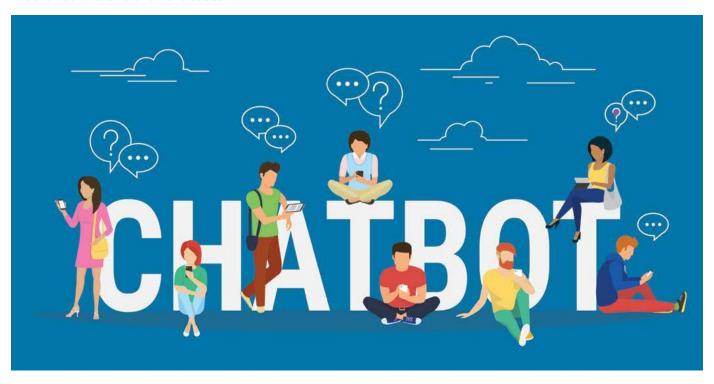
computation, networking, and sensing



Sharing Economy
An economic model that focuses on community and sharing



Rise of conversational chatbots



Companies have used chatbots for customer service for a number of years, typically to replace or assist live agents in call centers or as an alternative to point-and-click interfaces for customers visiting websites. Now, a number of factors are ushering in a new era for chatbots.

Advances in cognitive technologies are making it possible to provide increasingly accurate and relevant automated dialogues. For example, speech recognition software has made advances in reducing word error rates, and machine translation has improved thanks to deep learning techniques. Improvements in speech and language processing technologies are making chatbots more capable, expanding their potential applications across the enterprise.

An article published in Forbes magazine a few years back had identified "app fatigue"—a declining willingness among consumers to install and use new mobile apps³. At the same time, messaging has emerged as a dominant online activity, Allianz and RBC Insurance in Canada have been using AI-powered chatbots to improve operational efficiency⁴.

Some of the Indian Financial services aggregators like Bankbazaar.com, policybazaar.com, and Easypolicy.com are finding that chat-bots are helping them reach out to thousands of customers and increase their conversion rates⁵. With natural language processing and artificial intelligence, the chatbots are able to hold more intelligent and pleasant conversations all through the day and night.

DBS, Singapore's largest bank and a leading bank in Asia, is working with US-based Kasisto, a spin-off from the creators of Siri (Apple's voice assistant), to deliver AI powered conversational chatbots⁶. Kasisto is a startup that aims to transform the consumer banking experience with artificial intelligence. DBS customers can also pay bills easily via this

service. For example, by simply texting "Can you please pay my mobile bill?" the request will be processed, but not before identifying the correct payee. Fintech payments startup **Payjo**⁷ has launched its product Recharge Bot, an application virtualization platform for recharging prepaid phone accounts through Facebook messenger. Right now they have partnered with Airtel and Vodafone.

Wearables and IoT



Wearable technology has become an increasingly popular trend over the past few years, providing consumers the chance to live happier, healthier, and more convenient lives. According to IDC Asia, India's wearable market was up by 42% in the second quarter of 2016 — over 567,000 units of wearables were sold 8 .

The insurance sector will need to stay up-to-date with wearable device trends, shifting the way they create products and pricing structures.

In a variable premium product, Cigna TTK Health Insurance Co launched its **pay-as-you-workout** concept⁹, where it is offering to charge its policyholders less if they manage to burn out more in calories. In the General Insurance space, Bajaj Allianz General Insurance Co had also launched a variable premium products with its **pay-as-you-drive** motor insurance policy, enabled by telematics technology.

Fitsense is a data analytics platform working with insurance companies to personalize life and health insurance for anyone with a smartphone or wearable device¹⁰. Fitsense was created to help lower insurance costs and improve risk ratings.

By taking the data from a user's wearable (like Fitbit or Jawbone), insurance providers can make more accurate risk predictions based on actual data which will reward users who live healthier lifestyles with lower insurances costs and premiums. We are seeing this trend being adopted by Indian Insurers as well.

Another health insurance company called **Oscar** rewards its members by giving 1 USD for each day they walk a targeted number of steps, as measured by a free wearable fitness tracking device made by Misfit Wearables¹¹. They provide around-the-clock access to free televisits with physicians, free checkups, and cash incentives for getting a flu shot.

On-demand insurance



The gap between covering everything every time and covering precisely the risks faced at a certain moment called for a new type of insurance. Insurtech companies specialize in covering only those risks faced at a certain moment. There are a number of ways to apply on demand insurance products:

- Activate a travel insurance at the very moment a flight ticket, cruise, or Holiday is booked
- Car insurance that does not need payment when the car is not used
- Pay-as-you-stay insurance that only insures the time spent in an apartment

Sure is an innovative personal insurance app that enables travelers to purchase on-demand policies up to the time of their flight takes off. It intends to gives air travelers peace of mind by providing life insurance for specific durations (the length of a flight)¹². This focus on **micro duration** is different than a general life insurance policy since it is only enacted during air travel. The app provides its users with policy cost in real time.

AXA Insurance launched UK's first 'on-demand' insurance cover, through its partnership with Silicon Valley start-up Trov¹³. **Trov** is an on-demand insurance platform that lets users buy insurance for specific products, for a specific amount of time. It enables its users to choose which of their belongings to cover and for how long. It also allows users to file their claims through the app.

The sharing economy



The concept of the sharing economy surfaced roughly 15 years ago. Since then, it has disrupted many industries by redefining their core business models.

Its impact has been felt primarily in the transportation industry, which includes ride-as-a-service and ridesharing; home and office space sharing; and workforce and services on demand. The disruptive changes brought about by the sharing economy cross industries is causing a ripple effect for insurance providers as well.

Lemonade is an Insurance startup that borrows from the on-demand, sharing-economy ethos of Uber and Airbnb, with plans to take on the highly regulated and firmly entrenched insurance sector¹⁴. The company is one of a few startups offering peer-to-peer (P2P) insurance, which operates by pooling insurance premiums from people who know and trust one another. That pot of money is used to pay members' claims, and members then keep any unused cash.

UK-based financial services startup **Bought By Many** targets underserved insurance markets¹⁵. Groups of people with niche insurance needs join together to buy insurance policies at a lower cost or those that are better tailored to their needs.

Acting as an intermediary, 'Bought By Many' negotiates with insurance companies to obtain deals for the "buying collective." These new insurance companies in the fast-growing P2P segment are using crowdsourcing and social networking to create a shared insurance experience.

It has to be seen if P2P insurance will work for the Indian insurance market. On the surface, the easiest customer segment to access for P2P might be the urbanites and SME owners who would already be familiar with the concept of insurance and simply be looking for a more cost effective and trustworthy way to buy it, the largest opportunity is clearly the uninsured Indians. To effectively access the uninsured, education programs that help to empower communities through P2P insurance will need to be run through development banks and other non-governmental organizations.

Blockchain

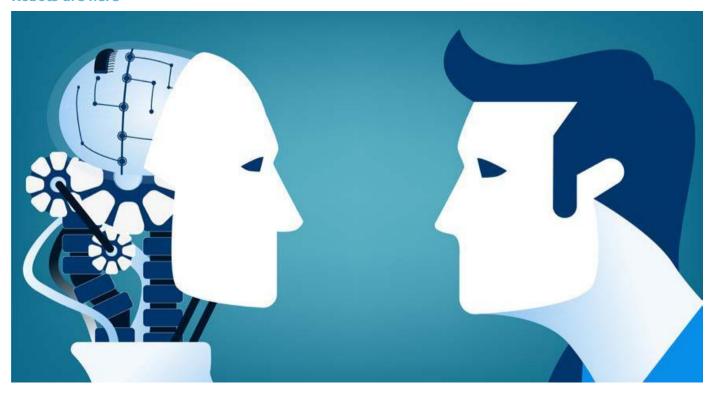


Blockchain is a distributed ledger that is broadly discussed as a technology with huge innovation potential in all areas of financial services. To date, it is largely in the banking arena where Blockchain use cases have been identified. However, the Blockchain technology also offers potential use cases for insurers that include innovating insurance products and services for growth, increasing effectiveness in fraud detection and pricing, and reducing administrative cost. Smart contracts powered by a Blockchain could provide customers and insurers with means to manage claims in a transparent, responsive and irrefutable manner¹⁶.

For Blockchain to succeed, there is a critical need of a community whose members can collaborate and learn from each other since this is a nascent and emerging area.

Realizing this importance, some Indian insurers have taken the lead and formed an informal community on Blockchain. This informal consortium is exploring use cases such as checks for agent recruitment, detecting Anti Money Laundering (AML) violations, improving customer outreach for unclaimed amounts, managing cost of medicals, and curtailing claims fraud¹⁷.

Robots are here



The Digital revolution has come to Finance. Automation technologies are challenging the traditional workforce and Robotic process automation (RPA), is becoming a top priority for insurance CFOs.

As the focus on cost and efficiency increases, traditional cost reduction levers alone are no longer adequate for today's challenges. Computer-coded, rules based software that automates manual activities by performing repetitive rules-based tasks are helping businesses improve the effectiveness of services faster and at a lower cost than current methods.

One of the common use case has been around accounting close, which is a rules-based process, conducted across multiple locations often requiring multiple handoffs that involve the following:

- Predominantly manual close processes
- Lots of emails and spread sheet-based communications and calculations
- · Lack of end-to-end process visibility

Leveraging RPA for automating this process offers a number of benefits such as the following:

- Reduced cycle time for sub-ledger and close activities
- Automated workflow

- Centralized operations to gain efficiencies
- Decreased operating cost with FTE labor cost reduction
- Improved consistency and quality of financial data

Several insurers like Aviva are deploying RPA initiatives and are offering to train employees for alternative jobs in the company for those who admit their job could be automated¹⁸.

Endnotes

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Cyber Risk Liabilities and Cyber Insurance

Introduction - Why consider cyber liability and cyber insurance?

The pace and scale of changes in business technology has brought significant changes for corporations of all sizes in India – large domestic corporations, global MNCs, public sector behemoths as well as micro / small / medium enterprises (MSMEs). The changes are reflected in 2 broad trends:

- **Digitization and automation of business processes** more and more business processes have moved to Digital medium including interactions with business partners.
- Mobility solutions powerful mobile devices coupled with increased bandwidth and user friendly mobile applications have made business data accessible anytime and anywhere. This has helped increase agility, speed and aided data based decision making

The increased digitization and mobility has caused its share of cyber risks and vulnerabilities. Businesses are witnessing an increase in targeted attacks including state sponsored attacks, targeting businesses and enterprises of all sizes. The emergence of advanced technologies including Cloud Computing and IoT, is providing further impetus to the changing threat landscape for corporations.

As per the information reported to and tracked by Indian Computer Emergency Response Team (CERT-In), security incidents have increased from 44,679 in 2014 to 50,362 in 2016. In the first half of 2017 (till June) 27,482 cyber security incidents were already reported. ¹

Cyber threats have evolved swiftly from virus attacks to sophisticated malware, phishing including spear phishing and advanced denial of service attacks. Businesses in India will continue to face increasingly sophisticated and destructive cyber threats in this evolving digital landscape.

How is cyber insurance different from traditional insurance plans?

Many organizations have come to realise that a cybercrime is inevitable – it's not a question of 'whether' it will happen, but 'when'. Insurance is one of the risk mitigation tools available to corporations. The spate of recent cyberattacks indicate that breaches can lead to tangible costs, brand degradation and changes in consumer behaviour.

Traditional insurance plans – General Liability, Property, D&O, and Crime – may be inadequate to cover all the risks that emanate from Cyberattacks.

¹ Cert-in Tracks 27,482 Cyber Security Incidents in 2017, News 18, 22nd July 2017: http://www.news18.com/news/tech/cert-in-tracks-27482-cyber-security-incidents-in-2017-till-june-1469711.html

For example following a data breach, significant costs arise from the following factors:

First-party Cyber Risk Exposures

- Theft of money and digital assets: Direct monetary losses from electronic theft of funds/money from the organization by hacking or other types of cybercrime.
- Loss or damage to digital assets: Loss or damage to data or software
 programs, resulting in costs incurred through restoring, updating,
 recreating or replacing these assets to the same condition they were in
 prior to the loss or damage.
- Business interruption from network downtime: Interruption, degradation in service, or failure of the network, resulting in loss of income, increased cost of operation and/or costs incurred by mitigating and investigating the loss.
- Cyber extortion: Attempts to extort money by threatening to damage or restrict the network, release data obtained from the network, and/or communicate with the customer base under false pretenses to obtain personal information.

Third-party Cyber Liability Exposures

- Security and privacy breaches: Investigations, defense costs, and civil damages associated with security breaches, transmissions of malicious code, or breaches of third-party or employee privacy rights or confidentiality, including failures by outsourced service providers.
- Investigation of privacy breach: Forensics investigations, defense costs, regulatory penalties and fines (may not be insurable in certain states) resulting from an investigation or enforcement action by a regulator as a result of security and privacy liability.
- Customer notification/Public Relations expenses: Legal, postage, and advertising expenses where there is a legal or regulatory requirement to notify individuals of a security or privacy breach, including credit monitoring program costs and PR media assistance.
- Multi-media liability: Investigations, defense costs and civil damages arising from defamation, breach of privacy, negligence in publication of any content in electronic or print media, as well as infringement of the intellectual property of a third-party.
- Loss of third-party data: Liability for damage to, or corruption/loss of, third-party data or information, including payment of compensation to customers for denial of access, failure of software, data errors and system security failure.
- Third-party contractual indemnification: Financial obligations to third-parties due to a security or data breach incident.

For some board of directors and their respective companies, purchasing a comprehensive cyber insurance policy that covers both first-party and third-party costs helps ensure survival when security fails and large expenditures must be made rapidly to get the company back on line. For other more sophisticated companies, cyber insurance may be seen as a way to transfer potential balance sheet risk to an insurance mechanism to protect the company and its shareholders from large, insured losses (no different than if a company would purchase catastrophic property-casualty insurance to protect against natural disasters).

Comparison between traditional insurance policies and cyber policies

Traditional General liability insurance policies do not offer comprehensive data protection. While some insurers add digital protection endorsements, it is only covers data losses caused by physical damage. The below table provides a comparison of the existing traditional insurance policies vis-à-vis the cyber insurance policies. The coverage provided by cyber insurance policies are aligned to liabilities that have mushroomed as a result of the evolving digital landscape and provide comprehensive coverage.

	General Liability	Property	E & O/D & O	Crime	Cyber
Network Security	*	*	*	*	✓
Privacy Breach	*	*	*	*	✓
Media Liability	*	•	*	•	✓
Professional Services	*	•	*	*	✓
Virus Transmission	*	*	*	*	✓
Damage to Data	*	*	*	*	✓
Breach Notification	*	•	*	*	✓
Regulatory investigation	*	•	*	*	✓
Extortion	*	•	*	*	✓
Virus/hacker attack	*	*	*	*	✓
Denial of service attack	*	*	*	*	✓
Business interruption loss	•	*	*	•	✓

- Possible
- ✓ Definite coverage
- No coverage

Key points to be considered while buying cyber insurance policies:

Understand your organization's risk exposure

- Identify the organization's cyber risks and determine which risks to avoid, accept, mitigate, or transfer through insurance.
- The cyber insurance policy must align with the board's cyber risk management strategy.
- Coverage may not be required in areas where controls are well established and routinely tested

Understand policy complexities

- There is a wide variety of insurance policies available, spend time up front understanding the pre-conditions that need to be met to obtain insurance
- It is important to understand any policy exclusions to make sure that you are able to take advantage of the coverage you will be paying for
- Commercial General Liability policy in all probability may not cover a
 data breach. Stand-alone cyber insurance policies offer broader coverage
 and should be explored by every board, along with an evaluation of
 sufficiency of the organization's Directors and Officers liability insurance
 program
- Customize the cyber insurance policies to align and address the organization's cyber risk liabilities. Also, evaluate the cyber risk coverage the policy offers and align it with the organization's requirements

Balance the cost of premium and control implementation

- While insurance policies may assist in transferring risk, organizations should conduct a cost benefit analysis to determine the appropriateness of investment in coverage
- Make sure your organization is buying cyber insurance to cover the risks that can't be addressed in house

Understand the claim settlement process

- Not all cyber claims are treated equally know what is going to be required to file a claim and make sure you can satisfy these requirements before purchasing insurance
- When an incident occurs, insurers often require organizations to execute
 a formal incident response process including saving logs, emails,
 forensic scans and other evidence using methods that preserve the
 integrity of the evidence
- Evaluate the cyber insurance organization's claim handling history prior to purchasing the cyber insurance policy

Conclusion:

Managing cyber threats in today's digital landscape is no longer an issue limited to the IT Department. It has become a business and strategic imperative with the stakes only increasing. When a data breach occurs, directors and C-level executives must be ready with a business continuity and data breach incident response plan to help minimize their company's liability, exposure, and business performance.

Cyber insurance does not prevent but minimizes the damage should an organization be impacted by a cyberattack or data breach. It is a catastrophic yet unanticipated expense, often overlooked by Board of Directors and not included within the organization's budget. If the recent trends in cybercrimes are any indication, the future does not seem very encouraging, and cybercrimes are only likely to further increase, not just in frequency but also become more sophisticated with no end in sight. The associated costs that organizations are likely to incur while responding to these cyber incidents, being substantial, should be planned for by using instruments such as cyber insurance policies.

Claim Settlement & Underwriting

Setting the context

Strategic relevance of underwriting and risk management -

Underwriting is the most strategic component to the insurer to determine the premium that should be charged for a policy and underwrite the right risks. It helps the insurer to balance their losses and manage profitability. The quality of the underwriting is determined by the underwriting losses incurred for a portfolio in correlation to its claims experience. Underwriting forms a critical link in the design of an insurance policy since they are best placed to provide inputs on risk protection. An experienced Underwriter is extremely skilled in identifying any non-disclosures that can result in early / fraudulent claims.

Following is the life cycle of an insurance proposal:



Underwriting and risk management - Underwriting challenges include accepting risks which should have been declined / loaded with extra premium or inadequate reinsurance protection given the insurer's risk tolerance. Insurers need to identify, obtain and capture all key parameters to enable an Underwriter to form an accurate assessment of the risk to be insured. The insurer should have a systematic method to monitor its accumulation of risks across product types and geographical areas so that the overall risks underwritten by the insurer are always within its reinsurance protection limits and risk appetite. It should also ensure that facultative reinsurance is obtained when necessary. An insurer should conduct regular reviews to ensure that the underwriters continue to be competent in the area of their delegated authority and the quality of the underwriting decisions made remains satisfactory. The insurer should monitor risk indicators like claims experience – for example, when an experience analysis shows that claims experience is worse than what was envisaged during pricing. Another example of an indicator would be the number of complaints against the insurer with respect to the underwriting decisions made or the timeliness of the decisions.

"A peek in to the future of underwriting – Automated underwriting is already processing 80% of the applications today. There is enhanced awareness and need for Protection business will only increase. This business involves intense risk assessment. Traditional methods of making customers do medicals and submit their financial statements will be passé. The future

risk assessment will ride on AI and strong analytics based on the wealth of customer information available through various platforms. The accuracy of risk assessment will compel insurers to design products with competitive rates dependent on actual usage of benefits and lifestyle for life insurers. Customer information will be dynamic and static decisions will not hold good for the entire policy term."

"Claims risk assessment will be more preventive and predictive to facilitate more and speedier Claims settlement. The intent would be to analytically study the customer data and price it appropriately to avoid dubious claims. Risk of fraud will be regularly eliminated though AI and analytics. Telematics has brought a paradigm shift in motor insurance. Claims guarantee for life insurance is the future selling proposition to ensure that customers enjoy peace of mind after buying protection cover for their dependants."

Ms. Metilda Stanley - Senior Vice President - Claims, Underwriting and Operations at HDFC Standard Life Insurance Company Limited

Claims management in Insurance – Claims is another integral function of the insurance company whose primary objective is to ensure a valid claim is efficiently processed and achieve maximum customer satisfaction levels. Claims as a process is highly dependent on the communication between the insurer and the policyholder. Claims settlement requires proactivity and expertise as well as sound judgement in order to make good decisions. Ultimately all insurers aspire to deliver faster and fairer claims settlements.

Claim specialists are essential to know and identify the ropes that can make every aspect of the process much easier and efficient. Underwriters can provide insight into the coverage interpretation for individual risks because of their involvement in providing coverage initially and also having the insight of the insured and insurer intention in forming the policy. Similarly, claims function can provide insights on market trends and claim experience to avert incorrect risk acceptance at the issuance stage only. Hence it's very essential to have an effective communication channel between claims and underwriting function.

Claims and risk management -

Inefficient underwriting could have a direct impact on claims and may result in losses for the insurer as they maybe faced by a liability that could have otherwise be averted had the risk been managed efficiently at the underwriting stage. Further a delay in claim settlement may impact insurer's reputation and higher claims cost.

Control measures are needed to mitigate risks associated with poor claims handling and case reserving which may include:

- making claim settlement decisions which are not in accordance with the policy terms and conditions
- inefficient handling of claims leading to slow responses or higher cost overheads, thereby impeding its market competitiveness; and
- setting inadequate reserves, or delay in revising case reserves for reported claims resulting in under provision of claims liabilities and time lag in adjusting premiums for new policies in the case of general business.

A critical success factor for an Insurer is to establish clear process in place for the notification of claims by the intermediaries or the policyholders. The insurer should review the claims form regularly to ensure that questions remain reasonably clear, unambiguous and pertinent to enable the claims staff to form an accurate assessment of the validity of the claim. Information captured in respect of claims should be up-to-date and accurate so that the insurer can monitor the progress of the claim handling process and validate the quality of the claim settlement decisions in accordance to the claims handling guidelines. The components of case reserves should also be captured in sufficient details to provide useful statistics for in-depth analysis. For example, a single claim file could have separate components for own property damage, third party liabilities and fees payable to external parties.

Further, regular reviews should be undertaken to ensure that the claims assessors continue to be competent in their area of delegated authority and quality of the claims decisions made remains satisfactory. One of the performance measures could be the number and nature of complaints against the insurer with respect to their claims settlement decisions. Institutionalizing processes which ensure regular claims reporting to senior management so as to raise awareness of key claim exposures and losses, especially where a single claim, loss event or series of losses could in aggregate have an impact on its balance sheet is key to have a risk mitigated claims process.

Underwriting in a changing socio economic environment

Over time the practice of underwriting has evolved due to market influence, improvements in data gathering and technology. Today the subjective aspects of underwriting are being replaced by computer algorithms and predictive analytics.

- In the early stages of Insurance, Medical underwriting had a very limited role; the risk classification were done merely on the basis on the age and gender of the individual. As the industry further progresses and matures it is bringing about the notion that age and gender are not the only barometers that impacted the risk classification. The impact of lifestyle is also being considered as an important aspect while deliberating on the premiums to be charged like smoker / non-smoker classification.
- In the nascent stage technology was limited and access to the internet was unheard of. The underwriting process was manual and time consuming with a high reliance on paper applications.
- Underwriters have also been impacted by lack of historical information which impacts their ability to take better decisions. Further the exact parameters to be considered for underwriting were not documented and followed.

The underwriting of today and its challenges-

The emergence of powerful technologies has automated many of the low processing underwriting tasks and enabled underwriters to undertake higher value relationship building and analytical work. However inefficient data gathering and an integrated technology platform is not supporting underwriters to ensure quality and informed assessment. Currently in India all insurance policies are not linked to the policyholders Aadhaar Number to get critical customer data from UIDAI in line with Mutual Funds and Banks.

What is changing?

Globally many insurers are experimenting with accelerated underwriting metrics, based on digitally available medical data, drug prescription data

and potentially even facial analysis technology which can be used to estimate and applicants' life expectancy and eliminate traditional medical tests.

By digitizing the underwriting, insurers are enabling online distribution capabilities allowing them to attract a younger demographic to purchase insurance.

"Major challenges faced by industry in recent times are unsustainable pricing driven by competition and cyclical behaviour noted in pricing of products.

Technological advancements have played key role in data availability for certain insurance products. Thanks to these available data, turnaround time has improved considerably in underwriting function as well as in area of claims settlement which empowers insurance companies to take well informed decision as well as increases customer satisfaction especially in retail line of business. However, lack of exhaustive central repository cum national database in India increases risk of decision making being done based on unverified or incorrect information leading to underwriting losses for insurers and incurrence of additional cost at the time of claims settlement in form of fraud investigation and litigation arising therefrom.

Presently majority of Indian customers prefer to interact with agents/ brokers to understand products and buy them based on guidance provided by these trusted intermediaries and are happy to receive hard copy policy documents and personal interaction at the time of claims settlement, growing millennial generation nowadays prefer to deal through online applications or web sites and carry out transaction which do not require personal interaction or visiting offices physically. Insurance Companies have to gear up to face such challenges in meeting expectations of varied class of customers and plan to roll out suitable platforms which can increasingly offer seamless solutions to customer requirements along with collecting desired authentic data required for use by insurers."

Mr. Subramanyam Brahmajosyula [Head - Underwriting & Reinsurance] SBI General Insurance Company Limited

Use of Data

- Usage of Banca Partner database Insurers are currently partnering
 with the bancassurance partners for collecting critical customer profile
 information at issuance stage e.g. A large Indian Life Insurer has a tied
 up with its bancassurance partner that enables it to obtain profile
 information for potential customers. This has led to faster and efficient
 underwriting and has allowed them to issue policies within 24 hours of
 collecting information from the customer.
- Creation of common databases of rejected policies Some of the Global markets have a regulated database pool of rejected applicants which can be linked to the contract issuance stage to eliminate fraudulent applications.
- **Data analytics** helps underwriters be more efficient and enable underwriters get at their disposal information for making informed decisions.

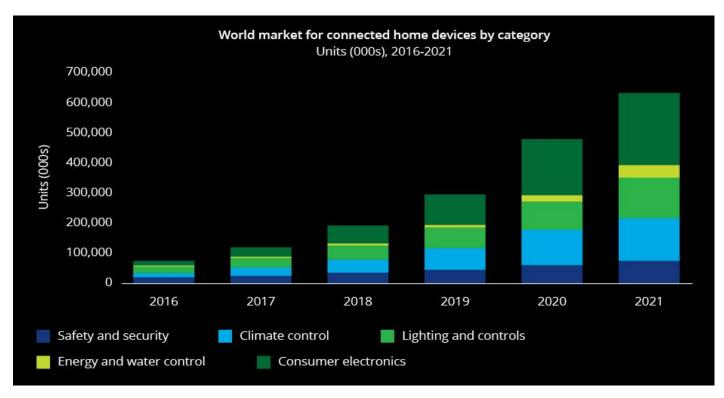
Technological Enhancement

• **Use of bots** – Companies are increasingly using bots to streamline their underwriting process. One of the leading Indian insurers has implemented Optical Character Recognition (OCR) readers to read the pathology reports and capture critical fields from the reports. For cases

where medicals are triggered the bot ensures that case flows to the same underwriter who had accessed the case before medicals were triggered.

- Blockchain Blockchain can improve Underwriting by providing speed, transparency and innovation to underwriting while at the same time providing a smarter way to process and manage claims.
- **Artificial Intelligence** AI bots can scan a customer profile to gather information and trends and patterns. AI can also analyze risks better than humans to accurately predict each customer's risk, thereby providing customers with the right amount of insurance and companies with protection from risky customers.
- Internet of Things (IoT): Internet of Things (IoT) connectivity is surging and the technology's potential to reshape the way home owners insurers assess, price, and limit risks appears quite promising. Eighty-million smart home devices were delivered globally in 2016, and expectations of a compound annual growth rate of 60 percent could result in over 600 million such devices in use by 2021.

World market form connected home devices by category:2



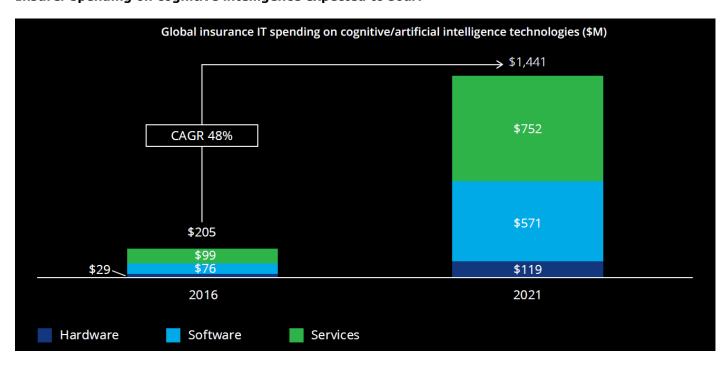
Smart home sensors could potentially facilitate an insurance revolution. For example, sensors can monitor indicators of possible problems—such as wall strength, pipe or plumbing fissures, faulty wiring, or even home invaders. Alerts can be sent to homeowners and insurers, as well as trigger automatic shut-off valves and notifications to local service providers who can preemptively intervene prior to major incidents.

² Source: 2018 Insurance Industry Outlook, Deloitte. https://www2.deloitte.com/us/en/pages/financial-services/articles/insurance-industry-outlook.html

Analyzing customer behavior

- Harnessing data from sensor devices Insurers can harness data from devices that monitor vital signs, activity, nutrient consumption and sleep patterns for more precise underwriting and pricing while also offering value added fitness and lifestyle feedback. Vitality programmes by insurers offer policyholders premium savings and rewards for completing health and fitness related activities tracked by smart phones and fitness devices.
- Robotic Process Automation (RPA) RPA gives insurers the ability to automate mundane, box checking type tasks in underwriting, policy administration and claims potentially freeing up thousands of people hours. RPA solutions use bots to mimic the way individuals interact with applications and follow simple rules to make decisions and automate routine business processes.
 - A large insurer that automated these basic processes saw a productivity increase of 68%, coupled with improved accuracy and compliance.
- Cognitive Intelligence One Property & Casualty (P&C) insurer built a cognitive virtual agent that could conduct a conversation with customers in natural language. With the automated ability to answer a wide variety of consumer questions while gathering information for a quote, the insurer realized a higher percentage of completed applications and increased online conversion rates, as well as an overall improved customer experience. A report by the World Economic Forum, in collaboration with Deloitte, forecasts a potential future scenario where cognitive technologies are so pervasive that underwriting becomes much more automated than today, perhaps leading to the emergence of third-party underwriting specialty providers.

Insurer spending on cognitive intelligence expected to soar:3



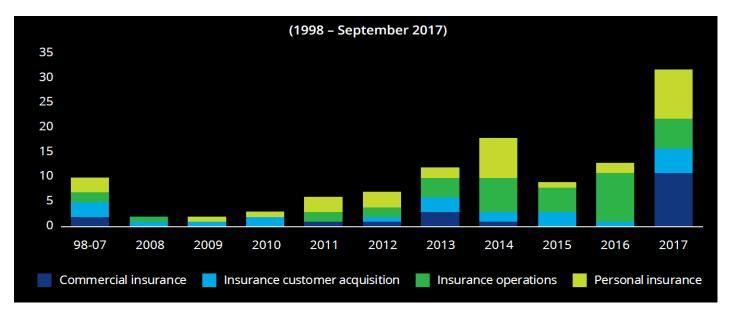
• **Rise of Insure-tech** – Insurers are now able to underwrite the risk associated basis the data from wearables such as health bands or

³ Source: 2018 Insurance Industry Outlook, Deloitte. https://www2.deloitte.com/us/en/pages/financial-services/articles/insurance-industry-outlook.html

microchips in the toothbrush. Digital health solutions have witnessed explosive growth with each being more sophisticated than the earlier one.

Availability of wider range of health products – With more insights into customer's health and lifestyle habits insurers can now develop and market personalized products to suit customer needs.

Insurer Tech acquisitions by sector and solution category:4



"Gone are the days when underwriting was done in the traditional way by visiting customers and inspecting the risk physically. As the volumes increase, Insurer cannot rely on the traditional approach of doing underwriting which is not efficient and time consuming process. Lot of data analytics and new tools are used to take quick decisions whether to accept the risk or apply special conditions/warranties, especially in retail line of business where the volumes are large. Special efforts are being made to offer end to end digital interface to customers so that they can obtain all their insurance services instantly in a self-help mode. Consumer expectations are changing fast and they want quick service from all service providers, including insurers. Absence of KYC norms in non-life insurance industry was posing some problems in the digitization endeavours of nonlife insurers. However, recent announcement by IRDAI of linking all policies with Aadhaar card will help in significantly cutting down time taken in insurance underwriting and help insurers in taking better informed decisions and significantly improving service delivery.

Telematics is another area which is likely to alter the way insurers look at motor and cargo insurance. Lot of exploratory work is already happening in this space and one should not be surprised to see use of these tools in not very distant future to offer innovative and cost effective insurance products to customers. The trend is emerging where more and more customers prefer the instant and digital solution of their problems rather than visiting/calling their insurers.

Similar trends are emerging in claims settlement as well wherein lot of analytical tools are being used for identification of the trends in claims / profiling of the claims / demographic experience of the claims etc. such that

⁴ Source: 2018 Insurance Industry Outlook, Deloitte. https://www2.deloitte.com/us/en/pages/financial-services/articles/insurance-industry-outlook.html

instant or very fast claims settlements can be offered to customers while efficiently detecting and apprehending fraudulent elements."

Anurag Rastogi, Member of Executive Management, Chief Actuary & Head, Retail Underwriting and Claims HDFC ERGO General Insurance Company Limited

Changing dynamics of claims servicing in Insurance

Disruptive technology continues to provide customers with greater choices and the insurance industry is faced with challenges of ever elevated customer expectations. Timely and efficient management of claims is crucial for performance in the insurance industry. A delay in claims settlement ratio generally results in higher claims cost.

In Non-life segment, many auto insurers would continue to struggle to avoid increase in claims in the coming years, as loss costs mount from a rise in accident-generated medical expenses, escalating repair charges (with damage for technology in sensor equipped vehicles five times higher than traditional vehicles), technology related driver distraction, and catastrophe losses.

Indian Insurance companies are now looking at claims settlement within 24 hours to 2-4 days and changing the outlook of reviewing turn-around times from the intimation date and requirement completion date. Some of the General Insurance companies have now initiated 'Predictive Modelling' for claims which can reduce costs and help manage the workloads.

A life insurer interacts with the customer at several stages of the insurance product lifecycle. At each point it is crucial for insurers to maintain adequate, timely and consistent service. As has been traditionally seen, claims settlement is known to be a pain point in the cycle of an insurance contract. Efficient and timely handling of claims goes a long way in setting good benchmarks and thus positively impacting an insurers' brand.

Claims and Fraud management

Insurance fraud encompasses a wide range of illicit practices and illegal acts involving intentional deception or misrepresentation. Insurers have come to realize that fraudulent claims drive up overall costs for insurers and premiums for policyholders which can potentially threaten viability and have a bearing on the profitability.

Larger insurers with the ability to spend more on the investigation and settlement of claims are better positioned to detect and mitigate fraud risk.

For insurers, having a comprehensive underwriting function is fundamental to smooth processing of claims and reducing instances of fraudulent claims. An efficient underwriting function will ensure that any potential cases of fraudulent claims are mitigated at the issuance stage itself. A solid underwriting function will ensure that majority of claim requests from policyholders are genuine thus enabling enhanced policyholder service during claims.

Instances of fraudulent claims are noticed by way of surrenders, fake documentation, mis-selling and collusion between parties. Indian insurers have adopted strategies by proactively arresting fraud through Fraud Risk Assessment.

Fraudulent Claims – a growing menace:

On average, insurers lose USD 30 billion annually to fraudulent claims, representing 10% of their claims expenses, according to the Insurance Information Institute based in USA. Insurance fraud can be divided into two categories: opportunistic/ soft fraud and professional/hard fraud. Opportunistic fraud is committed by individuals who inflate damages or repairs in a legitimate claim or provide false information to reduce the premium amount. About half of P&C insurers lose 11 cents to 30 cents or more per premium dollar to soft fraud alone, according to the Insurance Research Council-Insurance Services Office.

Many companies have taken steps to improve their ability to identify and address fraudulent claims, but these efforts have typically been fragmented. Effectively addressing claims fraud rests on four pillars of an integrated fraud management program:

- Develop a fraud management strategy
- Align the operating model
- Improve information quality
- · Leverage advanced technology tools and analytics

These four pillars encompass a strategy that clearly articulates fraud management goals; the organizational structure, business processes, and workforce skills required to execute that strategy; the ability to integrate quality internal and external information; and the tools to promptly identify fraud. The ability to move beyond piecemeal efforts and adopt an end-to-end vision of the fraud management process can make a big difference in the ongoing war against fraud.

Challenges faced by an insurer and practices initiated for better claims management

In the current scenario companies are faced with the challenge of handling Section 45 of the new insurance laws amendment act 2015, which states that a policy cannot be called in question after three years of it being issued. Life Insurers will find it almost impossible to repudiate claims after three policy years due to the amendment. It puts the onus on the insurer to do proper checks at the time of underwriting. There will be need for robust underwriting process so that all issues are flagged before the policy inception. This has led to increased suspicion on parts of insurers who now face higher chances of potential cases of fraudulent claims.

Many of the Life Insurers have set-up a predictive modeling to identify potential policies and cancelled them post investigation results. Hence the number of claims has been consistent but are unable to reject claims after three years though known to them to be a fraudulent claim.

Evolution of the technology landscape in claims servicing

- Central Repository There exist central repositories such as IIB, Experian, Hunter & Criff where some of the insurers have subscribed to share new business, surrenders and claims rejected data. The challenge for insurers is the presence of multiple repositories and lack of a comprehensive repositories (repositories do not have data from all insurers). Insurers have benefited from this information resulting in savings from claims payouts.
- 2. **Rule based claims processing** Some of the leading Life Insurers have implemented straight through processing for claims which recommends a decision and also flags cases where investigation is

- necessary. This has resulted in more intelligent claims assessment and utilization of available information in much efficient manner.
- 3. Use of Chatbots The insurance sector in India is quickly adapting to newer technologies, Chatbots have helped reduce human effort and are proving to be an effective way to interact with customers. For e.g. 'Boing' by Bajaj Allianz helps customers check their claim status. Bots have increasingly been used to register claims, get copies of policies, check policy status and locate a branch.
- 4. Claims assist Claims documents are continuously re-designed to make them easy, simple and claimant friendly. Insurers are making claims documents available on their company website, easily accessible for download. Specialized claims assisting teams guide customers through the claims process.
- 5. **Blockchain** Blockchain has the potential to fundamentally alter claims submission processes to reduce fraud and improve customer experience. Blockchain can improve the claims registration process by
 - Providing trusted and verified submission of claim data and documentation
 - Enable automated pre-assessment of the loss coverage against the policy
 - Enabling claims to be securely and automatically submitted without human intervention
 - Automating processes to engage repair and assistance providers in order to reduce response time and ensure use of preferred supplier
- 6. Artificial Intelligence –New processes of touchless claims do not require any human intervention. Touchless claims uses a combination of AI and other technology to report the claim, capture damage, audit the system and communicate with the customer. AI can identify patterns and recognize fraudulent claims better than humans
- 7. Predictive models for scoring claims has a major impact on claim practices and will deliver significant benefits, with an immediate return on investment. Using predictive modeling tools, called "Claim Scoring" to improve how you assign and manage claims. This provides claim managers an instantly recognizable, objective indicator of the opportunity to resolve the claim.

Common Uses of Predictive Modeling in Claims:

- Fraud Detection
- Outlier Claims
- Reserve and Settlement Values
- Defense Strategy
- Litigation Expense Management
- Subrogation Potential
- 8. **Data Analytics** Data analytics can help insurers move towards touchless claims; a process that requires absolutely no intervention from an insurance employee. Data analytics can help insurers make the transition from Traditional to Fast Track to Virtual Handling to Touchless Handling
- 9. Claims via apps Insurers have introduced mobile apps to enable customers to make a request for claims directly eliminating the requirement to be physically present at a branch. The mobile app helps a customer to directly inform the insurer about an incident that warrants a claim. This helps the insurer get information faster thus reducing TAT for servicing claims. These features are also handy when it comes.
- 10.**Telematics Insurance -** Telematics insurance is car insurance where a telematics box is fitted to your car. The telematics box (also commonly

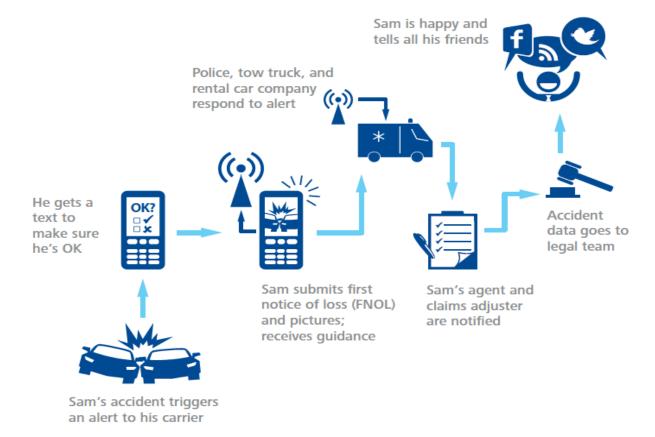
known as a black box) then measures various aspects of how, when and where you drive. Telematics insurance technology will drive down the cost of car insurance and help make the roads safer.

Technology provides a rich feature set to draw from:5

	Capabilities	Descriptions
Core features	Basic data monitoring	Tracks core measures like miles driven, time of day, and rate of speed
	Driver diagnostics	Uses hardware to identify risky behaviors, e.g., hard braking and cornering
Advanced	Asset/enviro impact analysis	Reports on metrics such as fuel consumption, efficiency, and carbon footprint
analytics	Advanced driver diagnostics	Uses device features for advanced trip logging, driving metric trends, and mash-ups with third-party data
Interactive	Vehicle and other services	Value-add services such as accident notification, vehicle recovery, navigation, geo-fencing, and alerts
services	Driver feedback	Provides drivers with useful feedback on how they can improve driving habits
Data/ experience	Modeling datasets	Historical telematic, premium, and claims data for analytics and modeling

⁵ Source: Innovations in Insurance, Deloitte Consulting LLP: https://www2.deloitte.com/content/dam/insights/us/articles/innovation-in-insurance/DUP289_Innovation_Insurance1.pdf

Telematics: Innovation to opportunity - a scenario⁶



Conclusion

As technology innovation, higher customer expectations and disruptive newcomers redefine the marketplace, insurers remain focused on growing top-line sales, bottom-line profitability, addressing challenges, and competing in a dynamic industry.

Insurance company leaders have a lot on their plates. Political and regulatory upheavals around the world are changing some of the ground rules about how carriers may operate. An accelerating evolution in the way business is conducted is being driven by innovation and higher customer expectations, while disruptive newcomers are looking to take market share from incumbent insurers.

Insurers must take advantage of growth opportunities, technologies, innovations operational improvement, and expense reduction in the coming years to overcome a host of internal and external obstacles standing in their way.

⁶ Source: Innovations in Insurance, Deloitte Consulting LLP: https://www2.deloitte.com/content/dam/insights/us/articles/innovation-in-insurance/DUP289_Innovation_Insurance1.pdf

Taxation Impact on Insurance

Income Tax Implications

Tax implications under the provisions of the Income-tax Act, 1961 ('IT Act') for the policyholders as well as the insurance companies are briefly summarised⁷ in the subsequent paragraphs.

Tax implications for the policyholders

 Deduction for the insurance premium paid by the individuals / Hindu Undivided Families (HUFs) - The tax deductions available to an individual / HUF on payment of life / health insurance premium is provided in the table below:

Relevant Section under the IT Act	Limit of tax deduction (INR)	Beneficiary	Instruments
80C	150000	self, spouse, children, member of HUF	Amount paid towards Life insurance premiums, deferred annuity plan, specified Unit Linked Investment Plans
80D	25000 – for mediclaim for self, spouse and children and any member of HUF (30000 for individuals above 60 years) 25000 - for parents below 60 years (30000 for parents above 60 years)	self, spouse, children, parents, member of HUF	Amount paid towards health insurance policies
80DD	75000 /125000 (for persons with severe disability)	Spouse, children, parents, brothers,sisters, member of HUF	Amount paid to an insurance company for the maintenance of a dependent disabled person

- Exemption for the proceeds of a Life Insurance Policy The proceeds under a life insurance policy are exempt under Section 10(10D) of the Act, subject to the provisions of the said section.
- Deduction for the insurance premium paid for business purposes Deduction is allowed for the insurance premiums paid in respects of
 assets used or persons employed for the purpose of business or
 profession. [section 30, 31, 36]

Tax implication for the insurance companies

Life insurance companies - The income earned by the life insurance companies is required to be computed in accordance with the provisions of the First Schedule to the IT Act and is subject to tax @12.50% [section 44, section 115B].Non-life insurance companies - The income earned by the non-life insurance companies is required to be computed in accordance with the provisions of the First Schedule to the IT Act and is subject to tax at rates applicable to the other resident companies. [section 44]. The provisions of Minimum Alternate Tax are also applicable to these companies [section 115JB].

 $^{^{7}}$ This summary gives only an overview of the tax benefits. Tax benefits are subject to various conditions.

Glossary

AI	Artificial Intelligence
CERT-In	Indian Computer Emergency Response Team
D&O	Directors and officers
DBS	Development Bank of Singapore
FTE	Full-time Equivalent
HUF	Hindu Undivided Families
IT act	Income tax act
IoT	Internet of Things
MSME	Micro Small Medium Enterprises
OCR	optical character recognition
P&C	Property & Casualty
P2P	Peer-to-Peer
UIDAI	Unique Identification Authority of India
RPA	Robotic Process Automation
TAT	Turn Around Time

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The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the development of India, partnering industry, Government, and civil society, through advisory and consultative processes.

CII is a non-government, not-for-profit, industry-led and industry-managed organization, playing a proactive role in India's development process. Founded in 1895, India's premier business association has over 8,500 members, from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 200,000 enterprises from around 265 national and regional sectoral industry bodies.

CII charts change by working closely with Government on policy issues, interfacing with thought leaders, and enhancing efficiency, competitiveness and business opportunities for industry through a range of specialized services and strategic global linkages. It also provides a platform for consensus-building and networking on key issues.

Extending its agenda beyond business, CII assists industry to identify and execute corporate citizenship programmes. Partnerships with civil society organizations carry forward corporate initiatives for integrated and inclusive development across diverse domains including affirmative action, healthcare, education, livelihood, diversity management, skill development, empowerment of women, and water, to name a few.

As a developmental institution working towards India's overall growth with a special focus on India@75 in 2022, the CII theme for 2017-18, **India@75: Inclusive. Ahead. Responsible** emphasizes Industry's role in partnering Government to accelerate India's growth and development. The focus will be on key enablers such as job creation; skill development and training; affirmative action; women parity; new models of development; sustainability; corporate social responsibility, governance and transparency.

With 67 offices, including 9 Centres of Excellence, in India, and 11 overseas offices in Australia, Bahrain, China, Egypt, France, Germany, Iran, Singapore, South Africa, UK, and USA, as well as institutional partnerships with 355 counterpart organizations in 126 countries, CII serves as a reference point for Indian industry and the international business community.

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