



## Tech and innovation's effects on the insurance industry

Dr. C Krishnamurthy

Assistant Professor, Department of Commerce, Rathinam College of Arts Science, Coimbatore, Tamil Nadu, India

### Abstract

This paper, "Tech and Innovation's Effects on the Insurance Industry", aims to educate all readers on the impact of digital transformation on the insurance industry. Technology has made numerous, all-encompassing advancements. The insurance sector is not an exception to the rule that disruptions are not industry-specific. A draught regulation on the sandbox idea was recently published by the FCC, allowing carriers to innovate their end-user offerings. Fintech and insurance tech businesses, as well as carriers, have organised digital boards to drive this transition. The use of blockchain technology and data security in the insurance business are two of this paper's main findings. Pandemic has only served as a tailwind for the digital drive, in which the entire sales process has been moved to a digital manner of doing things, thanks to corporations creating digital boards. Customer reach, cost effectiveness, and service accuracy are all increased by this action. The development in digital transformation will excite customers who are eager to get the best in technological innovation. Also, with big data and analytics, we are coming back to risk-based pricing, which is appropriate to the risk shared by the client. Although the use of wearable technology is still in its infancy, life insurance is continually evolving in this area. Emerging technologies like AI and machine intelligence are helping businesses take advantage of cross- and upsell opportunities to develop more quickly. This will unquestionably have a significant and long-lasting positive influence on most insurance firms' bottom lines, increasing profits. The researcher comes to the conclusion that digital innovation will undoubtedly have a significant and favourable impact on insurance businesses' profits.

**Keywords:** Tech & innovation, insurance industry, digital transformation, innovations, artificial intelligence etc

### Introduction

Every industry is being disrupted by the digital revolution, and the insurance industry is no different. The days of customers visiting an insurance office on-site to purchase a policy are long gone. Nothing seems impossible now that smart phones, digital payments, and young clients are commonplace. According to a joint Forrester and Accenture study, while 63% of insurance organisations claim to be prepared to adopt more digital practices, just 23% of these businesses are genuinely prepared. 2017 Insurance Blog, This is so because the insurance industry in India is one of the most strictly regulated in the world. Carriers are transitioning from the brick and motor paradigm to online operations gradually but steadily. Policies can be subscribed with a single button click. This fundamental transition is being driven by smart phone culture, with the help of Gen X and Gen Y consumers. A mobile-only insurance provider may soon be a reality. Context selling is being made possible by technology-enabled built-to-order goods and succinct risk covering. Novel inventions include sachet-type solutions with minimal premiums and tailored risk coverage. Not only are customer needs becoming implicit, but they are also unclear. Consider a potential client arriving at Hyderabad Airport. GPRS keeps track of his or her location and forwards the lead to different carriers. Carriers establish the scene by analysing the several dangers a prospect can experience while visiting. One of the companies may propose a sun stroke insurance given the temperature in Hyderabad is already hovering between 42 and 46 degree Celsius. Also, the carrier may impose a high premium when the policyholder is driving on a highway and a low premium while he is in a byway. We are getting near to the time when a potential customer would ask Alexa to present the best term plan currently available in the market

after comparing it to term plans from all life insurers. In order to identify opportunities and places where technology may be used to improve customer service, carriers established digital boards and set aside funds.

The COVID pandemic, which has spread globally, presents India with an unparalleled level of complexity. The pandemic has a terrible effect on people's lives and way of life. The government had enacted lockdown in order to prevent the spread, but it eventually let the economy to resume normal operations since the decline in demand across sectors had a cascading effect on the economy as a whole and was causing recessionary tendencies in every industry. This applies to the insurance business as well. According to [www.lifeinscouncil.org](http://www.lifeinscouncil.org), the new business premium for life insurance had decreased by 1.17% until January 2021, while the growth for general insurance had only been 2.5% until the end of the year. Although, life insurance saw a decline in growth, the industry overall fared better than other sectors including the car, travel, and tourism. This can be attributed to consumers' growing awareness of the need of financial security and the digital transformation, which businesses are focused on to survive in this turbulent time. Organizations formed digital boards and made significant technological investments. As artificial intelligence (AI) and the Internet of Things (IOT) gain traction, the insurance industry is undergoing a spectacular digital transition while maintaining a commitment to excellence and a customer-centric emphasis. We won't need to dedicate several servers to storing massive data thanks to cloud-based technology. Companies are being forced to abandon legacy programmes and accept modernization by newer technologies. IT Meeting the explicit and implicit wants of customers is a challenging undertaking for businesses. Programmers must be creative, forward-

thinking, and innovators in the digital world. Insurance companies should conduct their business-like startups. To foster innovations through insurance tech and fintech firms that collaborate with insurance companies, IRDAI established the Sandbox Committee. Also, IRDAI has done away with a physical signature on the proposal form in light of the current circumstances. Life insurers are permitted to accept customer consent without requiring a wet signature by having the customer click a link or have their One Time Password (OTP) verified. Since we have a large number of foreign partners with extensive international experience, innovation is in no short supply. Since changing insurance legislation is difficult and requires approval from the legislature, the Sandbox Committee was primarily established to address these issues. Since most repetitive and redundant tasks are now automated by the use of machines rather than hiring people to do them, digital innovation is also helping businesses develop cost efficiency. While COVID is in effect, IRDAI has permitted insurers to issue policies electronically. The free look period is 30 days from the moment the policy is mailed out, and no physical policy bond is required to be provided. (IRDAI circular, dated August 2020). We'll look at several phases of the policy life cycle and how technology is affecting insurance operations. The study's methodology is based on public disclosures, IRDA journals, and the websites of insurance companies, and we used data from the insurance industry.

### 1. Evolution of Insured Tech Companies

This change is being led by fintech and insurance technology companies. The insurance regulator is in favour of innovation in technology, therefore it released a discussion paper on sandbox to encourage insurance businesses to adopt usage and file on products. Any of the following sections may contain a request for permission. Underwriting, Insurance Goods, Insurance Solicitation or Distribution, Policy and Claims Service. Sandbox is not a recent discovery because other nations throughout the world have adopted it, and we are currently seeing developments that are extremely different from traditional insurance.

### 2. On-Boarding & Sales Process Digital Transformation

In the country, the life insurance industry employs 24 lakh agents who on average hire 6 lakh new agents each year. January 2021 (Life Insurance Council). Carriers are working hard to identify characteristics of effective advisors in both life and general insurance using big data and analytics. AI is defining agent recruiting in a superior and sophisticated way. Carriers with large data and years of expertise are working to understand the agent behavioural patterns that lead to success. Based on the available data, they create the ideal profile, segment, credentials, age, and the qualities an agent should have. The ideal candidate is identified well in advance, a suitable recruitment questionnaire is created, and candidates are chosen based on the results of the questionnaire. Ety on WhatsApp and Elley the chatbot are the two bots that handle all questions on on boarding of agents. LiGo, a chatbot service assistant, is used by IPRU to resolve service issues, and a cognitive bot handles query-related issues. Additionally, it uses nudge engines to persuade users to take the proper action. After enrolling, the agent is instructed in the sales process, and after they have the necessary information and abilities, they start business

conversations with prospects. Agents are rewarded with set pay based on the call monitoring by geotagging in order to instill suitable and desirable behaviours. We must be aware that the physical agent of today will be replaced by a virtual agent of future. AI has a head start in understanding the critical factors that determine a successful agency, which will enable it to reproduce strong performers. AI will enable us to mimic both the qualities and training inputs to evolve them as the best once large data is helping us examine the characteristics of high performing agents. The indisputable technological leader in China, Ping an Life, has implemented AI in agent hiring, training, and productivity enhancement.

### 3. Technological Disruption in Product Pricing & Investment

At the moment, carriers set basic premiums for life insurance based on an actuarial assumption that averages the risk of a particular age group. One of the oldest life insurance providers in the United States, John Hancock, offers risk coverage with dynamic pricing in accordance with data obtained from wearables that monitor food, exercise levels, and behavioural patterns like excessive drinking and smoking. When carriers reward customers who participate in wellness programmes and lead healthy lifestyles with a reduction in premium, customers will be eager to do so. Many data points from wearables are used to build the algorithm and start the underwriting of norms. Wearable data gives an all-encompassing picture for risk assessment, and carriers will start calculating premiums based on the customer's health state. Analytics would allow not just detection of illness but also prognosis to analyse future ramifications. The expectation of the client based on the use of big data analytics is for a personalized premium that is more accurate. Our platform, a low-code, no-code sales platform, was just launched by India First Life. This cuts the time required for product development by more than 60%. Here, there is room for invention and the end user does not need to be very technical.

### 4. Options for Digital Payment

By 2021, the mobile industry projects that 3.8 billion people will own smartphones. Even feature phones can make digital payments using BHIM and UPI on the USSD platform. According to a research estimate, government initiatives promoting financial inclusion and the rapid digitization of merchants will cause digital payments in India to more than triple to Rs 7,092 trillion by 2025. According to a research by Red Seer Consulting, the country's digital payment sector was worth about Rs 2,162 trillion in 2019–20. Digital payments are described in the future of digital payments is being driven by millennial consumers, who are immersed in a smart phone-obsessed internet culture. Carriers are making significant investments in the field of digital payments as millennials' purchasing habits change. Carriers provide Virtual Payment Addresses that will make it easier and more convenient for customers to pay for renewals. Since most carriers operate heavily in rural regions, they started pursuing even feature phone customers. As a result, carriers adopted BHIM to communicate with their client base by initiating renewal payment requests. Carriers with a strong presence in the rural are constantly looking for new ways to pay their consumers. Companies are making it easier to distribute

withdrawals, surrenders, and money backs for micro insurance policies thanks to micro ATMs and digital wallets. Since most consumers have an Aadhar card, Aadhar Enabled Payment Service (AEPS) is the option preferred for use with Micro ATMs. While the current generation is obsessed with online shopping, there is also an illogical occurrence where mobile shopping is catching up. Customers in Generation X, Generation Y, and even Generation Z are fascinated by mobile commerce since mobile wallets provide digital payments. Amazon and Flipkart, two online retailers, have already obtained corporate agent licenses from the IRDA, and the way insurance products are offered is about to undergo a significant disruption.

### **5. Routine Claim Processing & Automated Underwriting**

Attempts are being made by businesses to digitize the entire underwriting and claims process. Automation of work flows has been implemented by businesses from the policy login to the claims status. This promotes both cost effectiveness and client centricity. In order to make decisions about policy payouts, Fukoku Mutual Life Insurance Co. used IBM Watson to help evaluate and understand claim data, including unstructured text, photos, audio, and video. To assist drivers in choosing a safe route and locating parking, Liberty Mutual Insurance developed an app. Using a smart camera with a machine learning algorithm, it helps with the swift and in-the-moment evaluation of vehicle damage following an accident. The first of its sort powered by Bitcoin is Teambrella, an Insuretech business from Russia. For the purpose of processing insurance payments, it makes use of blockchain and smart contracts. Also, carriers would have more opportunities for cross-selling and up-selling thanks to a full-sized digital configuration, which would increase penetration. During financial underwriting, carriers began benefitting through repositories holding financial reports *viz* CIBIL to assess the premium paying capacity of prospect. Automatic underwriting costs 50% less than traditional underwriting and the same is delivered with higher standards of precision. ICICI Lombard issues 97% policies through either digital mode or paperless. It uses InstaSpec a video-based app to settle claims pertaining to motor insurance. (IRDAI Annual Report 2019-20). OPAL is and WARM's Pandora platform has integrated with Underwriting Pal (UWPal), the new underwriting engine from RGAX. This platform integrates behavioral science due to which distributors and advisers are benefitted from risk assessment with higher standards of precision.

### **6. Detection of Authentic Intelligence Infringement**

Carriers can monitor policyholder activity to spot any fraudulent transactions through a block chain ledger if the transaction has regulatory approval. We will be able to combine our company's databases thanks to block chain technology. Given that all claims are recorded on a distributed ledger, it is extremely unlikely that the wrongdoer will submit several claims. We only require a single, integrated repository that stores all claim information relating to life carriers. Artificial intelligence can be effectively used to construct an algorithm that can automatically trigger an event that fits the description of a fraudulent action thanks to the vast amounts of data that are available for analytics. Artificial intelligence will help us

comprehend the habits and actions of fraudsters and encourage businesses to take quick action. One of the largest providers of life insurance, AXA, has installed AI fraud detection software. AXA collaborated with a young business called Darktrace to implement this solution. Once the software has determined the user pattern, it starts correlating the data to find a certain pattern or trend to identify fraud.

Any pattern or unexpected similarities in submitting claims will be flagged by Shift Technology, which operates on fraud detection by combining data from numerous sources, to prompt further inquiry. A score will be assigned by the algorithm, and if it rises above a particular threshold, the carrier will take control and continue the investigation. The second firm, Galaxy, automates the claims process by calculating precise damage from photographs that claimants provide. The data is then compared to the database already in place to determine whether the cost and accident images match up. TataAIG General Insurance employs drone technology to take in-depth videos and photos to assess the damage, and then uses AI/ML technologies to turn the data into insightful analysis. Ping a began using artificial intelligence to underwrite policies by performing online health insurance interviews. A 30- to 40-minute virtual interview is conducted by recording body language and facial expressions that can be compared to a database of stored expressions to spot dishonest intentions.

### **7. The Insurance Industry's Virtual Branches**

As of September 30, 2020, there were 11,000 active branches of the life insurance sector nationwide ([www.lifeinsurancecouncil.com](http://www.lifeinsurancecouncil.com)). The best method to push for further penetration was thought to be to open a physical branch. Branches also supplied the necessary workspace and working environment for advisers, particularly in the agency channel. The days when businesses would focus on generating foot traffic and walk-in consumers are long gone, with social distance becoming the norm and a reality. Employees from many industries are digitally connected to one another at COVID, and training is conducted in virtual classrooms and through mobile learning, among other methods. Google meets Zoom. Since branches are becoming virtual, branches with luxurious interiors, roomy cabins for operations, meeting rooms, and payment counters can disappear. We won't need opulent premises to conduct business because most payments will be made online and customer meetings will be scheduled online. Businesses should merely make sure that various sectors, from sourcing to claims processing, remain digitally connected through seamless integration. Acko and godigit are two insuretech businesses in the general insurance sector that have used technology and begun working as virtual offices.

### **8. Benefitability Impact of Digital Transformation**

Nonetheless, the truth remains that the ultimate goal of insurance firms is to increase profitability. The life insurance market in India is regarded as one of the least profitable industries worldwide. This is a result of strict regulatory requirements that require businesses to distribute 90% of their excess to policyholders. The only option for businesses to increase profits is by cutting operating costs. By increasing operational efficiency, digital innovation will reduce costs across the board in the insurance industry. For a \$1 billion insurer, a 1% reduction in the loss ratio is worth more than \$7 million to the bottom line.

## 9. Deliverables

Digital payments and M commerce will influence insurance carriers when the number of mobile phone users in India reaches 500.9 million by 2023. According to a survey by Internet Society, 94% of the world's population is covered by a mobile network, 48% by mobile broadband, and 28% by mobile internet subscriptions. Given the data usage and availability of feature phones in rural areas, this is incredible. To tap into the expanding digital industry, e-commerce websites and mobile wallet providers have launched their business as corporate agents and begun providing specialised micro-term non-medical plans. We will experience a disruption in the life insurance industry as a result of this impending upheaval. Additionally, given their scope and the technological advancements they use in their sales processes, Online Portals and Web Aggregators play an important role that cannot be undervalued. Big data that has been collected from IOTs (Internet of Things) and numerous servers provides ample opportunity for analytics and the use of AI. But, in order to move this ahead, the government must work diligently to put strong cyber security regulations passed by the parliament into effect. The trust aspect is one of the key reasons we haven't seen more access on the digital front. The majority of consumers are concerned about the security of their data and the tools available for transaction validation. Parliament must pass a comprehensive cyber security law that takes these issues into account.

## Conclusion

The life insurance industry has benefited from blockchain technology in numerous ways. All the time-consuming tasks, such as KYC verification and claims processing, can be completed automatically once we have a shared ledger. Also, we have access to comprehensive data like credit history records, medical test results, hospitalisation information, prescription usage, past policy information, and claim details. However, as the use of blockchain technology is still being investigated by the legal system and has additional secrecy concerns, the authority has not yet formally approved its use. So, we are unable to gain from this technology. Recently, the AP Government uploaded all of the land records using block chain technology for e-governance. The project's goal is to reduce tampering with the online-accessible, digitized land records.

With an increase in online transactions and payments, data security is a crucial issue that needs to be addressed. The method for user authentication needs to be updated. We need a multi-layered authentication system for digital transactions so that we can prevent any fake ones from occurring. It's possible that carriers won't be involved in digital payment gateways. As they have a fiduciary connection, they are responsible for protecting the large consumer base. Data protection is not very clearly outlined in cyber security regulations. They stupidly legislate customer data privacy without establishing any safeguards to preserve data and prevent its misuse by unidentified parties. Let's discuss insurance," says the chatbot of an up-and-coming insurtech that provides bite-sized, personalised insurance products. Whether tech corporations compromise on data security is the question.

## References

1. Desheng DashWuaShu, Heng Chenb David, L. Olsonc. Recent developments in business intelligence for risk management are covered in *Sciences*, 2014, 1–7.

2. Victor Charles. Azma. Characteristics, assurances, and requirements of artificial intelligence using in higher education institutions. pp. *Artificial Intelligence for Sustainable Development Challenges Opportunities*, 2022, 99-109-978-93-95422-56-7
3. Schmeiser H. Braun A. Schreiber F. regarding client preferences and term life insurance price willingness, 2016:253(3):761-776 *European Journal of Operational Research*.
4. Tanzi PM, Comanac A. Ancarani F. An empirical analysis of insurance companies' use of e-marketing in the Italian market. *The Insurance "Dematerialized"*, 2016, 85-113. International Springer Publishing.
5. Yannis G. Tselentis DI, Vlahogianni EI, New auto insurance plans: a study of the state of the art and new difficulties *Accident Analysis Prevention*, 2017:98:139-148.
6. SJ, Pulluparambil S. Bhat Co, A Case Study on the Use of Machine Learning in Google Services. *Case Studies in Business, Technology, and Education: An International Journal*, 2021:5(2):24-37. Circular IRDAI. Electronic policies are released. Extracted from [www.irdai.gov.in/ADMINCMS/cms/whatsNewLayout.aspx?page=PageNo4208&flag=](http://www.irdai.gov.in/ADMINCMS/cms/whatsNewLayout.aspx?page=PageNo4208&flag=)
7. Enterprise Performance Report by segment due in December the data was collected from, 2020. <https://www.gicouncil.in/statistics/industry-statistics/segment-wise-report-on-homepage/>.
8. Service-questions for HDFC Life Onboarding of agents through bots. the data was retrieved from, 2020. <https://www.hdfclife.com/customer-service/service-queries>
9. Financial Times The tenets of analytical models include efficiency, productivity, and predictability, according to the CTO of India First Life. Efficiency, productivity, and predictability are the guiding principles of analytical models used by India First Life CTO, as found at, 2020. <https://bfsi.economictimes.indiatimes.com/news/insurance/77776414>
10. Switch. Edelweissinsurance Driver-based insurance provided by Edelweiss SWITCH. From, 2020. <https://switch.edelweissinsurance.com/>
11. Digital Project Made in the Square, sold on the Street is kensho. from <https://digital.hbs.edu/platform-digit/submission/kensho-made-in-the-square-trades-on-the-street/> The online insurer Teambrella Bitcoin Enabled Insurance. The information was extracted from, 2019, 2. <https://www.the-digital-insurer.com/dia/teambrella-bitcoin-enabled-p2p-insurance/>.