



## InsurTech And Indian Insurance Industry

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### ARTICLE INFO

### ABSTRACT

Technology has started disrupting the insurance industry globally, and the effect can be seen in insurance distribution, pricing, underwriting, identifying risk models, and claims handling. This disruption embraced the Insurance Industry and is termed as InsurTech. Start-up companies transform the insurance industry by innovating new products and solutions like Smartphone applications, online claims processing applications, and wearables. At the same time, due to the internet and smartphone adoption, customers are well informed through websites, have more awareness through social media connections, and demand more from insurance companies. As per the Internet and Mobile Association of India (IAMAI) - Kantar estimation report, India will have 900+ million active internet users by 2025, with 56 percent from rural areas and 65 percent being females [1]. The report by Statista estimates that smartphone users in India will reach 1.55 billion in the year 2040 [2]. This research paper discusses and analyzes the structure of the Indian insurance companies, InsurTech companies, and the technology products offered by these companies with the advent of the InsurTech revolution.

**KEYWORDS:** InsurTech, Fintech, mobile wallet application, wearable technology, smartwatch.

### INTRODUCTION

Insurance penetration is used as an indicator of insurance sector development within a country. It is calculated as the ratio of total insurance premiums to gross domestic product in a given year. Insurance density is the ratio of premiums underwritten in a given year to the total population. In India, for the year 2022-2023, the life Insurance penetration was reduced to 3 percent from 3.2 percent in the year 2021-2022. For non-life insurance, the penetration has remained the same at 1 percent. Overall insurance penetration for the year 2022-2023 was reduced to 4 percent from 4.2 percent in the year 2021-2022. Globally, for the year 2022-2023, the insurance penetration was 2.8 percent for life insurance and 4 percent for non-life insurance. Global insurance penetration was 6.8 percent for the year 2022-2023.

In India, the life insurance density for the year 2022-2023 was increased to USD 70 as against USD 69 in the year 2021-2022, whereas the density remained the same for non-life insurance at USD 22 in both years. Overall insurance density increased to USD 92 in 2022-2023 from USD 91 in 2021-2022. Globally, for 2022-23, life insurance density was USD 354 and non-life insurance density was USD 499. Overall, insurance density was USD 853 globally [3]. (IRDAI - Swiss Re, Sigma 03/2023). While comparing these figures concerning the Indian population of 143.95 crores in 2024 [4], the scope for covering Insurance for every citizen is very promising. With the initiative of the Government of India schemes like Pradhan Mantri Jan Arogya Yojna (PM-JAY), Pradhan Mantri Suraksha Bima Yojana (PMSBY), Ayushman Bharat Health Account (ABHA) and Insurance Regulatory and Development Authority of India's (IRDAI) initiative of 'Insurance for All' by 2047 [5], will drive the growth of the insurance industry in India.

### Problem Statement

Though the insurance density has grown over the years in India, it is still far lesser than its population and low-populated countries. Also, Globally, many technological and innovative products are available in the market. Hence, it is essential to study and understand the adoption of new technology by the insurance

companies and InsurTech companies in India and the availability of the specialized products offered by both InsurTechs and traditional insurance companies.

#### **Study design:**

This research paper is aimed at studying and analyzing the existing literature, journals, and case studies related to Insurance and InsurTechs, the Insurance Regulatory Authority of India (IRDAI) reports, and other relevant reports. The study also analyzes the Fintech and InsurTech revolution globally and how it disrupts the Insurance Industry with the help of the latest technologies like Artificial Intelligence (AI), Machine Learning (ML), Deep Learning, Big Data Analytics, Blockchain, Drones, Internet of Things (IoT), and Robotics.

**Predictions, Results, Practical and Social Implications:** This study will create awareness in society about the latest digital products available in the market, like Pay as You Drive (PAYD), telematics-based vehicle insurance, and discounts on maintaining a healthy lifestyle. This study also discusses the type of InsurTech companies, like premium comparison websites, that understand the insurance benefits by uploading the insurance policies, getting assistance for claims, storing the insurance policies digitally, and creating digital health accounts. Insurance companies can leverage the latest technologies to create awareness, improve profit, and reduce claims.

### **LITERATURE REVIEW**

**Ratna Paluri et al (2015)**, in their study "Opinion leaders for increasing the market for non-life insurance products in India" surveyed 621 respondents to test the hypothesis, about awareness, the reason for the frequent purchase of motor and health policies any other non-life products, fatalistic attitude, risk-taking versus risk-averse people and opinion leaders. The researcher concluded that the market for non-life insurance in India is large but the insurance penetration and density are low. People are not aware of non-life products and very few have known motor and health policies and most people do not have any insurance. Attitudes, fatalism, and risk-taking are the main factors found to influence purchase decisions. People who are high-risk takers and exhibit fatalistic behavior have less awareness and purchase fewer policies. The study also found that the number of high-risk takers, fatalistic attitude persons, and opinion leaders is much less. The study suggested that with the help of opinion leaders, the concept of non-life insurance awareness can be spread since they are more aware, purchase more insurance products, are more risk averse and less fatalistic[6].

**Bhaskaran Unnikrishnan et al (2017)**, "Health insurance schemes: A cross-sectional study on levels of awareness by patients attending a tertiary care hospital of coastal south India" studied the awareness, enrolment, and reasons for non-enrolment of health insurance among patients attending public and private hospitals. A cross-sectional study was conducted among 403 patients from both public and private hospitals in Mangalore, by interviewing based on a questionnaire. The study concluded that the majority of the patients (81.4%) were aware of health insurance and 74.4% were aware of health insurance including the types and benefits. Awareness among males was higher and the major sources of information were friends, neighbors, newspapers, and television. Factors like education, type of occupation, and poverty were significantly associated with awareness and age, religion and socio-economic status did not show any association with awareness. About 52.9 percent had health insurance. About 56.2 percent were covered by private health insurance and 41.2 percent were covered by public health insurance. 2.6 percent of the respondents were covered by both private and public insurance. Respondents were provided health insurance through private insurance companies by their employers and respondents covered by public health insurance were government-sponsored schemes like RSBY and Yeshasvini. Though most of the respondents were aware of health insurance, not all were possessing health insurance. The reason for those who did not possess the insurance was due to a lack of awareness[7].

**Preeti Singh and Timira Shukla (2017)**, "Penetration of Health Insurance in India: Reality or Mirage?", studied the level of awareness, insurance penetration level, and fulfillment of societal needs for health insurance plans. The primary data was collected using an interview schedule by employing purposive sampling with a sample size of 102 respondents. The researchers concluded that health insurance has been ignored by people for several reasons. Lack of awareness, perception about the end value of their premium during a claim-free year; free health care provided by the Government hospitals, and lack of awareness about cashless claims were the reasons for ignoring the health insurance. To increase awareness, the researchers suggested introducing new policies with low premiums and simple form-filling procedures. The researchers also stressed the need to bring health care to the low-income group of people not only in rural but also in semi-urban and urban areas since the present plans are unable to fulfill the needs of society[8].

**Emanuel Stoeckli et al (2016)**, in their research paper "Exploring characteristics and transformational capabilities of InsurTech innovations to understand insurance value creation in a digital world", attempted to understand InsurTech and its impact on firm-level value creation and insurance industry structure. The researchers applied the Grounded Theory Methodology to develop theory inductively from rich empirical data. Firstly, the results have enhanced the theory that Fintech and InsurTech were understood through a Model comprised of 52 characteristics and 14 transformational capabilities. They have related these transformational capabilities to the three interdependent primary activities infrastructure operations, service

provisioning, and network promotion to understand firm-level value creation concerning InsurTech. Secondly, they have related their results to the role of intermediaries' viz., aggregation, facilitation, matching, and trust, to understand the impact of InsurTech on the insurance industry. The researcher concluded that one of the limitations in the research was, that despite data being collected repeatedly, the model may change in a future period due to the continuously evolving nature of the InsurTech[9].

**Michael Greineder et al (2018)**, in their research, "The Generic InsurTech Ecosystem and its Strategic Implications for the Digital Transformation of the Insurance Industry" analyzed 956 inurtechs using the e3-value method and found that there are 34 generic roles and value streams within the insurance ecosystems. By conducting semi-structured interviews with industry experts, the researchers identified five strategic implications following seven inter-organizational innovative patterns of digital transformation in the insurance industry. The researchers have developed a model to identify the disruptive actors or potential business opportunities in a digital insurance ecosystem [10].

**Samarth Maganahalli et al (2020)**, in their research "Blockchain: The Future of Insurance" discussed the uses of Blockchain for the insurance industry. The researcher explained that with the help of blockchain distributed ledger, the entire insurance process can be optimized to reduce cost and avoidance of middle man dependency. By establishing peer to peer system, claims can be handled without insurance surveyors and other parties. In Health insurance, blockchain can be used to register the patient history which will ease the procedural part in claiming the insurance benefits while taking treatment. In-home insurance, an asset can be tracked digitally through blockchain with a smart contract which makes easier claims and reduces error. In auto insurance, each part of the vehicle which can be assembled can be registered in a blockchain. Starting from vehicle manufacturers, dealers, repairers, guarantors, and drivers can be connected through blockchain. This technology can be used in high-value asset insurance. Peer-to-peer insurance can be set up with the help of blockchain technology which reduces premiums and claims can be paid for smaller misfortunes. The author concluded that blockchain technology can be implemented in the entire value chain of the insurance company[11].

**Dr. P Revathy (2020)** in her study "Technology and Innovation in Insurance– Present and Future Technology in Indian Insurance Industry" discussed the latest technology and innovations in the insurance industry. The researcher presented that human intellectual capital, personalization, and data, BEAM, digitization by insurance companies, Artificial Intelligence, shift technology, and blockchain are the latest technology trends in 2020 in the insurance industry. The researcher concluded that insurance companies are using the latest technologies in several ways. The start-ups are using more advanced technologies like data analytics to accurately determine risk, and detect fraud and coverage expansions. The insurance industry will see growth from pure protection plans liked by the younger generations, penetration in rural areas, product innovations, the rise of multiple channels, and tax benefits. The challenges faced by the industry are fraud, high lapse ratio, and unfavorable changes in microeconomic factors[12].

**Shakil Ahmad et al (2024)**, in their research "Impact of Insur-Tech on the premium performance of insurance business" found out that the technology helps to attract new customers and retention of old customers and thereby insurance companies increase their premium volume day by day[13].

**Simona Cosma and Giuseppe Rimo (2024)**, in their research "Redefining insurance through technology: Achievements and perspectives in Insurtech" examined the academic literature on insurtech through bibliometric analysis and a systematic review, to identify the main contributors to the topic, main research clusters, and future research directions. The researchers concluded that the scientific production of insurtech is a growing trend with a strong focus on artificial intelligence and blockchain in the insurance industry. Further, they found out that there is a strong collaboration exists between information technology and economics disciplines, and to understand the insurtech phenomenon, an interdisciplinary approach is also essential [14].

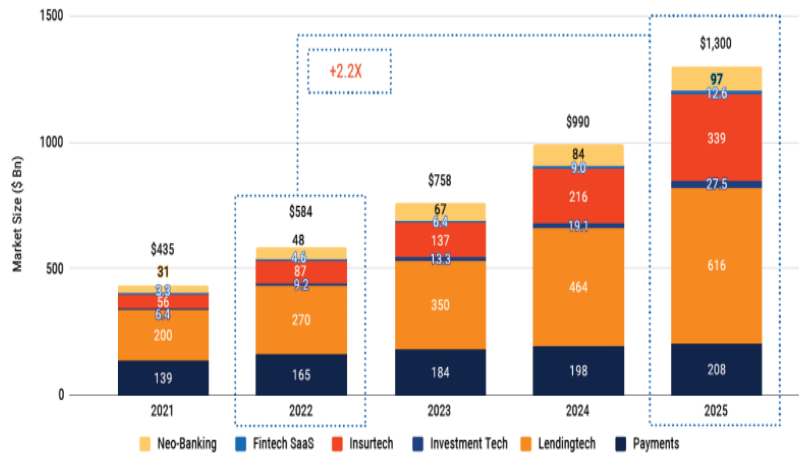
### Fintech

Gone are the days, the customer has to visit his bank branch to transfer the money from his account to another. Nowadays, this transfer can be done using the mobile banking application or payment wallet application (apps) installed on the Smartphone. This is a classic example of revolution in the financial services industry. The companies using the latest technology that disrupts the financial services industry are termed Fintech. With the help of innovative software solutions and problem-solving algorithms, Fintech companies innovate, automate, and improve existing financial service products. Fintech is felt as "disruptive", "revolutionary", and armed with "digital weapons" that will "tear down" barriers and traditional financial institutions[World Economic Forum - 2017].

Globally, during the year 2000, many start-ups floated technology-oriented companies offering banking and financial services to the areas where traditional banking has not reached so far or is not ready to provide financial services. The Financial Technology or Fintech industry refers to a group of companies that innovate, improve, and automate Banking and Financial Services (BFSI) products by using the latest technology like Artificial Intelligence (AI), Machine Learning (ML), Deep Learning, Big Data applications, Internet of Things (IoT), Robots, Cloud computing, wearables, and Blockchain. In India, Fintech growth is witnessed by the opening up of many mobile wallet companies, NBFCs, and Payment banks running on digital platforms.

These Fintech companies deal with payments, Insurance, retail loans, and asset management. As per Inc42, India's fintech market is estimated to grow at a CAGR of 31% during 2021-2025 [15].

**Figure 1: India to reach a Trillion-Dollar Fintech market in 2025**

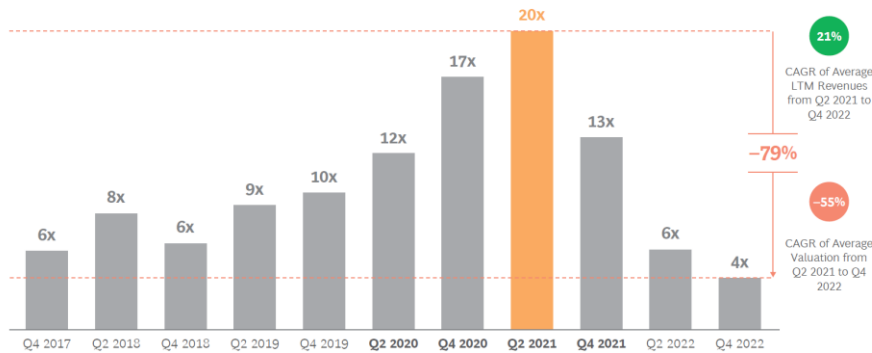


Source: Inc42, secondary research

According to the Boston Consulting Group (BCG), globally, there are roughly thirty-two thousand fintech companies in the market. Their revenues are expected to reach \$1.5 trillion by the year 2030, and by the year 2030, the Asia-Pacific region could become the world's top fintech market. Globally, from the fourth quarter of the year 2017 to the fourth quarter of 2022, fintech valuations accounted for 9 percent of all financial services valuations. The valuation of eighty-five public fintechs has reached US\$1.3 trillion, which is a multiple of 20 times of annual revenue compared to 6 times before the year 2018. The average revenue multiples for public fintech in simple average, market Cap/LTM revenues is represented in figure 2 [16].

**Figure 2: Fintechs valuation (From Q4 2017 – Q4 2022)**

Q4 2017 – Q4 2022, average revenue multiples for public fintechs (simple average, market Cap/LTM revenues)



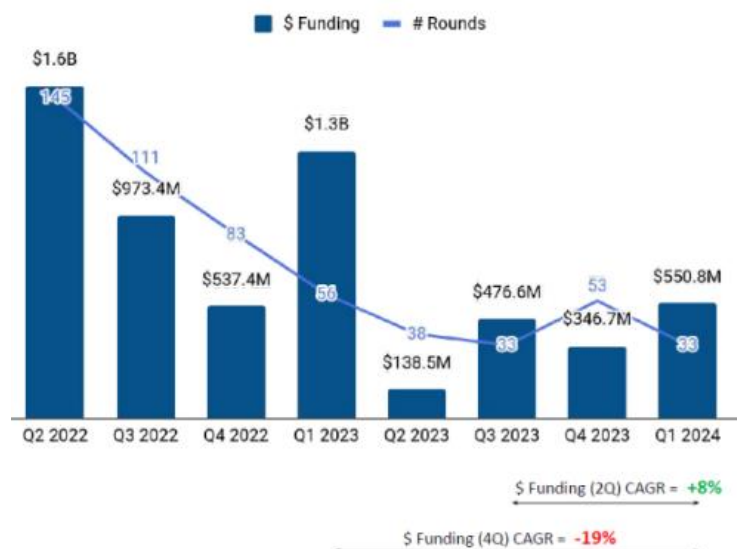
Sources: Fintech Control Tower, Capital IQ, BCG analysis.

Note: The Public Fintech list considers market capitalization and revenues for each quarter from 85 public fintechs from different geos and segments.

In India, the market size of the fintech industry is estimated to grow to USD 150 billion by 2025. India's Fintech adoption rate is 87 percent which is more than the average rate of 64 percent globally. For the year 2022-2023, the total number of digital transactions was 13 crores and the value of digital payment transactions through UPI was 139 lakh crores. India's digital payments transaction volume is expected to reach USD 100 trillion and revenue USD 50 billion by 2030. Payments, Digital Lending, InsurTech, and WealthTech are the significant segments of the Fintech industry in India [17].

As per Tracxn Technologies Limited, the equity funding in Indian Fintech companies was USD 551 million in quarter 1 of 2024. Though the Fintech total funding in India declined by 57 percent to USD 551 million in the quarter1 2024, against USD 1.3 billion in the quarter1 2023, the funding registered a growth of 59 percent in the quarter1 2024 as against the quarter4 2023 which was USD 346 million. Alternative lending, banking tech, and regtech segments of Fintech registered significant growth, in quarter1 2024 [18]. As of September 2022, more than 2100 fintech start-ups are operating in India, the third largest fintech economy in the world [19].

**Figure 3 - Q-o-Q Funding Trends - Funding includes equity funding only.**



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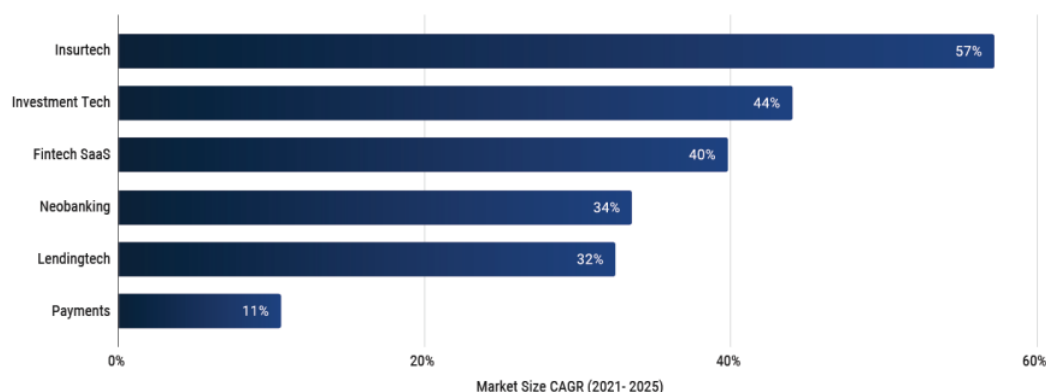
**InsurTech**

The technology companies that disrupt the Insurance industry are termed as InsurTech. InsurTech is defined as the ecosystem of focused, innovation-based companies (often start-ups) that generate value for clients and insurance incumbents by disrupting or solving problems across the insurance value chain through the engagement of technology by following a lean and user-centric approach. InsurTechs uses the latest and advanced technologies and advanced analytics to improve customer experience and arrive at business decisions[20].

In 2010, many start-up companies called InsurTechs started to offer new innovative and technology-based services to existing insurance companies and intermediaries. Globally, by 2017, more than thousands of such companies had been created that analyzed the problems faced by insurers, intermediaries, and customers. With the help of technology, they have resolved those problems. Because of these companies, customers experience new products and services like premium comparing websites, automated insurance agents, message chatbots, claims management platforms, and recommending suitable products using artificial intelligence (AI). These technology and product innovations are also supplemented by the rapid surge in the usage of the internet, especially smartphones, by Boomers, Millennials, and Generation Z, which has increased the expectations from the Insurance companies or InsurTechs.

As per Inc42, in India, InsurTech is the fastest-growing segment among Fintech. As of August 2023, 3475 InsurTech companies are operating globally[15]. In India, 324 active InsurTech companies are working with an estimated market opportunity of U.S. \$ 339 billion and a CAGR of 57% in 2025. Globally, the InsurTech industry received a total venture capital funding of US\$ 2.4 billion in the half year of 2023 [21].

**Figure 4:** Insurtech is the fastest-growing segment, especially in India.

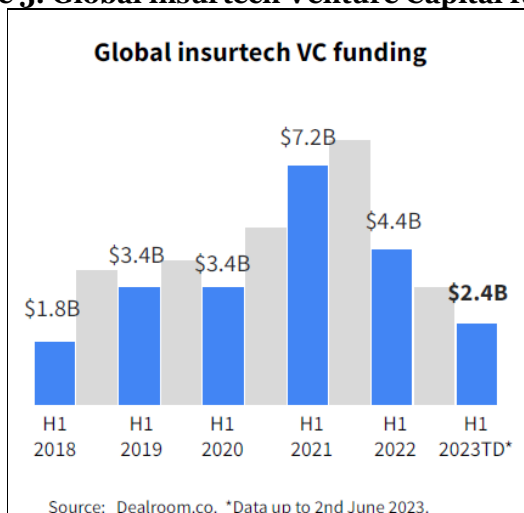


Source: Inc42



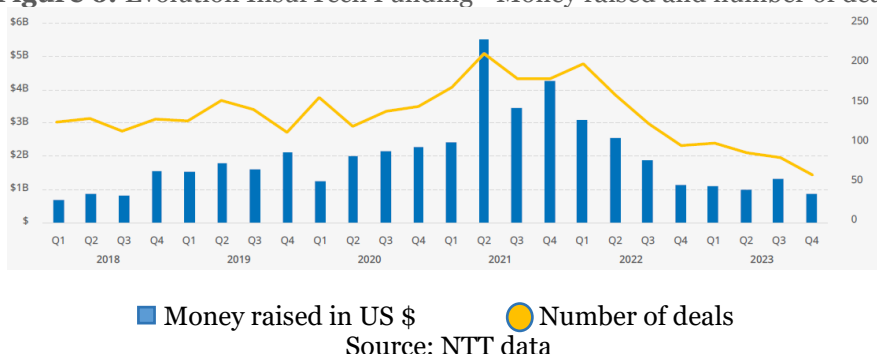
Inc42

**Figure 5: Global insurtech Venture Capital funding**



As per NTT data, while comparing the leading insurtech companies, there is a change in the business models, lines, and technology adoption over the years, which shows the evolution of internal and external variables concerning the insurance context. Though the funding in quarter 4 has declined from 2021 levels, it should be viewed as the evolution of innovation to meet the specific challenges in different years [22].

**Figure 6: Evolution InsurTech Funding - Money raised and number of deals**



**Type of InsurTechs**

The model adopted by the InsurTechs is either a competitive approach or a cooperative approach. In the competitive approach, by using the latest technologies, InsurTechs disrupts the existing insurance companies by introducing new digital models. In the cooperative approach, InsurTechs provides software support by digitizing the current insurance value chain to enhance efficiency and competitiveness. The competitive model is further divided into the type of Insurance and the type of customers they are servicing. Table 1 exhibits the kind of InsurTechs models and approaches [23].

**Table 1 - InsurTech model**

InsurTech models		
Competitive approach		Cooperative approach
<b>Type of Insurance segments</b>		
Life Insurance	covers the life of a customer	providing software support to the existing insurance companies to improve efficiency and competitiveness
Health Insurance	covers the medical expenses	
Travel Insurance	covers the medical expenses during travel abroad	
Property & Casualty (P & C)	covers damages to objects. Home, product, and auto insurance	
Business	covers business risks. example: cybercrime	
<b>Business models</b>		
B2C	servicing directly to customers	
B2B	servicing directly to another company	

B2B2X	servicing any interested party through another company	
P2P	connecting customers to provide services to each other	
<b>Type of Customers</b>		
Retail	individual customers	
SME	Small Medium Enterprises	
Corporate	Big companies	

Each Insurtech uses different technologies, to provide an excellent customer experience, with innovative products and services thereby increasing efficiency and also reducing and saving money. One or more of the following technologies are used by the InsurTechs, Artificial Intelligence (AI), big data, Internet of Things (IoT), wearables (for example: fitness tracking in health insurance), tracking devices (telematics), and automation in claims reporting, claims processing, regulatory compliance, underwriting and insurance policy updates.

### Insurance Industry in India

The Indian insurance industry underwent a lot of changes during the British period, the Nationalization period, and the Liberalization period. Though the entry of foreign companies created a lot of product innovation, competition, and service improvements, insurance penetration is lower when compared to the population and emerging economic countries.

The insurance industry in India consists of 67 insurance companies of which 24 are in the life insurance business and 26 are in non life insurance business which includes ECGC (formerly Export Credit Guarantee Corporation of India) and Agricultural Insurance Corporation of India, five are stand-alone Health insurance companies. There are twelve reinsurers in India. Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY – Life cover), Pradhan Mantri Suraksha Bima Yojana (PMSBY - accidental Insurance), Pradhan Mantri Fasal Bima Yojana (PMFBY – Crop insurance) and Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PMJAY-largest healthcare scheme in the world) are Government sponsored socially oriented insurance schemes in India.

**Table 2: Number of insurance companies in India**

Type of Insurance company	Public sector	Private sector	Total
Life	1	23	24
General	6	20	26
Stand-alone Health		5	5
Reinsurers	1	11	12 (*)
<b>Total</b>	<b>8 (**)</b>	<b>59</b>	<b>67</b>

Source: IRDAI annual report.

(\*) 12 reinsurers, including foreign reinsurers' branches and Lloyd's India

(\*\*) includes ECGC, Agricultural Insurance Corporation of India, Life Insurance Corporation (LIC) of India and GIC Re.

As per IRDAI's 2022-23 annual report (Swiss Re data), India's share in the insurance premium was 1.90 percent globally and ranked 10<sup>th</sup> largest market. India's insurance market is projected to be ranked 6<sup>th</sup> largest in the year 2032. In India, the life insurance business recorded consistent growth in premiums every year and the life insurance industry recorded a premium income of Rs.7.83 lakh crores with 12.98 percent growth. The growth of private insurance companies' premiums was 16.34 percent whereas the growth in the public sector life insurance premium was 10.90 percent. For the same year, new business premium income was 47.44 percent and renewal premium was 52.56 percent. During the year 2022-2023, public sector life insurance companies issued 204.29 policies and private sector insurers issued 80.42 lakh policies. The growth of private insurance companies was 8.76 percent and public life insurance companies registered a de-growth of 5.94 percent. (IRDAI annual report - Swiss Re data).

**Table 3: Growth in Real Premium byRegion in theWorld in 2022**

Regions	Life	Non-Life	Total
Advanced markets	-4.4	0.0	-1.8
Emerging markets	1.4	2.8	2.1
Asia-Pacific	-2.0	2.9	-0.1
India#	8.2	6.0	7.7
<b>World</b>	<b>-3.1</b>	<b>0.5</b>	<b>-1.1</b>

**Source: Swiss Re SigmaWorld Insurance Report (No. 03/2023)  
#FY 2022-23**

### **InsurTech companies in India:**

Responding to the technological changes, Indian insurance companies and start-ups have started offering new technology-based products in the country. The segments of InsurTechs operating in India are Digital insurance brokers, Corporate insurance brokers, insurance SaaS, Digital insurance underwriters, and health clubs [24]. As per the Indian InsurTech Association, Indian InsurTechs are classified in Table 4. Few company names are provided against each classification [25].

**Table 4: India's dynamic InsurTech types:  
India's dynamic InsurTech (Q1 2023)**

Classification	InsurTech companies in India
<b>Value chain innovations</b>	
Administration platforms	Nvest Solution, roadzen
Product development	iNube, briisk
Underwriting risk management	cariq, select
Sales	AllinCall, zopper
Claims	SureClaim, Claims
Analytics	Floatbot, quantiphi
Customer experience	McXtra, BRIEZI
<b>New Digital business models</b>	
Comparison sites	Policy bazaar, turtlemint
Direct On demand	acko, digit
Health & Wellness	Zyla, LIVE WELL
Ecosystems	paysack, phonepe
Commercial platforms	SCALING, bimaplan
Microinsurance	toffee, SureBuddy
P2P & Community	BOUNCE infinity

**Policybazaar** founded in the year 2008 is an online aggregator which offers a price comparison portal for life and general insurance companies.

**Coverfox**, founded in the year 2013, provides an AI-powered recommendation engine to assess the customer's profile and suggest policies.

**Renewbuy** founded in the year 2015, provides a simple platform for buying and renewing insurance.

**Pentation Analytics** established in the year 2015 is a Big Data and Analytics company that provides a business process management platform for the insurance industry in customer retention, cross-selling, claims, data pipeline, and CRM for Auto, Health, Property, and Casualty and Life insurance.

**Digit Insurance** founded in the year 2016, simplifies the purchase and paperless claim process.

**Acko General Insurance** is India's first digital insurance / InsurTech company started in the year 2016. The company offers Car Insurance, Two-wheeler / Bike Insurance, Corporate Health Insurance, Arogya Sanjeevini Acko, and Corona Kauch Acko policies.

**Mantra Labs** established in the year 2016, offers AI AI-enabled chatbot, a visual AI platform for insurer workflows, and an insurance lead conversion accelerator.

**Artivatic** founded in the year 2017 provides insurance Software as a Service (SaaS) platform for life, general, health, and reinsurers. The Company provides end-to-end automation solutions for insurance companies starting from sales, on-boarding, risk and fraud, underwriting, and payments to claims. The company leverages Natural Language Processing (NLP), Machine Learning (ML), Deep Learning, Behavior analysis, Artificial Intelligence (AI) and Internet of Things (IoT)

**Toffee Insurance** was established in the year 2017 as a licensed corporate agent for select life and general insurance companies. The company distributes the products through Application Programming Interface (API), and mobile and SMS transactions. This is one of the largest micro insurance companies in India.

**Paytm Insurance**, aunched in the year 2022, facilitates the issuance of policies in two minutes from India's leading insurance companies by comparing the policies from different insurance companies.

Turtle mint, Pazcare, One Insure, GroMo are some of the leading Insurtechs in India.



### **Some of the InsurTechs operating in India who have secured rank in the InsurTech 100, in the year 2023 are [26].**

Clearspeed founded in the year 2016, provides a risk assessment of the customer through the life cycle of the customer starting from application, renewal to claims. The company provides voice-based risk assessment technology thereby increasing operational efficiency, reducing fraud, and delivering better customer experience.

Cover Genius is the Insurtech for embedded protection. Through its global distribution channel Xcover, protects global customers.

Hexure provides digital sales solutions for insurance and financial services companies.

Intellect AI is an Insurtech and wealth tech company. In the Insurtech space, the company provides contemporary underwriting ecosystems.

Kayrros, Mea, Majesco, Nest, Neural metrics, Safe, SLK, Tietoevry, Zinnia, and Appian are some of the InsurTech companies operating in India, listed in the InsurTech100 in the year 2023.

### **InsurTech products**

As InsurTechs uses the latest advanced technologies to service the customers quickly and efficiently, a lot of innovative products and processes were founded by them, which are transparent, direct to customers, and customer-focused. As these products are using advanced technologies, sales, underwriting, managing, and claims fully follow digital journey paths. The innovative products are in all segments of life, general, property and casualty, agriculture, and health.

**Insurance comparison websites:** These are called online aggregators or price comparison platforms offering product and price comparisons of various insurance companies.

**Fully digital insurance company:** This is an entirely online insurance company offering insurance products digitally.

**Online agents brokers:** These are intermediaries operating digitally online.

**Chatbots:** It is a virtual assistant that can understand customers' requirements in sales, service, and claims.

**Usage-based Insurance:** Premium is charged based on the user's driving pattern, like acceleration braking, of the vehicle, which is detected automatically either by an "app" or "Telematics".

**Peer to Peer insurance:** In this type, a group of insureds pool their capital, manage, administer, and control their Insurance with transparency, and trust and, at the same time, reduce the cost. As in traditional Insurance, this model pools the funds and shares the losses.

**On-demand insurance:** With the help of a mobile application, customers can temporarily insure their vehicle, life, health, equipment, home, and jewelry for a shorter period.

**Cyber Insurance:** To compensate organizations for data breaches and cyber-attacks. This Insurance covers the expenses for data recovery, legal fees, regulatory fines, and other costs involved in cyber attacks.

**Innovative health insurance:** Biometric sensors and Wearables like smartwatches measure blood pressure, blood sugar level, and heart rate in real time, and customers can get reduced premiums or incentives for maintaining good health. A Wearable is an electronic device with a microprocessor that can be worn as an accessory (smartwatch), fixed on cloth (sensor), or can be implanted in a customer's body. With the help of the internet, data can be transmitted from the wearables. With the use of data generated from these devices, insurers can adjust the premium amount, analyze risk, and offer customer-specific products. Wearables access and transmit customer's activity and lifestyle habits. These wearables detect biometric information (number of steps walked or jogged, tracing physical action like prolonged sitting, cycling), cardiovascular measures (heart rate, ECG, blood pressure), sleep data, body temperature, blood sugar, and pollution exposure. Based on these data, insurers can assess the individual risk and design customer-specific products and prices.

**Smart home and property insurance:** With the help of sensors, monitoring systems, and cameras, the house can be monitored and detect any events like fire, flood, or theft.

### **Innovative products in Non-Life and Health insurance in India**

In the non-life insurance market, innovative products like trip insurance (Acko), electronics cover insurance (Acko), and hotel stay insurance (Acko) are introduced in the market. In motor insurance discounts are offered based on lesser mileage driven (less than 10000 km per year) and telematics device (Navi) fitted in the car. The "Zuno SwitchPay As You Drive" from Zuno Insurance provides savings on premiums based on the annual usage of the car. "Pay As You Drive" from ICICI Lombard General Insurance has the option to buy insurance for 5000 or 7500 km/year. If the customer exceeds the opted kilometers, he can top up the coverage with more kilometers in the same policy year. ICICI Lombard also offers "Single Owner Multiple Vehicle" in which customers can insure their two-wheelers, cars, and family members' vehicles in a single policy. These are all some examples of the technology products available in the Indian insurance market [27-30].

In the Health insurance segment, a lot of new features are introduced in the policy by the insurance companies. Customization of health insurance plans, availing tele consultations, OPD consultation, personal health coach consultation, getting discounts on lab tests, Gym/Yoga clubs, medicine purchases, weight

management centers, discounts or reduction in renewal premium for maintaining healthy lifestyle like walking, jogging, Yoga, less calorie intake, participating in marathon, etc. All these customer's activities are tracked through the insurance company's App or fitness App or wearables and based on these results a scorecard is prepared and discounts or reductions in premiums are offered. Acko, Aditya Birla, HDFC Ergo, Bajaj Allianz, Manipal Cigna, Navi, Magma HDI, and TATA AIG are the companies that offer one or more features as mentioned. Hence the Indian insurance industry has started to innovate, adopt technology, and offer new technology-driven products [31-38].

### Conclusions and limitations

The market for A.I. is expected to grow from 100 billion U.S. dollars in the year 2021 to two trillion U.S. dollars in the year 2030 [39]. Machine Learning (ML), which is a subset of AI, is expected to grow from 140 billion U.S. dollars in 2023 to two trillion U.S. dollars in 2030 [40]. In 2022, medical and healthcare companies invested over six billion U.S. dollars, followed by data management, Fintech, and cyber security companies, which invested around 5 billion U.S. dollars in AI [41]. A.I. in the insurance industry is expected to reach a value of U.S. dollar 35.77 billion by 2030, growing at a CAGR of 33.06 percent from the year 2023. AI can help insurance companies to effectively assess risk, detect and prevent fraud, customize premiums based on the assessment of risk, and provide quicker and enhanced services to customers [42].

Indian insurance companies have started adopting new technologies and offering new innovative products. Still, there is a potential to provide more products in the life, home, and agriculture segments. The existing insurance companies have to adopt new technologies or have tie-ups with the InsurTech firms to provide better customer engagement and new products. The cognitive functions of human minds like learning, perceiving, problem-solving, and reasoning can be exhibited by the machines using AI, and through Machine Learning (ML) and Deep Learning (DL), AI will transform the insurance industry to the next level [43]. Hence insurance companies have to adopt these technologies or tie up with insurtechs to provide innovative products to improve their premium income, and profits and reduce fraud.

As the insurance penetration and density are much lower in India compared to the developed and emerging economic countries, insurance companies need to find a way to enhance insurance coverage and also create awareness about the digital features introduced in the policy for the benefit of the customers.

As this research study has presented only a bird's view on InsurTechs, Indian InsurTech companies, and technology products offered by both Indian InsurTech and insurance companies, this is considered a limitation in this study.

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