

INSURTECH: REVOLUTIONIZING INSURANCE THROUGH TECHNOLOGY

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ABSTRACT

Insurtech, a combination of 'insurance' and 'technology,' is transmuting the insurance sector by exploiting advances in Data Analytics, Artificial intelligence (AI), Machine Learning (ML), the Internet of Things (IoT), and Blockchain. This study examines the progressive influence of Insurtech on insurance, with attention to important technologies, productive business models, and the consequences for operational efficiency, customer experience, and market growth. It accentuates the importance of wearable technology in health and life insurance for ongoing risk assessment and individualized product offerings. The study also looks at the pecuniary success of distinguished Insurtech companies such as Policy Bazaar, Cover Fox, and Renew Buy emphasizing their offerings to the industry's growth. Challenges such as data privacy and the necessity for standardized electronic health records are acknowledged, along with ideas for increasing data fusion and executing sophisticated technology. The report indicates that Insurtech is critical to building a more efficient, transparent, and customer-centric insurance landscape, emphasizing the need for ongoing innovation and client involvement to manage the changing technology environment.

KEYWORDS: Insurtech, Insurance Technology, Data Analytics, Artificial Intelligence (AI) Machine Learning (ML), Internet of Things (IoT), Blockchain, Wearable Technology, Health Insurance, Life Insurance Risk Assessment, Individualized Products, Policy Bazaar, Cover Fox.

INTRODUCTION

Insurtech, a blend of 'insurance' and 'technology,' refers to the innovative use of technology in the insurance sector. It aims to improve efficiency, enhance customer experience, and reduce costs by leveraging advancements in Data Analytics, Artificial Intelligence (AI), Machine Learning (ML), Internet of Things (IoT), and Blockchain. This section explores the impact of Insurtech on the insurance industry, highlighting key technologies, business models, case studies, challenges, and future directions.

Rise of Insurtech

The emergence of Insurtech Financial services, which include insurance, is embracing change quickly. These changes are especially being driven by technology, or what is known in the insurance industry as "Fintech" or "Insurtech." Considering that the developing stakeholders are eager to respond quickly because technologies have significantly enhanced and expedited customer acquisition, retention, operations, and client communication. Technical advancements in finance allow for the development of new business models, applications, procedures, and products.

Diverse Viewpoints

Innovations in Insurtech are generated by a variety of sources, including media outlets, tech businesses, product manufacturers and distributors, and frequently, end users themselves. A growing number of customers are expressing a desire to work with non-traditional financial service providers. Specifically, the younger generation always uses an internet connection to communicate with service providers. It gives insurers the appropriate conduit to further their ongoing efforts to increase client interaction. As a result, insurers strive to adjust to the rapidly evolving technological landscape, which permeates the majority of the activities involved in the insurance product life cycle. To more accurately identify, comprehend, and quantify risk, insurers are looking at complex data models and analytics. Because of this, insurers are embracing innovation and emphasizing data analytics. Insurance companies are examining big data and attempting to develop predictive modelling. Although this is the demand side of the insurance industry, many startups also aim at the supply side.

The Importance of Insurtech

Insurtech, short for insurance technology, is significantly transforming the insurance industry by leveraging advanced technologies to enhance efficiency, customer experience, and overall market dynamics. The importance of Insurtech can be understood through various lenses, including operational efficiency, customer satisfaction, market expansion, and risk management. Here are the key aspects that highlight the importance of Insurtech:

Operational Efficiency

Automation of Processes: Insurtech solutions automate various insurance processes, including underwriting, claims processing, and policy management. This reduces the need for manual intervention, minimizes errors, and speeds up service delivery.

Example: AI-powered chatbots and virtual assistants handle customer inquiries and process simple claims, freeing up human resources for more complex tasks.

Cost Reduction: By automating routine tasks and improving process efficiency, Insurtech helps insurers reduce operational costs. These savings can be passed on to customers through lower premiums.

Improved Customer Experience

Greater Accessibility: Online platforms and smartphone applications enable easy usage of insurance products and services, allowing customers to swiftly submit grievances and handle policies.

EXAMPLE Insurance technology firms for instance Lemonade offer a simple and effective online interface for buying and managing residence and tenants' liability insurance coverage.

REVIEW LITERATURE

(Barbera, 2023) The paper provides an in-depth investigation of Insurance technology in the field of insurance, particularly focusing on the particular study of Lemonade. It examines the importance and impact of Insurtech-driven changes by placing Lemonade amid the wider insurance environment. It addresses how these developments have altered the insurance sector services and the overall experience of users.

(Lanfranchi D, Grassi L, 2022) The cumulative impact of modern technology and consumer preferences on insurance invention. The present research extends the current pool of information on insurance invention by highlighting the significant impact of technological enhancements and shifting customer needs as fundamental drivers for industry change.

OBJECTIVES

1. To Analyse the Evolution of Insurtech
2. To Identify Key Technologies Driving Insurtech

RESEARCH METHODOLOGY

For this study, we have utilized a convenient sampling method to select three companies from the list of Insurtech companies namely Policy Bazaar, Cover Fox, and Renew Buy Secondary data has been collected through their annual reports available on their websites.

DATA ANALYSIS

TABLE 1

Name of the Company	Type of the Company	Share Capital	Net Worth	Turnover
Policy Bazaar	Private Company	938,125,060	11,049,929,000	12,678,471,000
Cover fox	Private Company	9,748,130	124,267,672	130,359,325
Renew Buy	Private Company	13,855,310	4,109,083,807	1,164,059,586

TABLE 2

List Of Insurtech Companies		
Name of the Insurtech Companies	Year of Establishment	Website
Policy Bazaar	2008	www.policybazaar.com
One Assist	2011	www.oneassist.in
Cover fox	2013	www.coverfox.com
Lemonade Insurance	2015	www.lemonade.com
Renew Buy	2012	www.renewbuy.com
Digit Insurance	2017	www.godigit.com
Toffee Insurance	2017	www.toffee.com
Kenko Health	2017	www.kenkohealth.com
Plum	2019	www.plumhq.com

TABLE 3

Primary Categories of Wearable Devices

Categories of Wearables	Overview	Examples	Major Players
Fitness Trackers	Devices designed to monitor physical activity, track steps, distance travelled, calories burned, and sometimes sleep patterns.	Fitbit Charge, Garmin Vivosmart, Xiaomi Mi Band.	
Smartwatches	Wearable devices that combine the functionalities of a fitness tracker with additional features like notifications, apps, and even phone call capabilities.	Apple Watch, Samsung Galaxy Watch, Fitbit Versa.	
Smart Clothing	Clothing items are embedded with sensors to monitor physiological data such as heart rate, muscle activity, and body temperature.	Sensoria Fitness Socks, Athos Training Apparel, Hexoskin Smart Shirts.	
Wearable ECG Monitors	Devices specifically designed to monitor the electrical activity of the heart, providing data that can help detect irregular heartbeats or other cardiac conditions.	KardiaMobile by AliveCor, Apple Watch with ECG feature.	
Wearable Blood Pressure Monitors	Devices specifically designed to monitor the electrical activity of the heart, providing data that can help detect irregular heartbeats or other cardiac conditions.	Omron Heart Guide, Withing's BPM Connect	
Smart Glasses	Glasses are equipped with augmented reality (AR) features, enabling users to see digital information overlaid on their physical environment.	Google Glass, Microsoft HoloLens, Vuzix Blade.	
Smart Jewellery	Elegant, jewellery-like devices that often track fitness and health metrics while maintaining a fashionable appearance.	Oura Ring (tracks sleep and activity), Bellabeat Leaf (tracks activity, sleep, and stress).	
Medical Wearables	Devices designed for medical purposes are often used to monitor chronic conditions, medication adherence, or recovery post-surgery.	Insulin pumps, continuous glucose monitors (CGMs) like the Dexcom G6, wearable defibrillators	
Virtual Reality (VR) Headsets	Headsets that provide immersive virtual reality experiences, are used for gaming, training simulations, and various other applications.	Oculus Rift, HTC Vive, PlayStation VR.	
Hearing Aids	Devices designed to assist individuals with hearing impairment by amplifying sound.	Phonak Audéo Marvel, Widex EVOKE, Starkey Livio AI.	

Categories of Insurtech Innovation

There is a plethora of tech that comes under this broad term including:

- Digital Platforms
- Online of Things (IoT)
- Big Data
- Comparators and Robot Advisors

- Machine Learning
- Artificial Intelligence (AI)
- Blockchain
- Peer-to-Peer (P2P)
- Usage-Based Innovations
- Wearables
- Robotic Process Automation

These innovations have played a major role in changing the functionality and operability of the insurance sector, particularly regarding digitalization and process automation. Wearable tech is one example; it has come a long way from simple pedometers to things like the Apple Watch and Fitbit that can provide you with all kinds of health information, such as oxygen intake or blood pressure, heart rate, and sleep quality.

Categories of Innovation

Digital platforms, the Internet of Things (IoT), big data, robot advisers and comparators, machine learning, artificial intelligence (AI), blockchain, peer-to-peer (P2P), and usage-based innovations are just a few of the technologies that fall under the umbrella of insurance. Besides the use of social media, technology offers various purposes, among them smartphones and tablets, blockchain, IoT, artificial intelligence, large amounts of data, and machine-learning automation. This industry has accomplished significant achievements in the areas of digitization and robotic process automation. During the last decade, there have been major developments in electronic devices. At present, sophisticated wristbands containing medical-grade technology can assess complicated physiological nature and wellness indicators like oxygen consumption (VO₂), arterial pressure, heart rate and rhythm, and quality of sleep. Primitive pedometers were used to monitor the number of footsteps completed. Sophisticated tracking devices for fitness, like the watches from Apple, Fitbit, Garmin, and many more, are capable of tracking an assortment of advanced health statistics instantaneously. A wide range of smartphones can record these measurements independently of one another, and they can also connect to smartwatches through different apps.

Technologies for Life Insurance (LifeTech)

Reliable health information is essential for evaluating the risks related to life insurance. The insured's health and fitness can be assessed by examining their wearable devices and other health markers like heart rate, blood pressure, workout regimen, and any other pertinent information. Incorporating these indicators into standard risk estimation strategies will greatly improve the assessment of life insurance policy risk. Insurance providers can build models or models by using information from wearable devices gathered throughout an insured person's entire life cycle. The following might allow businesses to customize attractive insurance products and monitor the outcomes of the policy.

Evidence-based Life Insurance

The adoption of technological innovations holds the possibility to revolutionize life insurance companies by lowering costs and enhancing the customer experience. These advances in technology enable possibilities for reaching emerging markets, especially formerly ignored youthful and those with lower incomes demographics. With the use of psychological insights and advanced evaluation of data, insurance companies may obtain a deeper insight into customer rituals and inclinations. This trend leads to the availability of customized options and quicker assistance, thereby improving the availability and significance of life, annuity plans, and pension coverage to a broader population.

Health Insurance Technology

Regarding the context of health coverage, technologies permit systematic tracking of various parameters, especially everyday steps and heartbeat, which are subsequently tracked only in electronic form. Innovations in analytics and big data allow insurance companies to obtain helpful information regarding a person's wellness through these essential variables. This information provides benefits to both customers and insurers. Customers can improve their well-being, while insurers may minimize hazards by promoting greater practices. Thus, insurers may increase the accuracy of their coverage rates while encouraging the implementation of healthier habits among the people they insure.

2016, Health Insurance Regulations

According to the Health Insurance Regulations of 2016, insurance companies are allowed to offer rewards that are dependent upon fulfilling health and fitness criteria, including an emphasis on preventative medicine. Therefore, certain insurers are implementing fitness components that emphasize overall wellness preservation instead of providing financial support for unusual occurrences. These regulations include wellness advantages offered through outpatient therapy, medication services, and fitness screenings. Furthermore, they encourage the strategy of insurers to reduce rates while offering reduced renewal prices dependent upon clients' adherence to well-being and fitness standards.

Insurtech and Non-Life Insurance

Under the context of non-life coverage, innovations include beyond health tracking additionally interconnected automobiles, Advanced Driver Assistance Systems (ADAS), and residential tracking. Also, technologies include fitness devices, accurate weather data, and gadget analysis to recognize any apparatus failures or emerging health issues.

Block Chain

Blockchain, which stands for an important innovation in the area of Insurance technology, is growing increasingly important for the assessment of hazards and the development of products. During the transition from testing to fabrication, insurance companies are beginning to acknowledge the financial advantages associated with it. As published by the Asian Insurance Examination, the first inaugural blockchain-based system for shipping insurance was recently established. Offering an encrypted, private connection with an irreversible audit trail, this system transforms the handling of risks across global marine companies and creates a breakthrough virtual insurance value chain.

The blockchain system is an online record that retains data about transactions purely via the use of consensus, removing the requirement for mediators. One of the key features of this system is open communication, which ensures reliable paperwork. Blockchain-based technology offers an extensive variety of uses in the insurance industry, expanding beyond identifying fraudulent activity and handling claims to encompass

the growth of Internet of Things (IoT) devices. It contains the ability to ensure circumstances that are marked by ambiguity. The implementation of digital currencies into insurance company operations holds the possibility to improve the detection of unethical practices, notably theft of identities and falsified payouts. In addition, it helps policyholders in verifying possession, authenticating clients, tracking assets and certifying the source (such as medical records), monitoring claims past events, recognizing recurring unscrupulous conduct, date stamping policy purchases, and other related tasks.

Regulators and Insurtech

The findings of the June 2016, Global Financial Technology Study discovered that 75 percent of insurance enterprises observe their business activities to be at risk of disruption. To provide new products and services that respond to evolving needs of consumers it is essential to possess an in-depth awareness of vulnerabilities and encourage creativity. Despite acknowledging the need for continuous innovation and financial technology, the insurance sector tends to give priority to well-established developments rather than developing ones. In addition, there has been an increased emphasis on devoting funds to self-service options methods to gain and support clients. The increase in requirements for customized insurance products has driven the rapid growth of usage-based insurance (UBI) models.

Portable electronic devices

Under the scope of electronic media, an important segment of the nation's population is fairly aware of the tales of smartphones. Apart from being vital parts of our daily routines, mobile phones have impacted every sector of the economy, particularly banking and financial services. Since the arrival of the digital age, there has been an important shift in consumer expectations within the reach of financial services and products. Consumers now require financial institutions to provide an analogous digital interaction to that offered by business organizations such as Amazon, Facebook, Google, Apple, and many more, including those that provide insurance.

Being flexible

The following are some of the strategies employed by insurers to cope with the ever-changing technological environment. They are adaptable. They look for technology solutions, try to transform the culture in the organization, and identify growth opportunities in a short time.

They understand that to be heard, businesses have to be as flexible as they are in this highly saturated market. When a policyholder opts to incorporate technological solutions, how does it benefit /hurt them? In particular, it is necessary to point out how technology influences risk assessment and product design.

As discussed above we have witnessed how the incorporation of technology has had a very positive impact in finance. There is hardly any area in today’s business world where technology and customer experience are mutually exclusive. It is a process that wastes a lot of time, consumes a lot of resources, and entails a lot of paperwork from the moment of purchasing an insurance policy to the time of filing a claim. These problems can be solved by technology point, but the technology will also enhance and amplify the client’s experience.

Thus, increasing its relevance, Insurtech is emerging as a sub-sector of the FinTech industry. Customer preference and accessibility of interfaces are highly sought after by many, and the use of FinTech in insurance will ultimately reduce the buying friction that customers may face when making purchases online.

Health Insurance

Wearable data incorporated with health insurance is essential in continued risk assessment and improvement. Today, insurers use point-in-time data extracted either from medical tests or self-disclosure narratives all delivering sub-optimal outcomes in terms of real-time risk assessment. In addition, the absence of electronic health records or one central place for all medical data to be stored only adds more complexity when it comes to assessing their likelihood. Plus, health promotion after onboarding is something insurers currently have little control over.

FINDINGS:

- 1) Insurtech optimizes its services through process automation such as underwriting and claims processing, cutting costs, and expediting service provision.
- 2) Electronic commerce and application enhanced clients’ access to insurance services, a case is Lemonade.
- 3) Human-attached devices offer constant health checks essential in underwriting life and health insurance.
- 4) Its application in ensuring that transactions that occur are secure and transparent while on the other hand big data in the provision of insurance policies that are tailored towards individual clients and actuarial analysis.

SUGGESTIONS:

- 1. Standardize electronic health records for an accurate risk assessment and improve data protection for health information.
- 2. Expand the use case of applying the blockchain to manage the physical assets’ registry and automating policy processing; develop AI & machine learning as the tools to provide more accurate prediction and improve the level of customer satisfaction.

CONCLUSION:

Insurtech is the process of combining technologies with insurance to enhance features such as operation processes, the experience of customers, and the market environment. Wearable devices, blockchain, artificial intelligence, and big data have helped insurers to develop more solutions and confined portfolios and improve the handicapping of risks. Others like Policy Bazaar, and Renew Buy, among others, are clear examples

of how Insurtech is boosting growth as well as customer satisfaction. To sustain this drive, there is the need for insurers to focus on; data harmonization and privacy, new ways of technology, and customer-centric solutions. This enables them to overcome the challenges of an ever-dynamic technical environment to continue serving clients in a very competitive market. It is also important to note that the future of the insurance industry is the successful blending of technical activity and conventional pattern, which clears the path Insurance industry of the future, in the integration of technical improvement and the conventional systematic procedure towards making the sector more efficient, lucid, and more clients, which is customer-friendly.

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