

# The Impact of Upcoming Technology on the Insurance Domain

Pradyumna Chakrapani\*, Praveena T\*\*

\*(Computer Science and Engineering, R.V. College of Engineering, and Bengaluru  
Email: pradyumnac.cs17@rvce.edu.in)

\*\* (Computer Science and Engineering, R.V. College of Engineering, and Bengaluru  
Email: praveenat@rvce.edu.in)

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## Abstract:

The latest advancements in technology have reached the insurance industry (InsurTech). Technology is taking over all lines of working from issuing insurance to setting claims. Today, it is seen that there are various aggregators who advertise, sell, and compare insurance. Core insurers are adopting ERP systems to run and handle all major business functions. However, the use of CRMs to completely replace the working of three key insurance functions policy generations, billing and claims handling is still budding. This paper studies the acceptance, the interactions, and the impact of upcoming technology on the Insurance Industry. It also explores the scope for digitizing the insurance industry.

**Keywords —Insurance, Technology, InsurTech, General Insurance, Professional Services, ERP, CRM.**

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## I. INTRODUCTION

Technology is a core element of any business instead of a business function, and many companies are onboarding technology and going digital. When an insurance company chooses to start their digital transformation journey, they are posed by the various challenges and the technology available to them to overcome these challenges. There are various technologies that a company may choose to avail—such as cloud, cybersecurity, business automation, data analytics, and many other emerging fields of technology.

Companies that provide coverage on assets and insurance for accidents, injuries, and damage to third-parties or their belongings are called Property and Casualty insurers (P & C). Additionally, they also cover other risks such as automobile insurance, home insurance etc.

Insurers seek to modernize their business by leveraging world leading software

products/technologies executed via large scale software.

A market for adoption of technology for business application has boomed in the 21<sup>st</sup> Century. However, different industries have adopted technology at various paces. More recently, the industry which is seeing a boom in technology adoption is the insurance industry.

Various economic policies taken by governments across the globe have opened the markets up to Insurance Companies and Aggregators. These decisions have led to a marked increase in the availability and accessibility of various insurance products and services to the average consumer. On the digital front, increased internet penetration and accessibility has created opportunities for both consumer and insurers alike, to create, compare, justify and buy/sell policy.

This has led to an increase in the demand for digitizing the insurance industry, by leveraging technology to economize the business process, create, analyse, and advertise insurance policies. At

a time like this, a comprehensive understanding of the technology that brings the consumers and insurers will be extremely beneficial.

## **II. OVERVIEW OF THE INSURANCE DOMAIN**

### *A. Privileges and Roles*

The types of users may be categorized broadly into 3 types of users Customers, Aggregators, and Owners and Supervisors. Aggregators are third-party agents/brokers and client's employees while owner and supervisors are Portfolio Managers, Operation Managers, Financers and Government Regulators.

Each of them uses the system very differently, and, have very different requirements.

The Customers negotiate policies with the Insurance Company. This means, they should be able to furnish the details of their asset which they wish to insure while offering all legal documents warranting the asset. They should also be able to find a suitable plan which meets the requirements of the asset. To achieve this, the functionality is very versatile and allows to create various kinds of policies. It also allows to upgrade to add new features in the future.

Aggregators have a very similar role as Customers. Essentially, they assist customers in purchasing, deciding, and negotiating insurance policy. Because they offer services to various customers, they also need to perform batch processes on bill payments etc.

The final type of user, Owners and Supervisors, have their own set of requirements. They use the data accumulated and stored to perform analytics and generate reports to create knowledge which they then use to improvise business functions.

## **III. PARADIGM SHIFT IN THE INSURANCE DOMAIN**

Currently, the Insurance is undergoing a fundamental paradigm shift in three key respects:

### *B. Awareness*

The awareness among various actors in the insurance industries is increasing rapidly. There are various reasons for this. First, the advent of the Internet makes large volumes of information regarding insurance firms' offerings are made available. Additionally, the development of online portals and websites creates opportunities to attract customers and display various policy plans. Secondly, market trends and forecasts are advancing to become more accurate with the help of the advent of data science and machine learning advances. Here again, the Internet enables the mass dissemination of this data and conversion to knowledge. Additionally, advertising potential is the greatest it has ever been in history. Multiple online opportunities to advertise, both on and of the internet, has vastly improved information sharing. On the other hand, insurers, agents, and insurance companies are also leveraging the advent of the internet to better their market capture. Insurers, through the insurance sites are able to capture the attention of a younger generation of tech-savvy consumers, to both sell insurance and offer their services.

Second, the industry has also seen a proliferation of third-party agents leveraging the meteoric adoption of technology. Insurance aggregators, via the powers of data science are able to compare policies and enable consumers towards buying the best offer for their money.

### *C. Accessibility*

The industry has also seen the growth of the insurance industry, in general. More companies are entering the market, tapping different sections of the economic strata. This is making insurance more affordable for more people. More on the factors leading to this change are discussed next.

### *D. Affordability*

There are two factors leading to greater accessibility. While technology enables awareness, its true impacts will be discussed later. The second factor leading to this is affordability. Various Government reforms and policies have changed the economic landscape of the Insurance industry

leading to more affordability. The government's decision to allow FDI into companies has inception of more insurance vendor start-ups. Another incentive offered by the government to attract more companies is decision to allow older companies to offer IPOs. From a purely economic standpoint, these are the 2 reasons which enable greater affordability. Next, we discuss the ramifications arising from technology and the challenges faced by them.

#### **IV. DIGITAL TRENDS IMPACTING THE INSURANCE INDUSTRY**

##### *E. Internet Penetration*

The Internet has reshaped the economic landscape drastically. Within the insurance industry, the impacts are apparent. With the increase of internet penetration, the number of internet users has gone up from 429 million to 829 million between 2017 and 2021. There have been various customer benefits arising from the Internet Boom. These benefits can broadly be classified into 2 categories based on the stakeholder affected: the consumer and the insurer.

For the consumer, we see that the increased Internet penetration has increased awareness of the products available. The advent of insurance aggregators allows consumers to compare products, learn all the relevant details which are available to them transparently and access market data and knowledge. Figure 2 shows that nearly half of all information that reaches the consumer regarding policies comes from digital sources.

For the Insurer, the ability to set competitive prices allows for maximizing profits as they now know how the market prices similar goods and services. Secondly, they can transparently show the product features, cost, and services to attract consumers—as the average consumer is no longer interested in attractive and impractical policies. Finally, and most importantly, insurers are also investing in the digitization of business processes to achieve efficiency and cost reduction.

Today insurers seek to modernize their business by leveraging world leading software products

executed via large scale software migration projects. In this process, insurers are also interested in upgrading policies to add new features or offers.

##### *F. Changing industry structure:*

There is a proliferation of aggregators in the personal insurance market. Most startups in the insurance industry function as brokers between consumers and insurers. They aggregate insurance products on offering, compare them, provide insights, bring insurers to consumers and match target consumer markets to insurers and their products. By bringing all the products on offering together and all common products on price comparison web-platforms (e.g. PolicyBazaar), they are now able to increase the opportunity to choose from a larger number of offerings. Simultaneously, a larger number of users of aggregators has resulted in more bargaining power to obtain information about products, prices, terms, and conditions from insurance companies. Therefore, by leveraging the economies of scale, setting competitive prices for customers to avail products at.

##### *G. Changing structure of Insurance Company:*

Today, it is seen that there are various aggregators who advertise, sell, and compare insurance. Core insurers are adopting ERP Systems to run and handle all major business functions. However, the use of CRMs to completely replace the working of three key insurance functions policy generations, billing and claims handling is still budding.

While there are trade-offs to be made between customization and standardization and appropriate adoption of both leads to the development of a system which replicates existing functions seamless to make them more efficient via automation. The scope to develop integrations to adopt multiple OOTB software is unprecedented as it allows customer migration and avoids vendor lock-in.

From a strictly technical perspective, if a company wished to onboard new technology, they would only have a choice from a variety of off-the-shelf solutions or completely custom-built software as opposed to a customized option. These products

would not be able to keep up with the rapidly changing products and services—which is inherent to the industry.

Therefore, the problem we wish to solve is to customize, develop and tailor OOTB solutions to meet the evolving needs of the client, which is affordable and easy to maintain.

Any CRM that is developed for a company may either be OOTB or completely custom-made. However, the issue that limits this adoption is vendor lock-in. The market boasts many MIS with lots of capabilities. However, to this day, they remain incompatible with each other. In either case, once a decision is made on the kind of MIS an Insurance Company decided to adopt, they are locked into that decision. Moving out of that decision or expanding that decision beyond horizons previously not imagined is extremely costly and infeasible. Given below is a block diagram for the digitized insurance company.

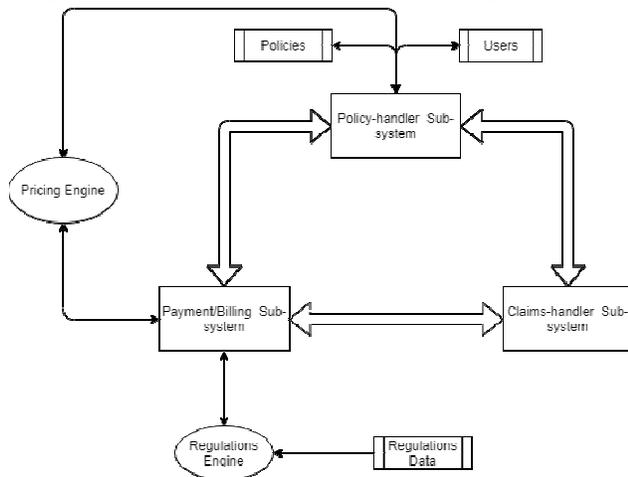


Fig. 1 Block Diagram.

## V. CHALLENGES OF UPCOMING TECHNOLOGY

While the technology boom is taking over the insurance industry by storm, there are various issues and challenges those insurers are facing today. For instance, while developing and insurance suite software, insurance companies have existing legacy systems that are often not integrated with each other leading to inflexibility, inconsistency,

and duplication. This renders legacy systems unsustainable and unscalable. From the management standpoint, the C-Suite for many insurance companies, view the technology boom as a threat for their business and view technology as a disruptor of the industry instead of an enabler.

From a strictly technical perspective, if a company wished to onboard new technology, they would only have a choice from a variety of off-the-shelf solutions or completely custom-built software as opposed to a customized option. These products would not be able to keep up with the rapidly changing products and services—which is inherent to the industry.

The design, implementation, and industry scale deployment of any technology for a new business domain is a challenging and complicated process. There are unique and challenging needs of each domain to be met, and the technological solutions employed must be sophisticated to handle the worldwide deployment. In our case, the growing Insurance sector needs whole process automation. Core insurers are adopting ERP systems to run and handle all major business functions. Technology is being adopted to completely replace the working of key insurance functions policy generations, billing, pricing of risks and premiums, and claims handling. We see that the emergence of technology is not without its difficulties and challenges. For example, Legacy Systems which operate independently suffer from problems arising from their unsustainable and unscalable infrastructure. These are inflexibility, inconsistency, and duplication. However, they are the majority of systems that insurance companies employ today for managing the entire insurance suite. Migrating from this to traditional software is a massive challenge for the insurance companies as well.

## VI. CONCLUSION

Given the lack of literature detailing the impact and the intricate interactions of new technology with the insurance industry, in this paper, we strive to provide an overview on the ramifications of technology. We further go on to describe the

evolutions that are inherent to the industry. This provides insights into the properties of the industry. This also provides insights into the way technology may be leveraged to impact the industry. We also introduce the evolutions that are underway, owing to the advent of technological transformations the industries are undergoing today.

There are several limitations within which this information is to be interpreted. First, this information is aimed to provide an overview and introduction to the issue. Owing to the sheer diversity of the insurance companies and other actors involved in the industry, the technology available and the ways in which technology can be leveraged to evolve business workflows, each specific use-case must be independently studied as a separate research initiative.

In fact, this paper may be used as primer for such future research and development. More specifically, there are three key areas of future work. First, in developing a more comprehensive study of the impact of technology in various aspects of the domain, and a more exhaustive study within a geographical context. The reason for this is that insurance industries vary widely across countries—and so does the means of leveraging technology. The second area of future work is the field of emerging technology. This impactful area of future work requires a constant vigil on each emerging piece of technology. Any new technology, such as

the advent of the Internet may drastically transform the insurance industry (like many other industries).

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