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Use of Artificial Intelligence for Customer Retention & Satisfaction in the Insurance Industry

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Executive Summary

Ask any organization and most of them will stress that exceptional customer experience is the top priority for any business in any industry domain. While attracting new customers is important, customer retention and satisfaction hold a higher place in any industry, be it online, retail, travel, tourism, or as simple as buying an insurance policy.

The use of chatbots is drastically reducing customer wait times and allowing quicker resolution of their queries, thus improving customer loyalty. This emerging use of artificial intelligence (AI) has created drastic changes in marketing strategies across all businesses. The AI trends that would benefit businesses in improving customer retention and satisfaction in the insurance industry would be the following:

- Damage inspection with AI: automating claims processing for insurance using deep machine learning
- Real-time interaction using Al-powered chatbots for procuring new business and faster claim processing

In this COVID-19 phase, businesses are enfolding new technology tools to provide a seamless experience for their customers. It has been found that 60% of online customers do not like to wait for more than 60 seconds for a response to their query. If they are made to wait this long, it can lead to a loss of 400% of prospective customers.

How can we prevent this from happening? The answer lies in this whitepaper.

What is Artificial Intelligence?

To begin, let's define what AI means in the context of this white paper for insurance. Back in the 1950s, the fathers of the field, Minsky and McCarthy, described artificial intelligence as any task performed by a program or a machine that, if a human carried out the same activity, we would say the human had to apply intelligence to accomplish the task. In other words, artificial intelligence traditionally refers to an artificial creation of human-like intelligence that can learn, reason, plan, perceive or process natural language.

At a very high level, artificial intelligence can be split into two basic types:

- Narrow Al
- General Al

Narrow AI, which we interact with today, is designed to perform specific tasks within a domain. With its focus on performing particular tasks, Narrow AI has experienced numerous breakthroughs in the last decade with significant societal benefits. Some of the examples of Narrow AI are Google Search; image recognition software; Siri, Alexa, and other personal assistants; self-driving cars; etc. Unlike humans, these systems can only learn or be taught how to do specific tasks, which is why they are called Narrow AI.

Much of Narrow AI is powered by machine learning and deep learning. Machine learning is when a computer system is fed large amounts of data, which it then uses to learn how to carry out a specific task, such as understanding speech or captioning a photograph.

General AI (sometimes referred to as "Strong AI") is the kind of artificial intelligence we see in the movies, like the robots from Westworld or "Data" from Star Trek: The Next Generation. General AI is a machine with general intelligence, and much like a human being, it can apply that intelligence to solve any problem.



Importance of Data

Over the last few years, AI has exploded as a new digital era. The advent of the Internet of Things, big data, and analytics means there are billions of devices and machines generating structured and unstructured data.

At the heart of artificial intelligence lies data. With the availability of good quality data in the insurance workflow and machine learning helping to define algorithms and business processes, insurers can be in a better position to know when and how to communicate with the consumer.

The industry can begin to gain a better insight into individual consumer habits and their needs according to life stages (such as home, location, family, and social activities), as well as preferences.

Challenges Faced by the Insurance Sector

The insurance sector is facing dynamic challenges, such as changing customer needs, low retention rates, and disruption from InsurTech companies. Risks such as distracted driving in the auto industry and the impact of extreme weather events have increased the number of claims filed and the number of interactions customers have with their insurers.

Decreased satisfaction with those interactions and the cumbersome process of filing a claim are leading many people to change providers frequently. These short-term decisions born from frustration and dissatisfaction are hurting an industry that would greatly benefit from a long-term relationship with these customers.

Addressing these challenges involves creating solutions that drive high-quality customer experiences, increase loyalty, and generate new revenue while simultaneously reducing costs. An emerging vision for the future of insurance is one where customers and the customer experience come first.

The Impact of AI in Insurance

Artificial Intelligence is driving significant change in business, and insurance is no exception. All has the potential to transform the business model of an insurer by:

- Improving the speed at which tasks can be carried out with Robotic Process Automation (RPA), which relieves operational teams of simple, repeatable tasks and allows more complex actions to be informed or carried out by trained AI models
- **Optimizing the service or "next best action"** that insurers can provide to customers, brokers, and other external third parties based on their relationships, preferences, and past interactions
- **Providing new insights that can be used to adjust** and eventually optimize the way insurers price and distribute their products and services and manage risk
- Fundamentally changing how they operate both day-to-day and in the long term

Here there will be opportunities to move from the traditional coding of complex processes to an iterative use of trained AI models against large (enterprise) datasets.

This type of transformation has been made viable by the recent explosion of data in the world economy and notable advancements in deep learning techniques (neural networks) and supporting architectural frameworks.

The resulting products and services from tech leaders have since raised expectations amongst an insurer's customers and adviser base, who now may expect a service or interaction with their insurer to be just as fast, smart, and convenient, however infrequent this may be.

The next section elaborates on how this can be applied in practice, using selected use cases across an insurer's value chain.



In this section, we have taken some ideas around use cases for AI in insurance and offer a further explanation on how they could be implemented. It's interesting that all these use cases augment existing capabilities rather than replace human flow, even though many are associated with automation. They all deliver benefits like better decisions from data, increased decision speed, and a better customer experience.

Automatic Vehicle Damage Inspection

Al could be used to automate and accelerate claims. The way a customer can interact with an insurance company can be improved with the new Al capabilities. One of them is infusing deep machine learning (ML) with Al image categorization.

Every insurance company has settled claims in the past. When a claim is processed related to a damaged car, inspections are generally done by the surveyor who assesses the damage, takes pictures for claim processing, and arrives at an amount for claim settlement.

These historical data and pictures that insurance companies collect related to past claims can be infused with deep ML that can automatically detect scratches, dents, rust, and broken components. It can also detect which part of the vehicle is damaged and to what severity. The vehicle can be automatically inspected (either by the customer or a surveyor through an app) using images or video feeds that create a 360° overview. After the inspection, a report can be generated with a list of damages and an estimated cost to repair.

Working in this way, an insurance company can reduce the operating cost involved and settle the claim within 24 hours (instead of the typical one week), which will lead to better customer experiences.



The illustrations below show how AI-based image processing can be achieved.



Yellow marks depict the damaged sections of the car, along with a description.



Drone Assessment for a New Homeowner's Policy & Claim Settlement

Drone assessment can be beneficial in the assessment process for a new homeowner's policy and can also be used in a claim inspection. As we know, the assessment of the roof of a home or a property is dangerous and time-consuming work. For example, taking measurements by hand or estimating damage manually has always been a part of doing this kind of business.

All of this can be handled by Al-powered image processing. Assessment can be achieved by using aerial drone imagery combined with a growing number of other data attributes like historical weather to determine the characteristics and condition of a roof and the risk of future insurance claims.

Computer vision technology can automatically detect roof shape, material, damage, ponding, and rust. This can be a huge benefit for insurers because they can find the right coverage and pricing for their customers.

Al-based technology will help drive customer satisfaction because they will have the opportunity to choose tailor-made policies.



Image 1 - Identifies the damages on the roof using a drone & AI



Image 2 - Measurements of the roof surface area using a drone & AI for better pricing

Use of Chatbot in Customer Interactions, Leading to Sales

A chatbot has the ability to engage customers through various platforms such as a desktop computer or a smartphone. Customers can ask for information in their preferred language and get answers without delays or errors. This can help a business acquire more customers and retain existing ones.

Insurance businesses need to carefully pitch their products in a customized way. Al chatbots can collect information directly from customers in accordance with the insurance product they are looking for. In the illustration below, our chatbot "Mars" is trying to cater to the needs of a customer who wants to buy travel insurance for a trip.



The information collected by Mars will then be a key decision-making point in providing a quote to the customer with a premium amount, which later on will be converted to a policy if the customer accepts it.

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Conclusion

Innovative technology opens a wealth of opportunities to transform customer experience and relationship management. Most insurance companies have the necessary data to create fully functioning chatbots or machine learning solutions, but they need to put that data into action.

Using technology to transform the full customer experience is essential in the current marketplace. To attract, retain, and best serve its customers, the insurance industry needs to implement agile tools and processes that put the customer first.

As we know, deep-learning-based systems are self-learning in nature, and with time, the accuracy of prediction will only get better, delivering more value and improved benefits as a result. Now is the time to undertake a digital transformation. Insurance companies must approach this innovation opportunity in an agile way, driving a differentiated business strategy while experimenting and leveraging these disruptive technologies: start small, iterate, and prepare to support tomorrow's customers.

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