

Artificial Intelligence in Insurance

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Abstract

The introduction of artificial intelligence in insurance has made monumental advances in the world and continues to change as more forms of technology appear. The purpose of this paper is to inform others about the intricacies of artificial intelligence in insurance while simultaneously providing insight into what is to come with ever-changing advances in technology in everyday use. This paper will be a literature review broken down into four parts. The first section will give information about the purpose of artificial intelligence in insurance. In the second section, we will look at addressing the benefits as well as the problematic impact of artificial intelligence with the ever-changing innovations in technology that impact the insurance world. In the third section, we will address possible issues that may arise in the future from the advancements of artificial intelligence. This section is used to answer the question of how the changing customer behavior, digital disruption, regulatory pressures, and competitive marketplace are forcing insurers to refine their current strategy and operating models. Finally, in the last part we look at how these technological advances are solving problems in the industry, such as cyber-security concerns and fraud.

Keywords: artificial intelligence, insurance, technology, fraud detection, automation

The Origins of Artificial Intelligence in Insurance**The History of Artificial Intelligence**

Artificial intelligence (AI) was a term first coined at Dartmouth College in 1956 at the Summer Research Project on Artificial Intelligence. Cognitive scientist Marvin Minsky was optimistic about technology's future. Two of the members that attended this research project, Herbert Simon and Allen Newell, proposed the idea that “human minds and modern digital computers were ‘species of the same genus’” (Dick, 2019). The human mind takes in information, processes it, and determines how to solve problems, formulate judgements, and make decisions. Simon and Newell proposed that digital computers had the capabilities to do these things as well. From 1974-1980, government funding in the field dropped, a period known as "AI winter", when several criticized progress in the field. However, this was revived in the 1980s when the British government started funding the technology again because they were worried about competition with the Japanese. In 1997, IBM's Deep Blue began the first computer to beat a Russian Grandmaster, making history (Sterling 2016).

In the modern world, we are surrounded by AI. From assistants, such as Amazon's Alexa predicting what we may like to buy next, to self-driving cars, there are many examples of the implementation of artificial intelligence in everyday life. The development and proliferation of machine learning began to attract interest in its commercial applications by financial service companies, including the insurance industry. The first application of machine learning in insurance was in the underwriting process. Since machine modeling is specifically designed to extract valuable information and make predictions, this technology crept into the insurance world with the introduction of demand modeling for insurance carriers. At the start of the new century, AI applications for property and casualty insurance carriers began to really take off.

Literature Review***Purpose of Artificial Intelligence***

Artificial intelligence now permeates this ever-changing world, affecting every industry. It has become increasingly apparent that AI, blockchain, and machine learning have the power to transform the future of insurance and the way people work and live (Rivelli, 2021). These new technologies are already being applied throughout the insurance industry. Some insurance companies are using AI and machine learning to automate parts of the claims handling process and improve customer service. Blockchain is being used to secure transactions, detect insurance fraud, prevent risk, and even potentially decrease the cost of a policy. As these technologies become more widespread, the insurance industry may potentially become more efficient, accurate, and secure. As AI and other digital solutions continue to be implemented, there are several benefits that may be experienced by all insurance companies, from auto to homeowners to life insurance.

Artificial intelligence is bringing insurance industries into the future. There are dozens of processes that could be greatly improved using AI, with the potential for more insurance providers to implement the technology across their businesses over time. Some of the applications that can benefit most from AI include pricing, claims handling, and fraud detection.

“Most people would agree that the insurance industry could use a boost, and that is exactly the goal with implementing AI” (Rivelli, 2021). In the not-so-distant future, technology could dramatically impact both insurance companies and people with insurance.

When it comes to assessing risk historically, insurance underwriters have relied on applicant-provided information to assess clients’ insurance risk. The trouble, of course, is that applicants could be dishonest or make mistakes, rendering these risk assessments inaccurate.

Machine learning, specifically natural language understanding (NLU), enables insurers to pore through more abstract sources of information, such as Yelp reviews, social media postings, and SEC filings, pulling pertinent information together to better assess the insurance carrier's potential risk. "Our ability to actually look at these textual data sources and pull out highly relevant information is greatly increased [with NLU]," said Andy Breen, senior vice president of digital at Argo Group, "We're making use of these information sources that weren't available or easily disseminated before" (2021).

More accurate risk assessments mean more appropriate premiums. In an industry where the largest difference between insurance companies is not their products but their prices, a more individualized exposure model could make a big difference, according to Sofya Pogreb, COO at Next Insurance. "Traditionally, the industry has offered 'lowest common denominator' products: a standard liability policy," Pogreb said, "What you end up with is a very undifferentiated product, where a bakery and a laundromat have the same policy. That's not the right way to go for the customer. Being able to consume more data automatically, we will see more customization, and customers will benefit by paying for coverage they truly need" (YEAR).

"The distribution chain in the insurance industry is winding and complex. A series of middlemen examine information between the insured and the carrier, leading to a lot of human errors and manual work that slows the process. However, AI is starting to fix that problem" (Breen 2020). Algorithms can reduce the time and number of errors as information is passed from one source to the next. By logging in to a portal and uploading a PDF, the insurer reduces the amount of data entry and reentry and increases the accuracy, Breen said, "People get tired and bored and make mistakes, but algorithms don't" (YEAR). For Pogreb, bridging the gap between the insured and the insurer is as important as reducing error. With better data, both

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customers and insurers benefit, she said, because insurers can develop better products based on more accurate assessments, and customers will pay for exactly what they need:

With machine learning, I think we'll be able to do a much better job giving the consumer that advice automatically . . . Based on what you tell me about your business and what I know about similar ones, I can say I believe this is the right combination of coverage for you. So, it's putting the onus neither on the agent nor on the customer who frankly doesn't have the experience or knowledge but letting the data provide the advice (Pogreb, YEAR)

With the emergence of A.I. and machine learning, insurers now have a whole new arsenal of weapons at their disposal to combat fraud. The results are very promising. Most early applications can be found in personal insurance lines, which operate in mass markets and therefore have large datasets readily available to feed the machines. However, commercial insurances are developing new use cases as well. As an example, HDI Global SE is increasing its activities in the field of AI. "Our main goal is to help clients detect fraudulent and criminal activities," explains Thomas Staubach, HDI expert for fraud and crime prevention, "This can also help to accelerate the claims management process and the collection of damages" (YEAR). Uncovering insurance fraud is a resource-intensive, arduous and costly process. It can be simplified through data analysis and the comprehensive cross-referencing of data points across internal databases and external ones. This is practically impossible to tackle without advanced technology.

Take the case of organized 'cash for crash' schemes. A few years ago, a group of fraudsters staged more than 120 vehicles and claimed over one million dollars from insurers (Daily Mail, 2011). Besides using cheap cars to crash into expensive BMWs, Jaguars, and the

like, the group also set up “bogus accident management companies,” charged for “non-existent towing fees and storage,” and group members were often involved in several parts of the scheme. It takes little to imagine how difficult it is to uncover this type of far-reaching and complex activity. However, if you have an automated system in place that can cross-reference individuals and companies through internal and external fraud records, news sites, credit, and law enforcement databases, and sift through claims histories in seconds, pattern recognition abilities and efficiency dramatically.

Implications Surrounding Artificial Intelligence

Artificial Intelligence has developed exponentially in perception, including voice recognition, cognition, and problem-solving within the past decade. In the insurance agency, AI has been developed to “enhance large data analytics, evolve algorithms with transactional data faster, and combine data in new ways to discover better underwriting risks and appropriately price the risk of various insured’s based on the true value of their business risks” (Kelley et al., 2021). In addition to the positive transformations of the insurance sector, there have also been negative implications as a result of artificial intelligence.

New technology is not cheap, and “advancements in artificial intelligence, blockchain, cloud technology, and Internet of Things (IoT) require high investment in the short term” (Kahyaoğlu, 2022, p. 226). However, in the longer term, artificial intelligence is expected to produce large benefits to cost and efficiency. Its intended effect is also to bring about new insurance products, services, and business models in the longer term.

Technological change is very rapid, so those companies who are not pursuing artificial intelligence and other technological innovations will likely fall behind. Because new technology is so expensive, and in most cases is a financial loss in the short run, wealthier companies who

take advantage of investing in artificial intelligence will likely set themselves apart from their competitors. The more technology a company has available, the more potential there is for success. Artificial intelligence offers companies a chance to get ahead in their industry.

With the new advancements of AI, the insurance agency has transformed from a “detect and repair” mindset, to a “predict and prevent” process. Personal Lines insurance has recently started using devices, such as Ring Doorbells, that can help to prevent robberies and break-ins. Advancements such as these will drastically change the insurance industry by lowering premiums as well as reducing the “severity and frequency of claims, the risk to underwrite policies and premiums” (Kelley et al., 2018).

One emerging need in the insurance industry is to be able to handle large amounts of data quickly and effectively. It is of great importance to “construct artificial intelligence models that can analyze this data accurately and predict it accurately for months and years to come” (Kahyaoğlu, 2022, p. 229). Intelligence like this will greatly assist actuaries by allowing for easier and more accurate predictions.

As stated previously, another benefit artificial intelligence brings to the insurance industry is that it aids in preventing fraud by analyzing data and documents. AI can analyze photos to help calculate the cost of damages, which in turn prevents human error and eliminates the need for the service of an expert to calculate damage costs. While this does bring up the problem of artificial intelligence replacing tasks that were originally done by human specialists, it saves time and allows companies to avoid spending money to hire a third party. AI can also be trained to recognize suspicious patterns and trends that may allow insurers to catch fraudulent behavior before it is successful.

On the topic of analyzing documents, artificial intelligence can assess more than photographs. It is becoming more apparent that “the increasing availability of detailed risk-relevant information about policyholders through historical and real-time data sets will change traditional actuarial risk assessment and pricing models” (Eling et Al, 2021). AI has a role in this change by “the granular analysis of texts, images, and videos from internal and external databases, as well as from connected devices (I.e., telematics devices and health wearables), allows insurance companies to more accurately estimate and predict loss probabilities and loss amounts on an individual level” (Eling et Al, 2021). AI has many functions in any industry but can be better utilized in the insurance industry for its virtues of accuracy and personalization and its help in aiding risk management.

Another implication of artificial intelligence is the benefit it has on the customer. Artificial intelligence allows for a more individualized customer experience. Many companies have virtual assistants on their websites which allow for easy user accessibility. These virtual assistants can help direct FAQs, assist in payments and scheduling, check balances, and make transactions. A lot of AI programs can “learn” - that is, have algorithms that change outcomes based on past experiences. So, if a chatbot finds positive results after responding with certain phrases, the chatbot is more likely to use those phrases in the future when it assists clients and customers.

This ability to “learn” has much greater benefits than to improve customer experience. AI analytics allow users to quickly analyze and interpret customer trends and behaviors. This aids in companies' ability to “predict risks, improve pricing accuracy, and streamline the entire underwriting process” (Gabriela, 2021). Artificial intelligence can gather large amounts of data

on customers that aid in these processes and allow personalization to meet the needs of each customer.

Insurance firms can better follow the laws and regulations of the industry with artificial intelligence. AI can assist in ensuring these regulations are met. However, good data management is a crucial prerequisite for artificial intelligence as AI frequently operates with sensitive personal information. Data must be handled with proper discretion and follow privacy and security laws. If it is handled properly, then AI can be used for great things like verifying the authenticity and accuracy of documents. This saves time and helps prevent errors and fraud. If trends are found within a company, AI can make recommendations to change internal processes, allowing for workers to edit their procedures and make program changes that make the company more effective.

Artificial intelligence brings a lot of benefits but also some risks. One of the biggest negative social implications that may arise is the threat of unemployment. Although it hasn't happened yet, there are many speculations around what AI may disrupt within the workforce. Entry-level positions with easier job tasks may be replaced gradually by the introduction of AI within several fields. If these positions diminish, the unemployment rate will rise. This will also create a larger wage gap between the social classes. Many of the jobs that AI can replace are lower positions and require less knowledge and experience, whereas the higher positions have tasks that are too specialized for AI to replace.

Many of the risks of artificial intelligence are known as cyber risks. These risks “manifest themselves as a program error or malicious cyber-attacks that may occur in artificial intelligence software and cause a negative deviation in the decisions to be taken” (Kahyaoğlu, 2022, p. 235). Thankfully, cyber-security can combat this threat, although it is an even greater investment.

AI has the capability to learn and adapt, which can cause some responsibility issues. The algorithms in artificial intelligence learn on their own and adapt based on data, but what if the training data the AI is learning from is skewed or biased? Algorithmic bias is present in all algorithms, from insufficient training data to biases that result from repeating successful events even if there are correlations in data that are completely unrelated to the initial function of the AI. This is to say that AI can bring a lack of authority, and so can be questioned regarding decision making, security, and control. This does not necessarily make AI a bad tool but shows why the importance of “a transparent and anti-discriminatory application of artificial intelligence is crucial to gain the willingness of insureds to entrust their sensitive data to an insurer” (Eling et al, 2021). Ultimately, efficient and revolutionary technology would be useless if it were to cause a bunch of legal trouble.

A present weakness of AI is its lack of transparency. Artificial intelligence can make very large decisions in split seconds. This removes the possibility of any human intervention, and in many cases can prevent employees from understanding the decision-making process. This can lead to difficulties in documentation and tracking. It can also prevent employees from identifying mistakes made by the AI. Though mistakes are uncommon, they are still able to occur and are difficult to find because of AI’s quick decision-making and potential lack of transparency.

There are many known implications as a result of the improving artificial intelligence technology. Some of these implications are good such as better security, efficiency, user-friendliness, error and fraud detection, and accuracy. The benefits of artificial intelligence are great, and many companies are trying to incorporate AI as much as they can. However, there are some downsides to AI such as lack of transparency, algorithmic biases, unemployment, and

cyber risks. However, as many of these kinks get worked out of artificial intelligence, we should see more efficiency and higher quality of work in the insurance industry.

Future Developments of Artificial Intelligence

While AI in its current form is far more thorough and efficient than manual methods used previously, there are always improvements that can be made to any system. As time goes on, the coming years will undoubtedly bring further progress in the development of this technology and its applications to the world at large. The implementation of these advancements in the insurance realm will continue to revolutionize the industry as we know it while building on the frameworks currently in place.

Artificial intelligence has begun to rapidly advance its knowledge through the use of deep learning. Deep learning is a form of learning that “is a collection of techniques for the automatic discovery of meaningful features within datasets, through the use of neural networks designed in a hierarchal fashion” (Richman, 2021). This form of leaning is currently used for image, voice, and unstructured text processing; however, it has the potential to develop much farther. The increase in connected devices, emergence of open-source protocols, and the advancements in cognitive technologies will all play a role in how the insurance industry will be shaped in the future.

With the growing number of connected devices within our society, carriers will soon develop a deeper understanding of their clients. Today, smartphones, cars, and fitness trackers are used to collect data on clients and their activities in their everyday lives. The rapid advancements in technology could further the number of devices that are being used to collect personal data and thus create more personalized pricing (Balasubramanian, 2021).

There will also be development in the open-source data ecosystems in the future. These open-source protocols will help to ensure that data can be collected and shared across different industries. This has recently been helpful to individuals and insurance companies throughout the COVID-19 pandemic. Many smartphone devices were able to notify their users if they had come in contact with somebody that was diagnosed with COVID-19 recently, thus allowing early precautions to be taken by the user.

With the advancements in cognitive technologies with AI, machine learning techniques will develop to maximize the outcomes of automated and personalized product offerings, behavioral product pricing, risk assessment, fraud detection, and business process automation. Automated processes will help to “analyze large portions of data and gain a more specific perspective of the client’s activities” (Smietanka et al., 2021). Establishing narrower guidelines will help these processes create more personalized products and solutions. Behavioral product pricing will become more accurate with the growing popularity of wearable sensors and smart watches. These devices help to provide more accurate information about a client’s risk and will change premiums based on their health and driving behaviors. With deep learning emerging in AI technology, additional predictions can be delivered to assist with risk assessment. “Insurance companies can construct targeted predictions on coverage changes, and possible losses for policies and manage risks more effectively using different sources of data” (Smietanka et al., 2021). The power of AI will enhance fraud detection by analyzing data from many sources. This will help to “reduce human errors and identify unobserved fraud patterns by identifying exceptions” (Smietanka et al., 2021). AI will also help with tedious tasks that arise throughout the entire insurance industry by analyzing complex documents and relaying the important information to the provider, rather than humans having to analyze these documents themselves.

There are also some future advancements that could arise with the increasing popularity of self-driving cars. Although there are some concerns surrounding it, such as machine malfunction, the result of self-driving cars could lead to an improvement in everyday life. Today, “nearly 94% of serious car accidents are caused by human error” (Grover, 2022). If self-driving cars become the main form of vehicle that is used on the roadways, this statistic could potentially be minimized astronomically. Utilizing self-driving cars could reduce the number of drunk-driving accidents, reckless driving accidents, and distracted driving accidents. “Self-driving vehicle technology will help reduce the incidents of drunk driving (29% of all 2018 fatalities) and distracted driving (14% of all 2018 fatalities)” (Szymkowski, 2020). Along with these types of distracted driving, self-driving cars can also eliminate accidents that are a result of fatigue, human error, and speeding. Within decades, these AI systems could develop detection software that is all based on one program. Such coordination could, for example, allow detection of any vehicles malfunctioning in order to caution other, similar vehicles to avoid the locations surrounding it. This could greatly reduce the cost of car insurance, as well as life insurance, that are calculated based on driving records.

With these advancements in artificial intelligence, the insurance industry has the potential to be altered dramatically. From reducing car insurance and life insurance risk, to making the job of actuaries and insurance agents easier, AI will change the world in the future.

Problem Solving through Technological Advances

Given the wide array of capabilities possessed by artificial intelligence, there are many facets of business that are improved through the implementation of AI systems. These advantages are enjoyed not only by the insurance industry, but any others which take in massive amounts of data, regularly interact with (human) user inputs, or require secure and thorough

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digital record-keeping. Here is a deeper dive into a few of the major benefits derived from the use of AI in businesses such as insurance companies.

Reduced Cost of Analyzing Large Data Sets. The most obvious advantage that computers have over humans is their processing power and speed. Not only can machines handle huge amounts of data, but they can analyze such vast data sets far faster than people can take care of much smaller quantities. Instead of paying lots of people to comb through information – which, besides being tedious, is very time-consuming – companies can instead create a system to organize and filter the data, then run the program repeatedly for as long as it matches up with their other systems. In an industry such as insurance, which is constantly taking in data on many different subjects (clients) from many different sources (habit trackers, claim submissions, etc.), there is simply too much data for any human team to manage. However, with the help of technology, all this information can be taken in, organized, and applied. And that’s all through repeated processes of a computer strictly executing instructions.

When AI and machine or deep learning is added into the mix, the possibilities for technological assistance increase even further. The system is then not only doing what it was explicitly told, but also what the humans did not understand to tell it. For example, car insurance experts are likely aware of crime or theft rates in a particular area and can create a program that applies a particular rate effect based on those statistics (i.e. higher premium rates for people who live in areas where there are higher rates of car theft). However, analysts may not always be aware of when environmental factors change those statistics (ex: a new police station being built in a nearby neighborhood may decrease the crime rates for the area) until they are updated in some sort of city- or county-published report, which may not be for several months. AI can fill in those gaps by detecting the pattern of clients in the area making less claims or taking in data

sources such as news stories about the new station in order to update the insurance company's assessment of the area. This is a rather simple example, but automated analysis can be applied in a variety of complex situations to comb through data and recognize the patterns that human analysts may not have even thought to check for.

More up to date information and analysis can benefit both the clients and the insurer. In the example above, clients could benefit from a drop in premiums due to having a lower risk of having their car stolen or broken into, provided the lower crime rates persist. If the situation was reversed (i.e. crime rates for an area increased), then the insurance company could investigate and decide whether a raise in premiums would be appropriate. An automated pricing system means that these changes in rates could then immediately be applied to any new clients who live in the affected area.

Reduced Human Error and Fraud. Another advantage for companies of using computers rather than human employees for repetitive tasks of data manipulation is the elimination of misinputs during data transfers. A person typing things in could easily make mistakes – such as swapping numbers, adding an extra digit, etc. – especially when given a monotonous job. A computer would never make such mistakes, regardless of how many times it performs the same function, provided it is given the proper programming. This direct communication of automated systems also takes out the risk of maliciously incorrect inputs – for example, someone stealing from their workplace and covering their tracks in the records. Automated systems still require human implementation and maintenance, but with far fewer hours of labor and far less direct access to the data.

While employees are one group that would interact with a company's data, insurance companies often rely on clients' help to collect all of the necessary personal information when it

comes to the underwriting process. However, a client who is not familiar with the data entry system may submit their information incorrectly or provide incomplete information, which delays the processing of their application. Getting the information from already verified sources (ex: bank statements) through a secure digital transfer eliminates the risk of user error on the part of the client. This is a similar principle as when an insurance company receives billing information directly from a doctor's office or repair shop – cutting the client out of the process reduces the communication time and risk of altered information.

Client-side characters may also attempt to perpetrate acts of fraud. From elaborately staged crashes with fake towing charges to making claims on procedures that never happened, there are many ways in which dishonest individuals try to take advantage of the systems insurance companies have in place. When they take more than they are truly owed, their actions not only cost the insurance companies money, but also the company's real clients, who then must pay more in order to shoulder the cost of the fraudulent claims. Therefore, more effective fraud detection benefits everyone involved in the insurance process.

The increased amount and analysis of personal data that helps make the underwriting more individualized and accurate can be used to combat fraud. Machine learning techniques can create behavioral profiles that can then be used to detect anomalies within an individual's own actions or in comparing their actions to those of similar individuals. From supervised learning techniques, which analyze based on previously known fraudulent activity, to unsupervised techniques, which find patterns in unlabeled data sets, to semi-supervised learning, which compares labelled and unlabeled data, there are a variety of tools which machine learning has at its disposal to create a predictive model (Kapadiya et al., 2022). Detected anomalies can then be studied more closely by an analyst, who no longer has to spend their time endlessly processing

repetitive data and can instead devote their time, energy, and resources to more specialized, nuanced tasks.

Improved Security of Records. Beyond fraud, outsiders may also attempt to compromise a system by other means. For an automated system, a major threat is hacking. This could mean altering data to manufacture a particular outcome or deleting the data entirely to throw the system into chaos. In addition to utilizing all around cyber-security measures, such as encryption and passcode protection, innovative techniques must be applied to the storage systems housing this multitude of amassed data to combat these computerized threats and protect the integrity of client information.

Blockchain is a digital ledger of transactions that allows peer-to-peer collaboration on a decentralized network (Kapadiya et al., 2022). What that means is that all of the parties involved are constantly communicating, cross-referencing, and updating each other without the requirement of a central hub controlling everything. The weakness of a centralized framework is that it has one main fail point that will cause total corruption or collapse (depending on the nature of the attacks) of the process. Decentralized systems, such as blockchain, instead save copies on each user access which can then be retrieved.

Having an abundance of copies to check against each other means that even if one copy is altered, the rest will override the change and prevent the overall copy from being tainted. In fact, over half of the copies would have to be changed for any alteration to be implemented. Hence, information cannot be modified once added to the blockchain, making it immutable. The condition of immutability ensures that the data, once verified and entered into the blockchain system, will remain accurate despite any malicious attempts at altering, be it by an authorized user or external hacker. The replication of the data across all devices attached to the network also

provides an environment of transparency between industry partners, as all approved parties have equal access to the data, rather than a single entity controlling a centralized server.

While there are certainly more benefits and implications of artificial intelligence, machine learning, and other automated techniques than detailed here, these are the most prevalent applications for businesses such as those in the insurance industry, which handle large amounts of data and have a high risk of fraud to contend with. Computers have a far greater capacity for data processing and analysis than humans could ever hope to achieve, and we are just scratching the surface of their potential. Suffice it to say, advancements in AI help every person and company in today's digitally-dominated era and will continue to do so for the foreseeable future.

Increase Efficiency of Purchasing. With the development of AI, based on the databases, AI algorithms create risk profiles, resulting in less active participation by insurers and customers. This can greatly promote the efficiency of purchasing insurances, even within a few seconds. In fact, some car and home carriers have already started using instant quotes. However, as telematics and in-home Internet of Things devices become more prevalent and pricing algorithms mature, insurance companies are continuing to improve the ability to deliver instant quotes to a wider range of customers. Life insurers, for example, are currently limited to younger, healthy applicants with no medical conditions.

In addition, a blockchain-enabled smart contract authorizes payments from a customer's financial account instantly. At the same time, contract processing and payment verification are eliminated or simplified, reducing customer acquisition costs for insurers. Commercial insurance purchases are similarly accelerated as the combination of drones,

iot, and other available data provides enough information for AI-based cognitive models to proactively generate bindable offers.

“The role of insurance agents has changed dramatically by 2030. The number of agents is reduced substantially as active agents retire and remaining agents rely heavily on technology to increase productivity.” (Balasubramanian, 2021) The role of the agent changes to process facilitator and product educator. Future agents can sell virtually all types of insurance and add value by helping customers manage their insurance portfolios in experience, health, living, mobility, personal property and residence. Agents use intelligent personal assistants to optimize their tasks and AI-enabled bots to find potential deals for clients. These tools help agents support a larger customer base while making customer interactions shorter and more meaningful.

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