



THE IMPACT OF ARTIFICIAL INTELLIGENCE ON THE INSURANCE INDUSTRY AND RELATED LEGAL ISSUES

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Abstract

The Insurance sector is one of the growing fields where AI was used in insurance in 1980 when the underwriting process was first machine learning where skimming the value information from the person who is filling proposal form. AI in Insurance is a revolutionising business that boosts customer satisfaction in a speedy manner to clear the claim, and detection of any kind of illegal activities carried out by agent is avoided compared to human error and risk management is lesser as it provides quality information, in upcoming years the physical robots will replace manual work done by humans, and the open source data will be clubbed with cyber security mechanism another is advanced to cognitive technologies transforming into active insurance, the exponential growth of data from connected devices, which are expected to number one trillion by 2025. Carriers will be able to better understand customers to this data influx, which will lead to more individualised pricing and real-time service delivery. The other phase is Article 21 of India's constitution, which affects individuals' personal liberty and privacy of individuals. Still, the software technologies are installed which doesn't collect sensitive content and involve ethical risk. Importantly, it faces intellectual property infringement, which leads to the blurring of essentials of patentability regarding ownership, trade secrets and confidentiality due to the increasing growth of technologies and algorithms; an improved version to curb this lacuna is blockchain technology provides secure transactions, and there are many developed countries like the US, the UK and China where according to reports the global artificial intelligence (AI) in the insurance market size was estimated at USD 4.59 billion in 2022 and it is expected to be worth around USD 79.86 billion by 2032, growing at a CAGR of 33.06% from 2023 to 2032. The IRDAI's goal of "Insurance for All" by 2047 will soon come to pass! We must all take up the baton and start igniting conversations about

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insurance to begin raising awareness. The Insurance sector is transforming from insurance fraud - claims patterns, customer interaction and behaviour. This paper tries to analyse how AI mechanisms can be put forth in the insurance sector, where introducing the AI Act (“AIA”) to govern AI has significant implications and challenges for the insurance sector. This writing presents how AI is used for risk assessment in the insurance industry³

Keywords - Artificial Intelligence, Challenges, Privacy, Technology, Underwriting,

Introduction

The insurance company's role in adopting AI Technology has played an essential part in efficiency and personalisation across the critical domain of Artificial Intelligence. AI can play a significant role in helping to analyse the applicant data, identify the risk, and determine the essential and appropriate premiums for underwriting⁴. In recent years, AI-based chatbots have played a role in automating parts of the customer acquisition process for claims processing. Artificial Intelligence can play a critical role in expediting decisions by significantly analysing the elements of data claims, Documents and images to help detect fraud and assess the damages. The computer vision techniques can help in terms of vehicle damage from photos. The role of virtual assistants significantly highlights the standard Customer services to improve the responses over time. Artificial Intelligence has also played an essential role in the large volume of data to detect fraudulent claims through pattern recognition. It is also better to produce risk factors like natural disasters, which can help in guiding business decisions as the insurance industry is playing a leverage role of AI capabilities in terms of lowering the cost with the help of data analysis, improving the accuracy and providing a more effective and efficient form of the customised services. It is also crucial to analyse the importance of humans to oversight over the essentials to ensure ethics and fairness. The role of artificial Intelligence in the Insurance sector, from customer acquisition to claims processing and fraud detection, has evolved and played a crucial and dormant role. In the concepts of underwriting, the predictive analysis techniques are used in terms of better access to the risk factors for applicants based on large data sets; the artificial Intelligence can identify correlations in the data in terms of the likelihood of accidents in claims, which also played an essential role for enabling

³ Robotics and ALlaw society

⁴ “United States : Eversheds Sutherland Attorneys Publish Updated Insurance Regulation Answer Book with Practising Law Institute.” 2021. MENA Report, October.

insurance to price policies appropriately based on analysing the risk profile. The chat box has played a necessary element in Natural Language Processing, which can assess the customers through the crucial component of the application process by answering the questions and recommending a suitable policy option.⁵

Regarding analysing and settling the claims, the computer algorithm, linked to Artificial Intelligence, can explore the photos of the damaged vehicles or the property to estimate the repair costs. Such artificial intelligence damage assessment tools can help automate the procedure of the claims to produce and reduce the manual workload. In addition to this essential element, the machine learning algorithms can detect fraudulent claims by recognising the behaviour pattern. The AI power chat box is vital to customer claim assistance and status updates in customer services. The virtual agents are now available 24/7 to handle customer enquiries. It could be through chat or voice interfaces that can improve customer satisfaction. Additionally, artificial intelligence analytics can help in terms of customer data, helping the internet to understand the Purchase pattern better and personalise the offerings to the customer. Along with that, the recommendations system can also suggest the insurance product ad to the customers. On the other operational side, the insurance is applying AI predictive modelling for cash potential significant claims, which are also considered to be like major events like natural Disasters.⁶ This also provides for better and more effective planning and mitigation strategies. Artificial Intelligence can also help insurance in terms of streamlining compliance with the regulation through the element of document analysis, but how was this overall intelligent automation enabling cost reductions while also being creating a significant amount of customer satisfaction experience and how the human over side is essentially required to ensure that there is fairness and transparent in the element and power of artificial intelligence application in the industrial domain of insurance.

Benefits and Applications of AI in the Insurance Industry

Artificial Intelligence has transformed the Insurance sector by driving the most incredible wheel of efficiency, improving accuracy, and enhancing customer services. The significant gain

⁵ O'Brien, S. (2021, July 08). How artificial intelligence is changing the insurance industry. Business News Daily. Retrieved October 14, 2023, from <https://www.businessnewsdaily.com/10203-artificial-intelligence-insurance-industry.html>

⁶ Indatalabs. (2022, March 29). How AI is transforming the insurance industry. Indatalabs. Retrieved October 14, 2023, from <https://indatalabs.com/blog/ai-in-insurance>

of the artificial intelligence system is mainly about introducing the chat box, which can automate routine customer interactions and efficient handling of the claims processing as well as saving the valuable time and resources of the insurers.⁷ With the advanced pattern and this analytical recognition capability, artificial intelligence algorithms can dramatically improve the accuracy of risk assessment underwriting decisions and claims processing. This can lead to the more precise pricing of premiums and the settlement of the claims and costs. Additionally, artificial Intelligence through virtual assessments and the engineers of recommendation can allow the insurance to provide 24/7 support and personalised and suggest tailored products to meet the customer's efficient and successful needs. Artificial Intelligence can also basically compact the element of fraud by detecting the anomaly in claims activity early. However, through the overall understanding, artificial Intelligence has the capability and capacity to scale its AI solutions to unlock substantial cost Savings and productivity games for insurance while also strengthening the power element of customer satisfaction through faster services and individually customised offerings. With the progression happening in the domain of Artificial Intelligence and its benefits rising in the insurance industry, an essential element of transparency and fairness needs to be examined. Artificial Intelligence is reshaping the competitive landscape of the powerful insurance component by enabling precession efficiency and customer-centric business capabilities, contributing significantly to the insurance domain.

Limitations of Adopting AI in the Insurance Industry

Artificial intelligence innovation holds spectacular promises. Insurance seeking to implement these advanced Technologies can face many hurdles and struggles ranging from data bias to regulatory compliances. Artificial intelligence systems rely on large data sets, leading to the risk of bias and eroding fairness. The complex algorithm, such as Black Box, also lacks transparency, impacting the wheel of trust and adherence to street regulations around risk models and consumer privacy. The customers can also help a fantastic impersonal boss for a customer service star, and on the work side, artificial Intelligence can lead to a significant amount of challenges in eliminating jobs, and it requires the retraining of the existing employees.⁸ The Other critical element concerns humans in insurance decisions even as

⁷ IBM. (2022, March 1). The risks and limitations of AI in insurance. IBM THINK Blog. Retrieved October 14, 2023, from <https://www.ibm.com/blog/the-risks-and-limitations-of-ai-in-insurance/>

⁸ Finance Magnates. (2022, August 11). The Ethics of AI in Insurance: Balancing Efficiency and Fairness. Finance Magnates Financial and Business News. Retrieved October 14, 2023, from

algorithms become more capable. The final major challenge is that accumulating the Humungous amount of customer data can lead to cyber-attacks and data security. While artificial Intelligence can enable in terms of transmitting gain in the element of efficiency and personalisation, the responsibility and implementation can lead towards the critical challenges of priority demanding careful ethical questions.

Legal and Ethical Risks of AI in Insurance

Adopting the artificial intelligence system across the insurance domain, like underwriting customer services and claims processing, can lead to substantial legal and ethical questions that the companies must consider carefully. The insurance company can be liable for any erroneous or harmful artificial intelligence decision that can deny the coverage, which can also lead to enabling discrimination, breaching the policyholder's rights, and providing flawed recommendations.⁹ Constant testing, auditing and human oversight artificial Intelligence are crucial and Critical to limit the legal liability as an autonomous system becomes more complex. The Biased or incomplete training data and the unintended coding insurance the smart contracts could make the insurance flawed or sanctioned if their artificial intelligence system produces disconnected or improper outcomes. The companies must implement AI transparency and ensure the algorithm decisions are explained adequately to affected individuals. While artificial Intelligence enables insurance efficiency, insurance must weigh the benefits and harmful effects. Extensive risk assessment auditing and human-machine collaboration are critical for developing responsible artificial intelligent systems that can limit the potential cost liabilities, which need to be considered more dynamically and significantly.

Safeguarding Privacy and Ethics in AI-Driven Insurance

The practical usage of customer data to power the artificial intelligence algorithms and predictive models across the Insurance sector domain can create a significant element of

<https://www.financemagnates.com/fintech/education-centre/the-ethics-of-ai-in-insurance-balancing-efficiency-and-fairness/>

⁹ Lior, J. (2022). Insuring AI: How Existing Risk Allocation Frameworks Can Inform AI Regulation. *Harvard Journal of Law & Technology*, 35(2), 369-394. Retrieved from <https://jolt.law.harvard.edu/assets/articlePDFs/v35/2.-Lior-Insuring-AI.pdf>

challenge over the privacy and ethical risks that companies must be responsible for. The insurance must minimise Opaque data accumulation and communicate the AI data practices to uphold transparency or risk losing public trust. Additionally, the buyer's training can lead to algorithms to make discrimination decisions, which can be unethical.¹⁰ The companies must also have a mirror obligation to prevent AI outcomes over data and privacy breaches, even if the discrimination is unintentional. The Other significant challenges of a cyber security vulnerability are created by the agreement with data volume for Artificial Intelligence and potential privacy through improper surveillance if consent is not obtained. While AI data practices may improve efficiency, they also lead to the rise of ethical risks surrounding job automation and reaching the customer's privacy, which cannot be ignored.¹¹ The insurance can promote ethical questions, which can be overcome by the government policies, Audit and security safeguards and explaining the AI systems adequately to all the stakeholders. India's Data Protection Law, the Personal Data Protection Act, emphasises the importance of data privacy. This law plays a vital role in protecting individuals' privacy, as established by the Indian Supreme Court in its 2017 landmark decision recognising privacy as a fundamental right. The Supreme Court noted that India has a comprehensive framework governing data privacy, with regulations and limits on how personal data can be used. Two major cases emphasised data protection law in India. In *Puttaswamy vs Union of India*¹², the Supreme Court held that privacy is part of the fundamental rights under the Indian constitution. The Court recognised that privacy is essential for individual autonomy and dignity, which are necessary for a democratic society. Overall, India's data protection laws and court decisions establish strong safeguards for data privacy as a fundamental right. In the 2018 Aadhar card case, The Honorable Supreme Court held that the government cannot make Aadhar mandatory for availing services. The court recognises that collecting biometric data for Aadhar raises concerns privacy and data protection and that individuals have the right to control their personal information. In such landmark cases, the question arose in the element of privacy. Suppose Artificial Intelligence will play a crucial role in the Insurance sector. In that case, the question of privacy needs to be very scrutinised, whereas if there is any breach of confidentiality, the

¹⁰ FTiconsulting. (2021, September 21). Ethical use of AI in insurance modeling and decision-making. FTI Consulting. Retrieved October 14, 2023, from <https://www.fticonsulting.com/insights/articles/ethical-use-ai-insurance-modeling-decision-making>

¹¹ European Parliamentary Research Service. (2020). The ethics of artificial intelligence: Issues and initiatives. Retrieved from [https://www.europarl.europa.eu/RegData/etudes/STUD/2020/634452/EPRS_STU\(2020\)634452_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2020/634452/EPRS_STU(2020)634452_EN.pdf)

¹² Justice K.S. Puttaswamy (Retd.) v. Union of India, (2018) 1 SCC 809 (India).

courts can take strict actions against those individuals. IRDAI (Protection of Policyholders' Interests) Regulations, 2017 Has also made mandatory that insurance companies maintain the total confidentiality of the policyholder information unless it is legally necessary to disclose the same to the strategy authorities if the artificial Intelligence is going to play a vital role in the Insurance sector. The AI should play a crucial role in protecting the essential element of data protection privacy.

Comparative Analysis between China and the UK with Respect to AI in the Insurance Sector

Many Countries are building up the insurance sector in the form of Artificial intelligence In China and Japan were they have initiated with national AI porgrammes and strategies such as with its Dingsunbao smartphone app, Ant Financial claims to be using artificial intelligence to calculate the compensation to policyholders for vehicle damage which is one of the largest network with many Chinese insurance firms where the speedy recovery for the vehicle damage claim, the provision is made to uphold the image through various angles and dimension where the person affected can claim for auto insurance based on the how much is the damaged caused to the vehicle, the analysis on the deciding the premium is functioned by the software created and set up a policy and it is assisted by the human employee who comes with assessment report Offering Watson software for use in claims adjustment is IBM Watson this software was mainly introduced where the how much the policyholder should pay out is automatically shown to the insurance firms it is highly functioned in health insurance sector where the person medical reports with the history of the patient medical history and it is beneficial in nature as it would save time and cost if done manually by people, Still the final report is anlaysed by the human employees with the AI software report. Chinese insurance company Ping An asserts to have created numerous AI technologies for usage in the health, auto and financial insurance sectors, and they are one of the largest insurance companies. The business asserts to have created several AI use cases, including computer vision for processing vehicle insurance claims, predictive analytics for healthcare insurance, and facial recognition for financial services. They work on predicting infectious diseases in a specific territory and come up with the high-risk individuals who are affected. The images of the X-rays are sent to their AI software, which diagnoses within seconds, compared to a human who takes 30 minutes to examine the medical

report¹³. In the UK, there is rapid growth of Artificial intelligence in insurance companies where the latest data in August 2023 shows that 63% are investing in AI and Machine learning in comparison with 50% in the US. The insurance companies in the UK are relying on the pragmatic approach; the government's new advisory service will give insurtechs "more tailored support," During G7, the UK came up with the 'Hiroshima AI process', where the aim of the AI should be trustworthy, and fairness aspect was dealt. They are forming policies to protect against AI risks of hacking and Intellectual property infringement.¹⁴

Conclusion

Technological progression is increasing on a day-to-day basis. The growth of machine learning in the underwriting process started in the 1980s. In the latest case, *Isnar Aqua Farms vs United India Insurance Co. Ltd 2023*, decided by Apex court in division bench said that insurance companies must deal In a bona fide and in good faith and not care of making profits¹⁵, so this can be exercised when AI software and machine learning is implemented effectively where the human employee role will be minimal so no scope of making profits by the insurance companies and comparatively disputes will be reduced. The AI is reshaping with a customer-centric future as it is time-consuming and cost-effective, with no problem with intermediaries, direct contact between the insurer and insured will take place, compared to the filling of the proposal form where the policyholder tends to put incorrect information, so with the help of the Artificial intelligence within it Internet of Things which has the potentiality of analysing accurate input filled or not. At the same phase, there are challenges which need to be looked at for privacy and ethical concerns, as it is personal data which is produced in filling up the proposal form; this may lead to hacking of the data and using it for any illegal purposes, another is limited ability to personalise customer experience. Many developed countries, such as the US, are significantly inculcating AI in their Insurance sector and are leading among the other countries. The companies that installed AI mechanisms are Lemonade, State Farm, and GEICO, and the UK, China, and Japan are bringing remarkable inputs & changes on this subject matter. India is already making significant changes by adopting an AI System to be

¹³The Digital Insurer. (n.d.). The Digital Insurer. Retrieved October 14, 2023, from <https://www.the-digital-insurer.com>

¹⁴ Insurance Times. (n.d.). Insurance Times - The latest insurance news, analysis and opinion. Retrieved October 14, 2023, from <https://www.insurancetimes.co.uk>

¹⁵*Isnar Aqua Farms v. United India Insurance Co. Ltd.*, (2023) SCC OnLine SC 945.

operated in the insurance sector. Thus, the protection of the Insured is the primary goal, where there must be indemnified for loss in a fair and transparent manner. The usage of A.I. technology does raise specific questions, though—biased AI algorithms might produce discriminating laws or practises. Additionally, AI-powered chatbots could cost human customer support professionals their jobs. Insurers must ensure that their AI algorithms are open and impartial to reduce these risks. Further, they must ensure that their AI-powered chatbots support rather than replace human customer service teams.
