Prospects and Challenges of Artificial Intelligence Adoption in the Indian Insurance Industry

Rohit Anand
M. Com, PhD
Department of Commerce and Business Administration
Lalit Narayan Mithila University, Darbhanga

Abstract

Today's tech-savvy customers look for digital tools and experience from their insurer at par with what they receive from any e-commerce or any other retail industry. While talking about the insurance industry, the consumers these days demand digitally oriented applications or websites that provide complete customer support. Many insurers have already started adapting digital tools to make it easier for their customers and their family members to navigate the healthcare ecosystem. Some of the powerful features of the tools include digital on-boarding, ease of selecting plans based on cost and preferences, and personalized content for better understanding of the claims.

Insurers have launched mobile phone apps, making it easier for customers to transact with them. They are, slowly and surely, moving towards paperless claims as well. These are, however, only the first steps in digital transformation. Changing core systems is expensive and complicated. So, most transformation initiatives focus on improving systems of engagement with customers.

With the constant advancements and better use of digital tools in the last few years; most of these challenges seem to be addressed efficiently. While technologies such as Robotic Process Automation (RPA), Artificial Intelligence (AI), Blockchain, and Advanced Analytics are working as promoters to enhance the importance of insurance, the Insurers are working hard to create a more streamlined and Integrated insurance system.

Key words*: Artificial Intelligence, Data Privacy, Data-based Underwriting, Fraud Prevention, Indian Insurance Industry.*

Introduction

Artificial intelligence (AI) is reshaping the insurance industry and the way it engages with customers. While it has been used for many years in fraud detection, now a raft of insurance Innovators are applying the technology to speed up their operations and differentiate their products.

1

Perhaps the best example of how technology is used by large insurers to improve operational efficiency is Chinese insurer Ping An. Almost 90% of the nearly 40 million online life Insurance policy administration cases handled by Ping An in 2018 were automatically processed using Al, achieving turnaround times as short as three minutes.

But, most innovators are so-called insurtech startups. Some of them are Insurance companies themselves. New York-based insurance startup Lemonade is one such company. It uses Al to evaluate claims, and in 2017, the company declared that it paid out the fastest claim in the history of the insurance industry: It only took three seconds.

Then there are other insurtechs that are developing technology to enable the big insurance companies. The US-based Cape Analytics uses Al and geospatial imagery to provide valuable property attributes with the accuracy of an on-site inspection but the speed of an online application. It has partnered with several property insurers: in August 2019 it announced a partnership with U.S. insurer The Hartford, providing the company with Al-based property information to be used for generating quotes for home insurance.

These Al-enabled innovations are very important because they are reinventing the value proposition of insurance in the customer's mind, moving it toward a value-adding rather than "hygiene" service. The fact that people don't like to think about the risks in their lives is one of the biggest barriers to buying insurance.

Also, it's hard to convince people to pay for something now that they may never need in the future. And insurance products are rarely designed to meet the specific needs of the customer for instance, insuring personal objects or covering activities for short, specific periods of time.

By improving operational efficiency through Al, insurers can begin to improve personalization and to design and market-specific micro coverage services that are more cost-effective. Examples are insuring freelance workers for specific activities on an ad hoc basis, providing coverage as simple as insurance for a phone battery or offering insurance that better suits the "sharing economy," so that you can be covered if you let a friend drive your car for an hour.

Insurance innovators are using Al along with other technological advancements, such as the internet of things and telematics, to improve operational efficiencies and customer experiences.

2

Indian Scenario

India has a big part in the Al revolution as it has the second-largest population in the world and the fastest-growing economy. In her 2018-19 budget speech, the Honourable Finance Minister directed NITI Aayog to create the National Program on Al, with the goal of directing research and development in new and emerging technologies. This was done in recognition of Al's potential to revolutionize economies and the necessity for India to strategically approach the subject. In order to achieve the aforementioned goals, NITI Aayog has chosen a three-pronged strategy: working with a variety of experts and stakeholders; conducting experimental proof-of- concept Al initiatives in diverse domains; and developing a national plan for creating a thriving Al ecosystem in India. NITI Aayog has worked with numerous top Al technology companies since the beginning of this year.

The swift progress of Al technology has brought about a dramatic transformation in the insurance business, as it has in many other sectors. Al has shown itself to be a potent instrument that is revolutionizing the insurance industry in a number of areas, including risk assessment, underwriting, claims processing, and customer service. Insurance firms have discovered creative methods to improve client experiences, streamline processes, and maintain competitiveness in a market that is always changing by utilizing artificial intelligence.

Because Al can scan large volumes of data and identify patterns, insurers are able to make data driven choices that lead to more precise risk assessments and customized insurance solutions.

The insurance sector is changing quickly, and integrating artificial intelligence (AI) has become a game-changer. Investigating the potential and difficulties that artificial intelligence (AI) brings in the context of the Indian market is essential for content managers of Indian life How insurance companies. How artificial intelligence (AI) is changing the insurance industry in India, as well as the opportunities and challenges that lie ahead for this technology have been discussed hereunder.

Prospects for Indian Insurance Industry

It's been a rocky couple of years in insurance. In addition to the wide-ranging impacts of the COVID-19 pandemic, natural disasters such as major wildfires and hurricanes have wrought havoc on every sector of the industry, from life insurance to large commercial lines. In fact, McKinsey & Company reports that 2020 set a new annual record for catastrophic weather events (referring to those with at least $1 billion in damages).

3

These trends are unlikely to abate. Just as some risks have become more measurable and predictable, black swan events are increasingly common. To succeed in this environment, insurers need to refine their risk assessment and model the potential impacts of capital-intensive disasters.

Doing so will require not only typical actuarial models but also the use of data analytics in insurance. This means leveraging data sets ranging from weather models to personal health tracking a task that requires specific expertise in data analytics and the application of Al in insurance. Further, insurers will need the expertise and records to effectively explain their methodology to regulators.

By highlighting potential areas of risk, making underwriting more effective, and reducing the human inputs required for basic tasks, insurance companies can trim their expenses, better position themselves to handle unexpected crises, and ensure they don't fall behind their competitors. That's where upskilling and reskilling, either from an organizational or individual perspective, come into play. To remain competitive, insurers across all lines of business will need to embrace emerging technologies and analytics.

OECD defines an Al system as a machine-based system that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments. Different Al systems vary in their levels of autonomy and adaptiveness after deployment. In the context of insurance, modern Al techniques like machine learning and deep learning can be used for tasks such as predictive modelling, fraud detection, and customer service automation. These systems can often achieve higher levels of accuracy and efficiency compared to traditional rule-based approaches, and they have the potential to continuously improve over time as they are exposed to more data.

Prospects for Indian Insurance industry include

Improved Client Relationship

Al has the power to completely change how customers and insurers communicate. Artificial intelligence (AI)-powered chatbots and virtual assistants can offer prompt, individualized support, answering consumer questions and assisting them through the intricate insurance process. This raises client satisfaction levels and boosts customer service operations' efficiency.

Data-Based Underwriting

4

In the insurance industry, risk assessment accuracy is essential. Large volumes of data may be analyzed in real time by Al systems, enabling more accurate underwriting choices. This lowers the risk for insurers and makes it possible for them to provide a wider spectrum of clients with more cheap and personalized coverage.

Fraud Prevention and Identification

The insurance sector has serious concerns about fraudulent claims. When it comes to seeing trends and abnormalities in data, artificial intelligence (AI) may be a very useful tool for spotting possibly fraudulent activity. This helps to preserve the integrity of the whole insurance ecosystem in addition to protecting the insurer's interests.

Using Predictive Analytics to Make Better Decisions

Predictive analytics powered by AI can help insurance businesses make wise judgments. Insurers may anticipate future risks and market shifts by evaluating past data and patterns, which gives them the ability to proactively modify their strategy. This can be especially helpful in India's dynamic and changing insurance industry.

Automation of Processes for Efficiency

From the issue of policies to the processing of claims, the insurance industry entails many intricate procedures. These procedures can be streamlined by Al-powered automation, which will minimize mistakes, cut down on manual involvement, and accelerate productivity as a whole. This improves operational effectiveness while freeing up staff time for more strategic work.

Challenges and Ethical Considerations

Here are some key challenges and ethical considerations associated with using Al in the insurance industry:

Data Privacy Concerns

Insurance companies are entrusted with vast amounts of sensitive user data, medical records, and financial information. Storing and processing this data using advanced Artificial Intelligence solutions requires insurers to implement stringent security measures. If business systems or databases are compromised, it can lead to exposure of user data and reputational damage.

That's why, insurers must obtain informed consent from policyholders and customers for collecting, storing, and processing their data. Transparency in data practices is essential,

5

and customers should be aware of how their data will be used. Insurers should only collect and retain data using Al models that are necessary for legitimate business processes. Excessive data collection using automated models can increase privacy risks.

Training Bias in Al

Training data used by insurers for Al models often comes from a range of sources. These sources can carry inherent biases, reflecting societal, cultural, or historical prejudices present in the data. Training bias can also emerge due to the algorithmic structures of Al models themselves.

To mitigate training bias in Al, insurers can curate diverse datasets and offer a more balanced input. Regularly auditing and assessing Al systems for biases is essential. Insurers can employ techniques such as re-weighting training data, adversarial training, and de-biasing algorithms to reduce biases in Al models.

Technological Limitations

Al models require high-quality, diverse, and comprehensive data to make accurate predictions. Insurance companies may not always have access to such data. Similarly, Integrating Al models with existing insurance systems and scaling them can be challenging.

Insurers can work on improving data quality by investing in data collection, cleaning, and enrichment processes. Collaborating with data providers, leveraging external data sources, and utilizing data analytics tools can also help. Insurers should also invest in flexible and modular Al architectures that can be integrated with their existing systems. Collaborating with technology partners or InsurTech firms can help address scalability and integration issues.

Regulatory Compliance

Emerging technologies such as Al are advancing at a rapid pace, and insurers may struggle to keep up with these developments. New and complex Al systems might not fit precisely into existing regulatory frameworks. In many cases, insurance firms may not have established clear guidelines or standards for Al-powered systems. This makes it challenging for them to understand how to comply with evolving regulatory requirements.

For seamless execution, insurers should work closely with regulatory authorities to implement best practices and drive success. Regulatory compliance experts ensure that Al systems and practices align with regulatory requirements.

6

The Future of Al in Insurance

While it's true that Al poses some challenges, many insurers believe that the gains derived from this technology can drive economic growth. Besides, by considering Al as a digital extension, insurers can democratize services at large. Here are some potential future scopes of Al in insurance:

- **Cybersecurity Insurance**

Since the importance of cybersecurity grows, Al can play a crucial role in assessing and mitigating cyber risks and providing secure services

- **Blockchain for Transparency**

Blockchain and Al integration can enhance transparency and security in insurance contracts and claims processing.

- **Climate Risk Assessment**

With increasing concerns about climate change, Al solutions can be used to assess and model climate-related risks. This helps insurers prepare for and mitigate the impact of environmental changes.

The list of trends goes on! It's important to note that though Al offers numerous opportunities, it also presents challenges that insurers need to carefully manage.

Conclusion

The idea that virtually all human labour will eventually be replaced by low-cost, highly efficient Al has gained traction. There are three distinctly human elements that are fundamental to value creation:

- Judgment: integrating soft considerations on top of technical and analytical considerations;
- Innovation, creativity and heuristics: imagining and designing new systems and modes of operation;
- Accountability: being a decision-maker capable of explaining and sharing views, while also taking responsibility for actions and their consequences.

Al will not replace our usefulness; on the contrary, it will enable us to focus our thinking and efforts on value-added tasks.

7

We should never forget that risk management, which lies at the heart of our industry, is both a science and an art. Reinsurance is firstly based on science - the understanding and modelling of risk. But, while analytical considerations are highly important, they only account for one part of the equation. The scientific aspect of insurance profession must always be complemented by an artistic or artisanal approach. Relationships that foster trust on both sides of the transaction take time to develop, and the experienced underwriter's ability to follow his instincts has not been as of yet put into an equation.

The combination of theoretical and analytical considerations on the one hand, and empirical and instinctive considerations on the other, make reinsurance one of the most fascinating industries.

There are several benefits to integrating AI into the Indian insurance industry, ranging from increased operational efficiency to better client experiences. These opportunities do, however, come with difficulties that need for thoughtful thought and deliberate preparation. Through careful navigation of these obstacles and responsible use of AI, the Indian insurance sector may establish itself as a leader in innovation, offering improved services and safeguarding policyholders' futures throughout the country.

References:

1. *Das, Kishore Kumar (2016), Insurance Sector in India: Problems, Possibilities and Prospects, Himalaya Publishing House Pvt. Ltd., Mumbai.*

2. *KPMG 2023 Global Tech Report*

3. *Kumar, Naman, Srivastava, Jayant Dev and Bisht, Harshit (2019), Artificial Intelligence in Insurance Sector, Vol. 21, No.7, pp. 79-91.*

4. *Manikandan, S (2024), AI's Place in India's Insurance Sector, Journal of Emerging Technologies and Innovative Research, Vol. 11, No. 3, pp. 562-565.*

5. *Narang, Uma (2013), Insurance Industry in India: Features, Reforms and Outlook, New Century Publications, New Delhi.*

6. *Revathi, P (2020), Technology and Innovation in Insurance- Present and Future Technology in Indian Insurance Industry, International Journal of Engineering and Management Research, Vol. 10, No. 1, pp. 21-25.*

7. *www.businesswire.com*

8. *www.infosys.com*

9. *www.oecd.org*

9