Architecting Insurance Transformation with Artificial Intelligence

Abstract

Artificial Intelligence (AI) is starting to enter the real world, after being associated with science fiction and fantasy. In the process it is trying to deliver applications and solutions of practical use. The path to the future is loaded with possibilities on how AI could create an intelligent world in which “the living” and “things” become closely interfused and interact in numerous complex methods.

This whitepaper discusses how insurers are currently embracing AI along with the other digital forces and also assesses the future implications.
Changing Facets of Artificial Intelligence

During the formative years, machines were highly successful in demonstrating their intelligence while performing low-level activities that needed mere autonomous behavior. Subsequent failures that occurred while attempting to perform high-level activities that necessitated understanding, thinking and learning, lead to “AI winter”.

The much anticipated “AI spring” is unfolding now, exhibiting some promising results while performing less predetermined activities. AI is demonstrating new capabilities, such as voice recognition, natural language processing (NLP), sentience, ability to deal with complexity, deep learning, pattern recognition, computer vision, predictive and prescriptive insights and emoting.

From performing basic recursive functions optimally, AI solutions, with the aid of self-organizing processes and reinforcement learning, are moving towards innovatively solving complex and ambiguous problems thus reducing the need for human direction and intervention.

Assessing the Presence of AI in Insurance

In the new Connected Life, intertwining of everything and everyone along with myriad behavioral pattern variances generates huge volumes of structured and unstructured data. AI is being explored to assimilate this data to obtain contextual insights and perform a collaborative or substitutive role depending on the frame of reference.

AI is being tested to perform the role of robo-agents (customer servicing), robo-advisors (sales and portfolio management), robo-bosses (monitoring work), robo-writers (content generation), and so on, to advise, enable, monitor, and help people in automating tasks and processes.
Due to the conservativeness of insurers in adopting new technologies that disrupt the status quo, scope of AI stays ring-fenced around business process automation and improvement areas such as:

- **Underwriting**: Fast tracking and automating functions where expert systems and case-based reasoning can help in quicker and consistent decision making
- **Claims**: Using advanced pattern-matching techniques and decision trees to detect fraudulent behavior and identify its source
- **Personalized servicing**: Gathering online and offline details of customers continuously to offer contextualized and in-the-moment services
- **Automated workflow management**: Following up tasks until completion, reducing dependency on manual intervention and tracking
- **Straight-through processing**: Triggering actions based on preset conditions for faster business process output with reduced transaction costs

**Expanding Footprints of AI in Insurance**

The urge to stay relevant in the connected world is driving insurers to leverage AI in enterprise process automation, providing rich customer experience, reducing cost of insurance, and delivering value-added services.
In the immediate future, AI may be deployed for orchestrating multiple automated processes and to self-learn to perfect a seamless choreography among these processes.

- **Product structuring**: Launch innovative products that contextually change for individual customers and continuously monitor the behavioral or other pattern changes, to auto-alter the coverage, price, and terms and conditions of the contract.

- **Actuarial and product pricing**: AI driven preventive care will increase the longevity of individuals and connected things. Due to this, frequency and extent of preventive care initiatives will qualify as additional parameters for pricing. AI will be used to build dynamic and new risk models for personalized pricing.

- **Sales and grievance management**: Use of voice analytics to parse human speech, capture the mood and sentiment of the customer, and to engage with them in an emotionally appropriate and empathetic manner.

- **Intelligent systems for underwriting**: Deploy intelligent systems having deep learning capabilities for underwriting functions that will help in smart classification, consistent decision and pricing of risks.

- **Policy servicing and customer interaction**: Use of NLP and contextual intelligence for automating Customer Relationship Management processes such as, lead qualification and interaction. Engage virtual assistants for selling and servicing policies.

- **Damage assessment for claims**: Initiate notice of loss automatically, perform sophisticated image processing to understand the extent of damage, and recreate the claims scenario virtually as a 3D model.
Revamping the Future of Insurance

Industry 4.0, which draws together cyber-physical systems, the Internet of Things (IoT), and the Internet of Services, will create a networked ecosystem and drive the era of “The Connected Life.”

Proactive loss–mitigation strategies driven by the Wearables, sentrollers and IOT networks, could reduce the occurrence of a risk event, pre-notify when care activity is needed, trigger action during an at-risk situation and ensure safety at all times. Growth in Machine-to-Machine communication will further change the insurance ecosystem by reducing human involvement in risk events.

- **Machine–Human Blur**: Business processes may be driven completely by digital interactions, devoid of any human touch. The entire policy journey of the customer may happen by interacting with intelligent machines.

- **Smart Assistance**: Assist people with deeper insights on the content and let them focus on core activities such as inter-personal interactions and discretionary decision making.

- **Consistent Intelligence**: Insurer's organizational intelligence will improve manifold and become consistent across all levels.

- **Self-Learning and Automation**: Can self-learn from basic data to automate functions such as, changing underwriting guidelines to rectify an anomaly detected by analyzing claims or identify aggrieved customers and proactively initiate right set of action to prevent escalation.
The Future, with Artificial Intelligence

The scope, span, and level of mandate to which AI responds is evolving from a granular task level to orchestrating the tasks and intelligent decision making. However, as of now, AI still depends on human intelligence to set the guiding principle, direction, goals, and the perspicacity to make the final decision. With the new capabilities of AI systems still in nascence, the immediate focus is to produce results that are reasonably accurate.

Insurers have to adopt AI in a phased manner by choosing the space for implementation depending on their current priorities with respect to products, processes, customer service standards and challenges. This must be buttressed by long-term business commitments as positive results from AI depends on the maturity of intelligence that can be attained only by continuous machine learning. Insurers may need to start with exploring one aspect of AI in a specific business operation and traverse deep into it to create a niche offering.

The insurance industry is already transforming itself into a new paradigm with the implementation of concepts such as usage-based insurance and wellness-based continuous underwriting. AI will accelerate the process by making the insurance industry to reshape itself, jump the innovation curve and redefine their digital journey.

References

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