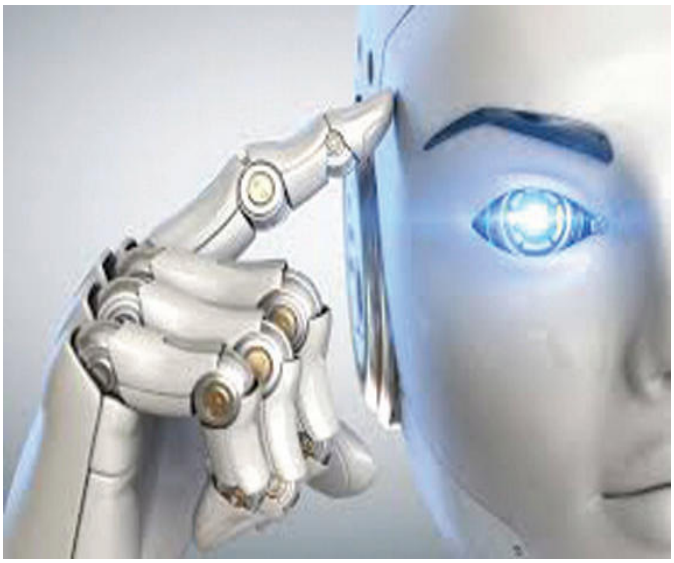
Continued from last issue

ARTIFICIAL INTELLIGENCE IN THE INSURANCE INDUSTRY



Artificial Intelligence (AI), the buzz word of current times, continues to be a top of the mind recall item in most seminars. AI is going to be future in many industries, mainly the BFSI sector. In my earlier article, we saw about the basics of AI and its usages in the life insurance industry. We also saw few comments and views from a couple of top life insurers. Lets take this discussion forward in this issue and also see its implementation in other insurance companies - both life and non-life.

AI is about application of physics, mathematics and statistics in creating models. Of course, for its learning and depending on its usage, it may use other concepts and theories also. Development of a good AI model requires extensive data mining, good quality analysis process and understanding of the data. So having a good database is the main crux of AI. Big Data, another widely used term, is a massive database - which is a combination of structured and unstructured data, which if analysed properly, would give great patterns, trends and key linkages leading to amazing conclusions, which could not ideally have been thought of through normal intuitions or traditional methods. Everybody talks of Big Data etc., but does anybody have the best of Data in the Insurance Industry? Is all information captured in a data form? Is the data available for analytics?

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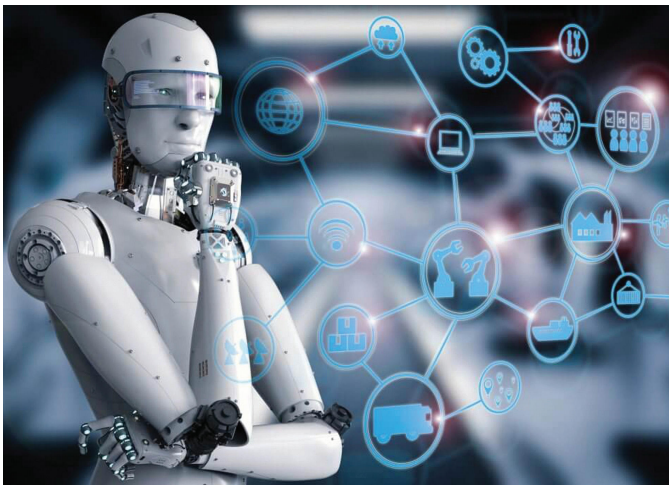
Debashree Varma, Chief Operating Officer of SBI Life, says "Transforming an entire business in one hit is unrealistic, hence players need to target areas for improvement precisely, so that success stories can be shared and if things don't work out as expected, lessons can be learned without severe collateral damage. Lets not forget Legacy IT systems are potentially a major obstacle to making progress with advanced analytics".

Ashish Tanna, Chief Operating Officer and Co-Founder of Aureus Analytics, which works purely in the Insurance

Sector only, says "The challenges for Indian Insurance industry are data availability, scalability & the time taken to use available data to leverage analytics as most of the IT infra at insurance companies acts in silos and not able to adapt to the technology pace. We understand that the wait for perfect data integration semantics with high quality data is endless. Hence, we devoted time and energy in building a framework which allows to start small and evolve into high quality and realtime data integration progressively, which has helped us in faster go-live and shortened ROI cycles. We take data in any format and conduct events-based data processing and storage at affordable costs."

Debashree says that to manage their huge size of business, big geographical diversity and extensive volumes of data, requiring data intensive demands of Machine Learning, they have Hadoop Servers with over 500 GB of scalable storage space and 128 GB of RAM. The Hive Framework sitting on top of these servers is utilized to query the Hadoop Distributed File System (HDFS) using H2O framework for model building in an R Studio environment. "Close to 1.5 crore observations pertaining to past renewal collection trends were analysed to arrive at the final Persistency Model" adds Debashree.

Amrit Singh, Senior Vice President & Head - Strategy, Investor Relations and Analytics says "Majority of the processes at Max Life have been digitized, thereby capturing various process related data points which were not available earlier. Also to have a unified customer 360 view, we have embarked on a data lake journey where entire information, starting from customer's journey as a lead to application stage to issuance to service, is recorded, helping us in faster implementation and scaling of our analytics solutions."



It's never a great idea to believe that I will take my car out of the garage only when all the traffic signals are green. The car will be rusted in the garage since such time will never come. Similarly, it is not a great idea to wait for a perfect data to run an analytics model on it.

Many entities wait for 100% data readiness and perfect database or on most occasions expect huge delta from analytics solutions. But that's not the ideal way to go when we move into this space. It's always good to start with whatever data you have first. Align it, curate it and process it. Get some delta. Real yields from AI ideally takes time.

According to Debashree, the Fraud Model achieved accuracy levels of close to 75% only in the initial period, but eventually it successfully set the tone for the future of Analytics in SBI Life.

When asked about the usage of AI in the US Insurance markets, ***Anurag Shah, CEO and Co-Founder of Aureus Analytics***, also having a branch in US, says "Large Insurance carriers and Brokers in the US have taken early lead in adopting AI and Machine learning capabilities across various business processes. However, mid and small carriers are yet to adopt these technologies due to several factors like cost, skills etc. We expect this to evolve significantly in 2020 as we see more widespread adoption of these technologies. Also, various Analytics Service Providers in the US have a challenge in terms of manpower with these skillsets".

India is not really far behind in this respect. While the Indian Life Insurance industry is embracing AI, the General Insurance industry is on the fast track on this and using it very significantly in creating a great customer experience.

Girish Nayak, Chief Technology Officer at ICICI Lombard, shares a few use cases of their organisation as under :

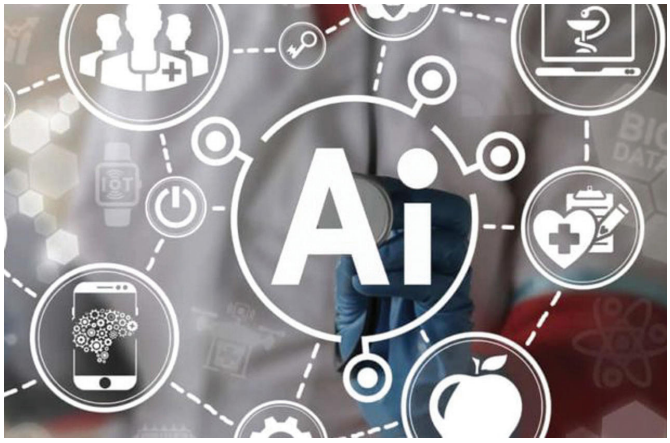
1. We created a Deep Learning Computer Vision algorithm deployed on the GPU enabled virtual servers on the cloud platform. In Dec 2018, we launched our AI based Break-In Inspection Service, where customers can take photos of their vehicle and our cloud-based AI algorithms can take decisions on whether to accept the policy proposal or to recommend it to for further verification. This has resulted in 24/7 and instantaneous service for renewal of break-in motor policies.
2. We are using AI/ML algorithms to facilitate instant

health insurance cashless claims approval. Intelligent Character Recognition (ICR) and Optical Character Recognition (OCR) help in extracting data from hospital documents for cashless claims. The AI algorithm checks for policy terms and conditions to ensure coverage & admissibility of the claim. Subsequently, an ML algorithm helps to determine a pre-approved amount basis the documents submitted by the hospital. This has resulted in faster cashless authorization for health insurance customers.

3. Basis data available from IoT/Telematics devices fitted in motor vehicles, we are able to offer multiple offerings depending on the insurance product we are servicing. In marine cargo, we offer comprehensive consignment monitoring solutions with features such as location tracking, critical parameter monitoring (temperature, vibration, humidity), excursion alerts and detailed reports for both domestic and international shipments, which prevent hijacks and theft attempts for several corporate fleet owners. In private cars, we are leveraging telematics to identify and segment customers, basis their driving behaviour. Sophisticated algorithms are helping to identify and differentiate between relatively good and bad driving behaviour. In Health Insurance, we are using IoT based Instant Health Check facility at corporate offices for our key corporate customers.

As can be seen from the above, AI can play a great role in changing the customer experience. Traditional method of measuring Customer Experience (Cx) has been surveys, NPS, explicit feedback etc. However, ideal method would be to understand the actual sentiments of the customers, even if not officially and explicitly reported. For this, Ashish affirms "Our proprietary algorithm, Senti Meter helps in understanding Customer Sentiment in real time by taking into consideration the implicit & explicit feedback right from the time the customer is onboarded till their exit."

Debashree talks about SBI Life's process, where every policy whose renewal is due is flagged as RED, AMBER or GREEN based on the likelihood of receiving the Renewal. Collection efforts are then streamlined accordingly. "Along with improvement in persistency levels these models have also helped us in bringing down the call centre expenditure rates. Specifically, the 13th month persistency level has increased by 5% during the last 3 years" says Debashree.



Amrit says that in Max Life they have developed new age predictive model for IVR call intent identification, which predicts the call intent of customers and provides upfront customized content, thereby reducing resolution time, service TAT and cost to serve. Amrit says "We are also leveraging NLP to identify email intent to efficiently manage customer emails and auto responses".

Proper usage of AI will not only lead to better Cx, but will also assist in good product designing and bringing out huge process efficiencies. So are the insurers really able to get these efficiencies out of AI?

Girish confirms that through its Automated Approval for Cashless Treatment process using the AI solution, the time taken to authorize cashless treatment was reduced from 60 minutes to one minute. Similarly, Girish says that their AI-based solution for renewal of expired or lapsed motor insurance policies also resulted in instantaneous decision making to either accept the policy proposal or to recommend it for further verification, thereby reducing the time significantly. He further adds that their fraud detection models are also assisting them in quick claims decisioning immediately on claim intimation in the system.

Francis says "We have created a chatbot that have NLP capabilities and can solve more than 340 commonly asked queries, which reduces the manpower required for customer service".

On efficiency and effectiveness in Max Life, Amrit states "The comprehensive risk identification by our predictive underwriting engine has helped us to acquire a superior quality of book and has enabled us to be amongst the leaders in claims settlement ratio as most of the fraudulent

policies are proactively stopped at the issuance stage only and not dealt with at the claims stage".

Ashish reaffirms about the overall efficiencies brought out by these models and they being really cost-effective and efficient in the long run. He says "Our CRUX platform has processed over 50 million policies thus making our models richer and more effective and enabling our customers to increase :

- Retention by more than 3% points in one year.
- Reduce early claims by more than 30% at the proposal stage, where our RAG scores are displayed within 3 seconds of proposal logging, thus enabling insurers to take immediate quick actions.
- Improve NPS by more than 30 points.
- Improve Cross Sell by 5%."

Most insurers have a dedicated Analytics Team, which is exclusively and extensively working on enriching their database and extracting the best out of it through best of analytical models. The Top insurers in the country are trying to have a hybrid model of in-house team and using specialist Analytics Partners for specific purposes and projects. While the others are preferring to use outsourced services through these partners to have a better cost-benefit given their scales.

A good model requires continuous monitoring. The model should keep on learning. Current results should not be the end point. But it is just a start point. More data, more experiences means more learning, means better output. Debashree states that in SBI Life, they do a quarterly evaluation of all the models to detect any slack in model prediction performance and immediately thereafter-

training efforts are initiated to manage the differences. Francis and Amrit also reassure that they also have regular robust monitoring mechanisms with alerts in HDFC Life and Max Life respectively.

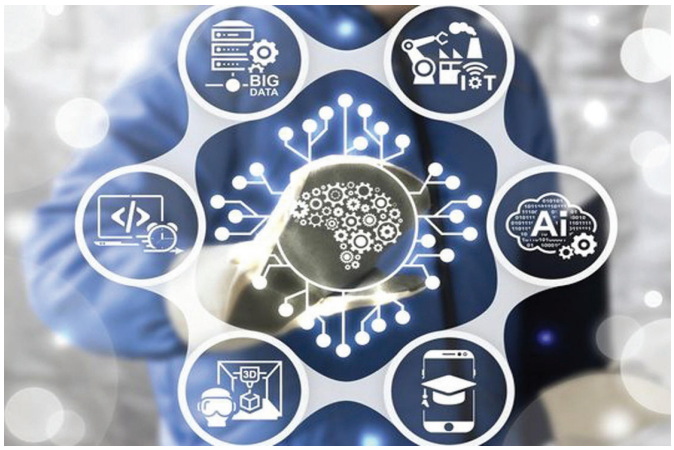
While talking about AI looks very simple and that they are really efficient and effective. But there are lots of challenges which come with it. There is a challenge of hardware, database, volume management, modelling, past experience, hygiene of existing data, understanding of the models itself etc. Ashish candidly states that "one of the obstacles in the path of this adoption is the fact that most algorithms that give models of good accuracy are black box types, i.e., they yield opaque models which do not give visibility into their internal workings. This presents a difficulty because insurers often want to understand the rationale underlying a prediction. Aureus gets over this difficulty by using additional analysis on top of predictive models and provide a list of influencers with every prediction to the insurers".

Amrit says "Right now there are some challenges which we face during the implementation and adoption stage due to lack of understanding of the models by the ground level business". Debashree also talks on the same lines stating that "The bigger challenge faced by many insurers is to help business stakeholders understand enhanced model results so that timely action can be taken. At present, the models are well understood by only those who are in the Data Science Teams, broader understanding is very limited or non-existent".

Ashish comes with a solution here stating that by using Natural Language Generation (NLG), the results can be presented in a plain simple English which makes it easier for the end business user, who may be a non-technical person to understand the impact and actionables in simple terms.

Having said that in a given situation of BAU, the normal process and training challenges still continue for the insurers, though surely not a show stopper.

Future is no doubts all about extensive usage of advanced techniques in Super Artificial Intelligence, Internet of Things (IoT), Forecasting, Semantic Analysis, RPA, Sentiment Analysis, Simulation, Neural Networks, Block Chains, Telemetry, and Distributed Ledger Technology (DLT) etc. Insurers in India have already stepped into this zone and started off in some way or the other.



Amrit adds "A few things that came out from customer insights in Max Life were Higher Term Plan sizes, inability to pay premiums once retired and saving product with low charges etc. resulting in new features in our online term plan like Pay till 60, Critical Illness cover till 75 and coverage till age 85, online savings product with zero allocation charges etc."

Girish concludes by saying "Consumers are young, increasingly mobile and well connected and have significant expectations in terms of personalization and instant gratification through digital means and to serve such customers, ICICI Lombard will continue to develop innovative offerings using some of these technologies with a primary objective of ensuring a seamless insurance processing and customer experience". Francis, Debashree and Amrit state that they are all working on usage of external database and better usage of credit bureau data to assess the credit underwriting of customers better.

Francis adds "We intend to work with unstructured data and usage of computer vision for face-matching, signature matching, voice analytics for voice-authentication and matching etc. for better risk mitigation. Identifying how best to harness to this for various organizational challenges will increasingly be a differentiator for organizations."

Anurag states that "At Aureus Analytics, we are in the process of enhancing its platform with additional external information with data from Telcos, Enhanced Socio-Economic information, Public Information with details on Income / Financial Stability, Insurance Affinity, Travel, Auto, Real Estate and other purchases, Medical Information, GPS analytics etc. which would help in deeper insights to facilitate better analytical modelling assisting in business enhancement and risk management".

This is not a one time process. It's not a matured process. We are all in the learning phase. Long way to go. As we move into the future with IOT, Robotics and Artificial Intelligence playing a lead role in our lives in every field affecting our day to day lives, its just a matter of time to see how do various industries apply this science more effectively to enhance customer experience balanced with a great risk management at lower costs.

Thus we will see this science adding a great commercial value to the industries. Increase in Top Lines coupled with enhanced bottom lines is a dream of every entrepreneur. Let's wait and watch to see how best it is extracted and how do we go about. It's all about our intelligence and ability to teach to achieve a great Artificial Intelligence and a super Machine Learning. ❑