

AI-Based Use-case Examples

With support from AI-based algorithms actuaries and underwriters have begun studying to transform various business processes. The insurers in Bangladesh must start exploring areas of ratemaking & reserve to implement AI for automation and scale.

1. Actuarial Ratemaking: Optimized pure premium pricing models, e.g., frequency-severity model, can be leveraged in mobile apps to provide customers with robust and customized quotes.
2. Policy Lapse Model: Classification models can predict the likelihood of an in-force policy to lapse or surrender within 1,2,3 years from the policy start date.
3. Policy Persistency and Price Elasticity Model: AI models can predict persistency of in-force policies across various product lines. Numerical simulations can test the sensitivity of persistency on premium price change.
4. Close Ratio Model & the Competitiveness of Rates for New Business.: Regression models can predict success of insurance quote activities and provide valuable insights to the product management and marketing teams.
5. Claim Incidence & Termination Model: AI models can predict the probability of a new policy to file for a claim or an existing open claim to be terminated within 0.5, 1.0, and 1.5 years.
6. Accelerated Underwriting : Triage classification models can recommend fluid-less underwriting path with respect to full underwriting path. Predict risk classification for fluid-less class.
7. Dental & Vision Cost Model: Classification models can predict annual dental and vision claim amounts for individual policy holders.
8. Vehicle Damage Detection Model & Claim Leakage: Predictive models can evaluate vehicle impairment from images and can reduce claim leakage during insurance damage claim processing.
9. Claims Routing: AI models can be built to automatically route claims documents to the appropriate departments for efficient and expedited processing.

Use-Case Highlight

Policy Renewal Prediction & Price Adjustment Simulation

1

What is policy renewal?

Why does price elasticity matter to the insurance business?

2

- ▶ Underwriters connect with customers 3-4 months prior to policy renewal date
- ▶ They want to know whether the policy will be renewed for the next policy year
 - If the policy is likely to renew, adjust premium price to increase profit margin
 - If the policy is at risk to lapse, take actions to keep the policy in the book

3

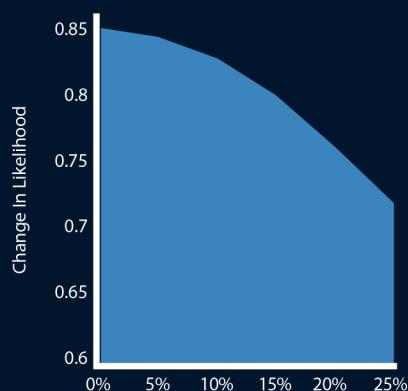
- ▶ Existing Practices
 - Based on experience studies and varies from one underwrite to another
- ▶ Expected Solutions
 - Build a robust and unified ML framework to address policy renewal and pricing processes

4

- ▶ The Likelihood of Policy Renewal
 - Machine Learning Classification Problem
- ▶ Numerical Simulation
 - Premium Price Elasticity

Price Adjustment Simulation

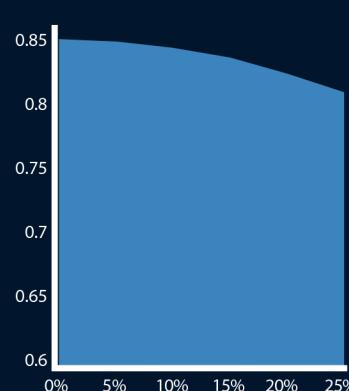
Two different policies with the same likelihood to renew but the sensitivity to the change in premium price, shown as percent along the horizontal axis, is quite different. This information can be used for successful price negotiation.



Policy 1

Current premium for policy 1 is Tk 1350/month. The likelihood of renewal of this policy is highly sensitive to price change.

Therefore, the underwriter should be recommended not to negotiate price for this policy.



Policy 2

Current premium for policy 2 is Tk 1750/month. The likelihood of renewal of this policy is not sensitivity to price change.

Therefore, the underwriter should engage in price negotiation for this policy.

Prospect Identification & Optimized Marketing

Digital platform is an indispensable medium to reach out to the masses. However, local firms conduct product marketing in a very informal manner. Insurance agents and field reps typically make use of unreliable and un-scalable methods to find new customers.

Firms can leverage existing customer database and combine that with external data, such as bank or retail transaction data, to develop ‘customer look-alike model’ to optimize the lead or target generation processes. Robust AI algorithms, including cluster techniques or machine learning predictive models, can be used to augment the identification of target audience across all product lines. The data driven automated target generation process has the promise to add the highest value to agents and reps and boost their performance in prospect identification and lead generation.

Bancassurance is a promising channel for selling insurance products through banks. However, the key factor that allows banks to reach the “right” customers at the “right” moments with the “right” insurance offers is to have an exceptional ability in prospect discovery. The realization of the bank-insurer collaboration, therefore, hinges upon a successful adoption of digitalization and AI-inspired advanced technologies.

Acquiring New Customers

Insurers thrive by acquiring new customers because they ensure a steady revenue stream. Most local firms use traditional services, such as brokers and agents, to acquire new customers. The companies could also obtain customers through other channels including web services, mobile services, etc. To reap the benefit of using these outlets in generating new business leads requires utilization of innovative tools and techniques. This entails going beyond traditional means and this is where AI technology can play an important role to identify groups of people from the target population.

Retaining Existing Customers

Like in any other business, the survival of insurers is closely tied to customer retention. Converting existing customers into a loyal client-base entails understanding consumers' behavior. Novel AI algorithms can be used to effectively separate existing customers into various groups based on various historical transactions. This segmented view could provide companies a great opportunity to assess their customers, associated policies, their designs, and managements. The segmentation could also be used to promote cross-sell and up-sell opportunities among customers.

Social Listening & Brand Management

Social Listening is a process of understanding online conversation about a company or brand as well as its products and services. This technique allows a firm to track electronic platforms for mentions and exchanges, and then to analyze the data to monitor online sentiments. It helps learning about positive and negative user experience, which in turn, provide valuable insight about product-market fit. Companies can employ web scraping technology and NLP-based models to track social sentiments prompted from user-product interactions.

An AI program designed for Social Listening can automatically collect information from the web, analyze information by running algorithms, extract novel insights from the data, and provide suggestion to the marketing and management teams for informed decision making.

Google App store is a great place for incumbents to deploy Social Listening technology to know about people's experience of their mobile apps. Companies can employ web scraping technology and NLP-based models to track social sentiments prompted from user-product interactions.

