VIEW POINT

The insurance advisor of the future

How robots are set to reshape the value framework in insurance

Abstract

Imagine getting insurance advice from a bunch of mathematical algorithms, aka a robo-advisor! What seemed ridiculous a couple of years back has quietly evolved and entered areas long regarded immune to automation – insurance advisory.

By adding value in terms of the price, flexibility and consistency, robo-advisors are set to reshape the value framework in insurance. Soon, the demand for more hybrid and sophisticated robo-advisors will rise as the demography changes and the market dynamics evolve. Read all about this in this paper.

Infosys
be more

Robo-advisors: The story so far

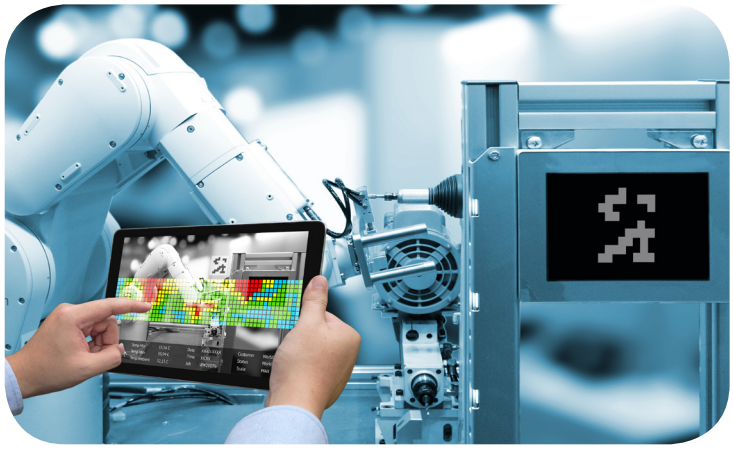
Insurance products are intangible in nature and are generally 'sold', not 'bought', with a few regulatory exceptions. Traditionally, the insurance operating sales model has been business to business to consumer (B2B2C). And selling insurance has always been considered a 'process' rather than an 'event'. Against this backdrop, the role of an intermediary emerged strongly and quickly became the backbone of the insurance business. Variations across the intermediary structure, nature and format gave birth to different sales channels. These intermediaries also played their role efficiently, adding immense value. Considering the market need, the value they added was quantified and a reasonable sales commission paid. This model worked well until a series of technological advancements began impacting consumer buying habits and behaviors. This was accompanied by many lifestyle changes. The insurance industry failed to keep up with these changing dynamics. Gradually, the direct channel of insurance sales came into existence and became popular, so much so that the number of insurance agents continues to decline as the direct web channel attracts more customers. The portability of mobile devices, app-based interactions, and social media further revitalized consumer tastes and preferences and the insurance market moved along on its digital journey.

This discovery of 'direct and digital' interface between the insurer and the customer provided the much-needed synergy to the insurance business. Consequently, sale of simple insurance products such as term and auto insurance skyrocketed. It also encouraged simplification of insurance products to make them eligible for web direct channel. While this moved the industry towards a model where business delivery was aligned with the market and customers' evolving habits and preferences, this transition was not appropriately paced. The result is a fierce and blatant competitive environment where insurers are not just competing with each other, but also with completely new players. These new opponents are equipping themselves with cutting-edge technology and incremental innovations to serve insurance needs with a better value proposition and service delivery.

Artificial intelligence (AI)-based robo-advisor is one such innovation. Robo-advisors have already left their footprint in the wealth management industry. And while insurance has largely lagged behind in adopting technological innovations, with the current market dynamics, can it afford to do be a laggard?

What is a robo-advisor?

A robo-advisor is an algorithm-based online service providing automated advice with little to no human intervention and supervision. In the financial management world, these robo-advisors provide portfolio management services. Client-specific needs, their return objective, and risk tolerance are captured using a simplified questionnaire and then financial algorithms (mostly based on the modern portfolio theory) are applied to achieve efficient portfolio management. Essentially, these robo-advisors encourage access to financial advice.



Robo-advisory in asset management: The value

In the asset management industry, these value-additions have shown promising growth of 26.9% compounded annual growth rate (CAGR) between 2012 and 2016.

Lower fees

Robo-advisors fee typically ranges from 0 to 35 basis points while the average fee charged by traditional retail wealth management advisors was 102 basis points in 2014.

Low to zero minimum balance requirement

Normally accessible with USD1000 to USD5000 to get started. No minimum balance ones are also available.

Add-on features

Offers features such as tax-loss harvesting and automatic rebalancing. Such decisions are driven by algorithms and are quickly made by robo-advisors.

Robo-advisors in insurance: The potential

Robo-advisors operate like Embedded Virtual Intermediary (EVI). Their direct and digital interface does not add any layer in the service model for the customers and is generally integrated with the business itself. This renders it the complete lifecycle of insurance products and business processes.

Prospecting

Robo-advisor algorithms can access and process dynamic inputs of the prospecting exercise, tracking, following-up, monitoring and evaluating prospects more efficiently.

During sale

24x7 availability, high-quality superior analysis and therefore advice, fair and transparent.

New business and underwriting

Advanced algorithms and conditions will speed up the application review process. Will increase the number of auto-approvals as complex cases can be evaluated in real-time while providing premium loading factors. Effectively, the policy issuance time should sharply decrease.

Policy administration

Robo-advisor services are quicker, always available, cheaper, manageable (in terms of size and capacity), and have the self-service capability.

Claims management

If based on sophisticated algorithms, robo-advisors will be able to judge the characteristics of a claim and trigger, create and advance the simplest possible workflow in real-time, speeding up claims processing and improving the overall quality of service.

Fiduciary and robots: Still contentious

The role of the fiduciary has broadened in the past few years in certain geographies. A fiduciary's role requires them to place a client's interests before their own. It comes with a duty of loyalty and care which simply means that the advisor must act in the best interest of his or her client. This brings up an interesting question: can a robo-advisor perform the role of a fiduciary?

While there are many conflicting views on this, we are presenting our views here without debating others. Being a machine, a robo-advisor cannot have a personal interest in its clients. However, this system is configured by humans, so some 'self-interest' creeps in. This self-interest can be avoided if the algorithms are prudent and better controls are established. Hence, a robo-advisor with almost zero self-interest will always place the customer's interest above its own and act in their best interests. Its advice will be clear and transparent as it would use a consistent algorithm every time for all. However, being a machine, it may not have algorithms to analyze a customer's unique scenarios, risks and preferences. Thus, it is possible for robo-advisors to make recommendations without the complete customer profile. They may also lack the multistep need elicitation process where a customer is not exactly straightforward. Change in the customer profile will require input changes in the robo-advisor and the customer may have difficulty in making them themselves in a timely manner. Considering all this, a robo-advisor may fail to fulfill its obligation as a fiduciary.

Therefore, the fiduciary responsibility for robo-advisors may not be easy to comprehend. We will analyze this scenario later in this paper and discuss a different hybrid model where such a problem should not arise and the value of robo-advisors is realized.

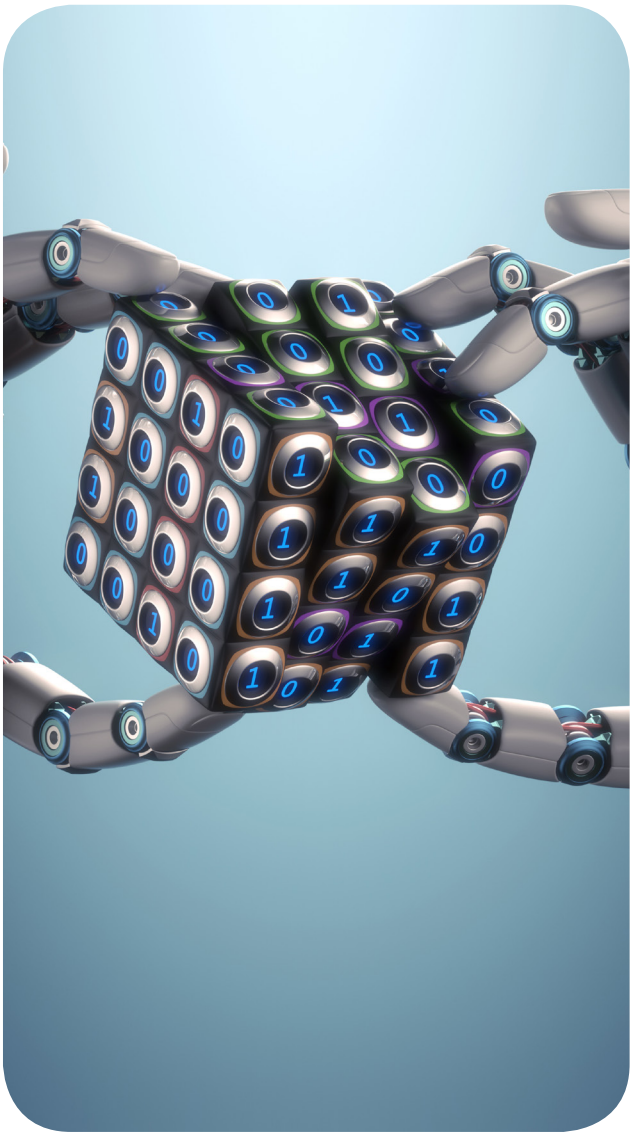
Reshaping the value framework

The effect of robo-advisors in different areas of the insurance business is expected to be broad and varied. We evaluated and quantified the effect in terms of five parameters across different areas:

1. Response time improvement
2. Price reduction (operational cost)
3. Quality improvement
4. Personalization
5. Add-ons

These evaluation parameters are sensitized with respect to different work items in five insurance areas:

1. Prospecting
2. During sale
3. New business and underwriting
4. Policy administration
5. Claims management



Relative scoring of the parameters, on a scale of 0 to 5, was done using the below formula and then equal weighting of parameters used to arrive at the aggregate numbers.

Formula for relative scoring = Normalized (Weighted Average ($PWIC_E$ / $PWIC_P$)

We can simply call it, the normalized weighted average of parametric work item characteristics where:

$PWIC_E$: Parametric work item characters - Existing
$PWIC_P$: Parametric work item characters – Proposed (With the inclusion of robo-advisors)

By using this formula, we arrive at the relative scores which are then equally weighted (for simplification) to arrive at the aggregate numbers. The details of the work items in each area of the insurance business are not included in this paper but can be requested separately. Given below is the summary statistic for the analysis.

Business Areas/ Parameters	Response Time Improvement	Price Reduction (Operational Cost)	Quality Improvement	Personalization	Add-On Features	Improvement in Specific Areas	Percentage Improvement in Specific Areas
Prospecting	1.7	2.1	1.1	2.7	1.6	1.84	36.80%
During Sale	2.1	2.4	1.3	2.8	1.9	2.10	42.00%
New Business & Underwriting	2.3	1.1	1.6	2.1	1.8	1.78	35.60%
Policy Administration	1.1	0.3	0.8	0.6	1.4	0.84	16.80%
Claims Management	1.8	1.9	1.1	1.2	0.9	1.38	27.60%
Overall Improvement by Parameters	1.8	1.56	1.18	1.88	1.52	Overall Improvement Score = 1.58	
Percentage Improvement by Parameters	36.00%	31.20%	23.60%	37.60%	30.40%	Overall Improvement Percentage = 31.8	

Following our analysis, we arrive at the overall improvement percentage of 31.8%, which does not capture the processing of complex insurance products using robo-advisors. Also, the improvement is not quantified at the product level. At a high level, we can say that robo-advisors can add value around 31.8% in the processing of simple insurance products. The maximum benefit is observed in the personalization parameter at 37.6%, while the least benefit is recorded in the quality improvement parameter at 23.6%. Prospecting and sales areas show significant improvement in the range of 36.8% and 42% respectively.
For our analysis, we have considered two areas, prospecting and during sale separately and have used equal weighing during aggregation, which may be subject to personal biases and interpretation. Therefore, please refer to the relative scores to get unbiased insights on the robo-advisors impact analysis. With an overall improvement potential of more than 30%, we believe that robo-advisors can reshape the value framework in insurance.

Benefit analysis

We have already analyzed the impact of robo-advisors on the insurance value delivery framework. Now, it's time to highlight and contrast these benefits in detail to understand the where, when and how of these benefits.

EVI

With an online interface, robo-advisors operate like an EVI. This is of great interest and importance for the new generation of customers who prefer to use the web or mobile channels for transactions.

24X7 advice and transaction capabilities

This is a great value addition for people with tight schedules. Also provides flexibility and ease of operation.

Higher service quality

The advice and analysis outcomes are consistent as they use the same algorithm for all participants with any number of repetitions which inherently improves the quality of service and enhances the user confidence.

Significantly limits interpretation errors

Accepts pre-specified inputs mostly in the 'choice' format, restricting input errors. Fat fingering issues may not be eliminated completely, however, can be minimized using additional Fault Tolerant Computing (FTC) models. Without input errors, the interpretation related errors are almost zero.

Operational ease

Compared to human intermediaries, robo-advisors are better equipped to avoid duplicates, in turn improving operational ease and assisting in time management.

Lower insurance cost

Commission cost can be greatly reduced which will eventually reduce the overall insurance cost. In addition, maintenance requirements and servicing costs for robo-advisors are negligible as compared to human intermediaries or processors, reducing insurance costs further.

Improved service delivery

Sufficient storage and memory capabilities provide competitive advantages in terms of better service delivery customers.

Better service experience

Capabilities of automated correspondence, inquiry and follow-ups provide smooth interaction with customers. These interactions incur almost zero cost but provide better service experience as customers generally do not realize that they are interacting with a machine.

Personalized experience

Greater customization and personalization features ultimately make customers happy.

Meets unique customer needs

Scenario analysis and contingency planning related features generally operate in an automated mode and provide the much-needed support to a customer's unique requirements.

These potential benefits can only be exploited efficiently if a robust and intelligent algorithm is available. In addition, the implementation model of robo-advisors must align perfectly with the functional modules of interaction. This might not be an easy task. However, considering the cost-benefit analysis, the breakeven point will most likely be in favor of robo-advisors.

The undeniable potential

While it appears to be an all-win scenario in favor of robo-advisors, the human controlled emotional environment of sale is hard to replace. Even though we aspire to be rational and include standard assumptions in our analysis, distortions happen and results deviate. The majority of these deviations are not failures of the model, rather outcomes of behavioral biases which are difficult to resolve. Therefore, human advising cannot be replaced with automated robo-advisors for all customers. At the same time, we cannot know the behavioral biases of prospects or customers in advance. Hence, we suggest developing an ecosystem where robo-advisors coexist with traditional channels of sales, intermediaries and operational processors.

Depending upon their preference or with suitable guidance, customers can make use of the required arsenals of the ecosystems' repository. For customers who prefer to use traditional methods of sales or transactions, the robo-advisor can be an assisting tool for intermediaries or processors and enhanced capabilities will greatly reduce effort. Effectively, this will improve the overall productivity and lower pricing in the long run.

Soon, hybrid models of robo-advisors will hit the market. They will be equipped to assist intermediaries in their day-to-day operation while structural transactions will be performed / approved by human supervisors. In many scenarios, this may not be needed and a fully functional robo-advisor will help customers at their preferred time and location. In addition, advancement in data analytics and innovations in artificial intelligence (AI) will help make complex robo-advisory algorithms, giving birth to more sophisticated and advanced models capable of accomplishing most of our wish list items.

In the initial years, there might be issues due to a lack of awareness and low confidence in an online application for critical decisions. Concerns pertaining to data security may also make customers hesitant to provide personal information. While these are genuine concerns, we believe they will be temporary. With better awareness and customer education, the insurance industry will be able to resolve these issues.

A bright future ahead

Based on our analysis and research, we find that robo-advisors have the potential to reshape the insurance value framework. We can easily visualize them in advising and prospecting and the underlying technology of algorithms can be extended to most other insurance areas as well. Their maximum benefits have been recorded in the 'during sale' phase while the personalization parameter has emerged on top. We also believe that despite all their merits, traditional channels of sales and transactions will have their part. We find behavior and emotional biases as one of the major reasons behind coexistence of traditional channels and robo-advisors. Therefore, hybrid models of robo-advisors will be needed to assist those intermediaries and processors. Also, sophisticated robo-advisors with improved algorithms will follow respective technological advancements. In effect, we expect to experience such hybrid and sophisticated models soon. With advancement and maturity, robo-advisors can potentially become an integral part of the insurance business in the near future.

References

1 https://www.finra.org/

2 http://www.comscore.com/

3 http://www.loma.org/

Nitin Kumar

Senior Consultant

Nitin Kumar is Senior Consultant with McCamish account at Infosys. He is a Financial Risk Manager (FRM®) and has around 7 years of experience in Domain & Process Consulting, Business Analysis and Research. His areas of interest include Insurance, Annuities, Actuarial, Risk Mangement & Investments.

He can be reached at nitin_kumar17@infosys.com

For more information, contact askus@infosys.com