Insurance Industry Failing to Innovate:

Customers Pay the Price

With labour productivity increasing, but expense ratios remaining stagnant, there is a problem with insurance distribution. We can look to innovation and technology to fill the gap.

This newsletter contains information for insurance professionals to understand popular technologies and how they relate to insurance distribution. We highlight, and cut through the buzz to provide intuition for when these technologies can be used, and what specific benefits they may or may not provide. While the focus is on insurance distribution, related use cases are also discussed. We go over: blockchain, machine learning for recommending coverages, chatbots, RPA and serverless.

Technologies: Distribution Expense Savings and Engineering Cost
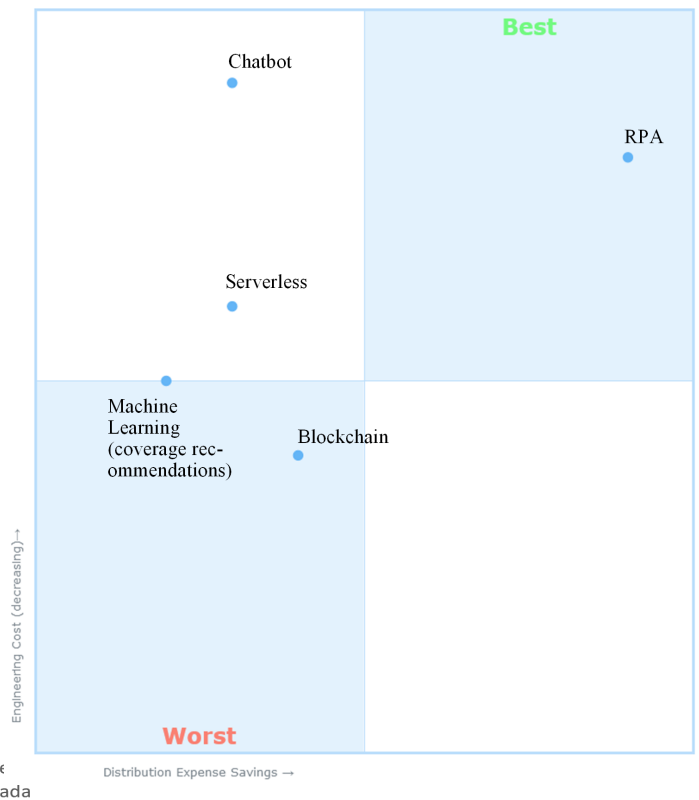
Expense Canada
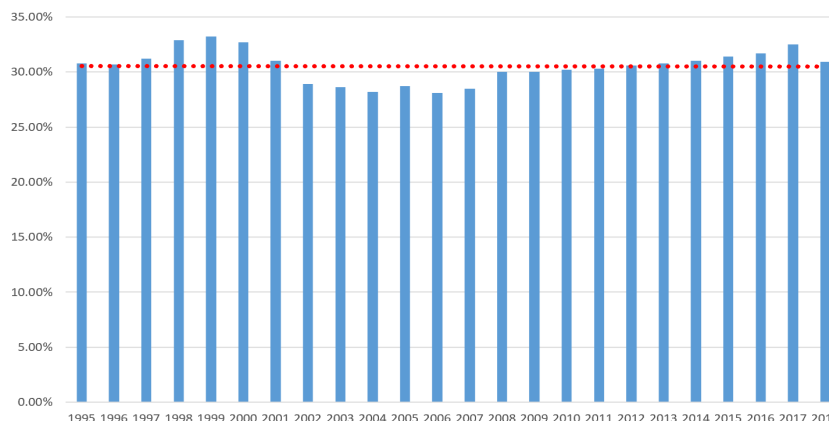
Machine learning - when can it be used?

Machine learning has numerous uses in insurance, but we will focus on gaining the intuition for when a problem might best be solved by machine learning. We will then focus on one specific example for coverage recommendations. We will also discuss how to get started with machine learning when you don't have any data available.

Three rules of thumb for when to consider machine learning

In general if your business has a problem, machine learning might be the appropriate solution if it follows the below guidelines:

1. The problem is easily performed by humans, but does not have a specific set of rules/instructions that can be written down to describe how the human does the task.

2. You can simplify the problem to predicting either a numeric value, or what group an item belongs to (or a collection of either).

3. You can fit the data that the human uses to solve the problem in: a spreadsheet, image, video, audio file, or some combination thereof.

There are types of machine learning for which you don't need prior data for, but those are less common and will be topics in a future edition of this newsletter.

Machine learning for recommending coverages

When it comes to recommending what coverages a customer should choose for their policy, some can be fairly straightforward. For example, look at a flood or earthquake map and determine their relative risk compared to the customer's personal risk threshold. Not much intelligence is needed to guide that decision. But what about more nuanced coverages such as: Cyber or Legal Expense.

Agents might consider several things before advising someone such as: their age, income level, personal risk tolerance, and geographic area of risk.

Agents can make suggestions based on the available information that uses some combination of the person's data. If you think of age, income level, personal risk tolerance and geographic area of risk as columns in a spreadsheet, this becomes a machine learning problem where you 'predict' recommend/not recommend for the consumer. Privacy policy and regulation permitting, your insurance software application can provide some immediate feedback to your

customers, freeing up an agents time for more direct questions and other responsibilities, ultimately lowering the cost of insurance distribution.

Usually these systems require dozens of initial data points to get started. In this case the initial dataset would looks something like a spreadsheet, where each row is a customer with the columns for: age, income level, personal risk tolerance, and geographic area of risk, and whether to recommend.

It would likely take an insurance expert one or two hours to set this up in the spreadsheet for a starting set of 50 customers. This problem can be scaled up by adding customers and other relevant factors for determining the recommendation. If you don't have the initial customer data you have run into something called the 'cold start problem'.

Cold Start Problem

The cold start problem refers to when a machine learning system requires an initial dataset to learn from, but your organization doesn't have the data. There is no silver bullet solution to this, but you have options.

The first suggestion is to set up a system to begin collecting your data as soon as possible. You usually don't need many data points to get started. In tandem with data collection, you can create synthetic data points. Synthetic data is data which is crafted by an expert, not obtained from a database of real-life customers.

In addition to the above Awywi used another approach, we used an optional risk profile questionnaire customers can fill out. We match the risk profile of users to expertly crafted risk profiles for our insurers and coverages.

Remember, machine learning is not always the best tool and solves highly-specific problems, so use it sparingly.

ARE CHATBOTS STILL RELEVANT?

Chatbots were all the rage five to eight years ago, what happened? Chatbots are a versatile technology with several use cases in insurance. For insurance distribution, a chatbot can be an initial single point of contact with a customer for answering questions as well as filling out insurance applications. The appeal to chatbots is that they can be embedded anywhere on the web, and actively engage potential customers through a familiar chat window.
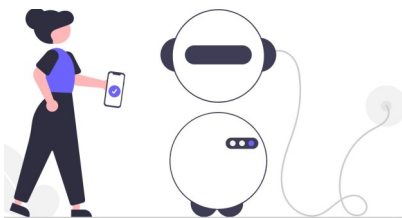
A chatbot enables you to build a UI that is platform agnostic. A webchat on a website, text messages, email exchanges, alexa/google home applications, and more. A chatbot enables a quote or policy purchase to occur anywhere a natural conversation could take place. Further to that, a chatbot can facilitate full policy lifecycle management. A customer will be able to text an insurance chatbot very soon saying: "amend my policy, I purchased a new air compressor for my business", and after a few questions have a completed policy change.

Chatbots have yet to see full utilization in insurance distribution but present a powerful opportunity as a growth and engagement tool for savvy insurers or brokers.

How Useful is Blockchain in Practice?

There is a lot of mysticism surrounding blockchain and what it actually does. It's even more confusing when you consider the possible effect it could have on insurance distribution expenses. Blockchains are usually discussed in the context of crypto-currencies, but creating currencies is just one possible use of blockchain.

The structure of a blockchain application

Generic software applications can be programmed, run and hosted on blockchains which are public or private. A blockchain application typically (but not always) has two parts: a smart contract and a dApp. A dApp is often the front-end or user-interactive portion of the blockchain application, where dApp stands for 'distributed application'. A smart contract usually contains your business logic or rules and connects your dApp to the blockchain. The smart contract can be thought of as a 'backend' for your application. Some blockchain systems may use alternative words to dApp and smart contract, but they are the most commonly used terms you will see.

Practically, the distributed aspect of blockchain means that once a smart contract is deployed to a blockchain it cannot be modified by any party. This is the major benefit to blockchain, connecting multiple parties without requiring any one party to trust another.

Within the sphere of insurance blockchain there are two most commonly discussed use cases: reducing claims fraud, and issuing policies.

Reducing Claims Fraud

A blockchain claims application could be built to accept claims for multiple insurers, guaranteeing that no incident will have two claims filed for it. This could help standardize the approval/rejection process for claims with a public record, and once

claims meet specific criteria they would be automatically paid out.

Issuing Policies and Quotes

A blockchain application could be used to issue policies and quotes. There are some limitations, namely that it would likely need to be done with a private blockchain technology so as to not expose customer information, or insurer rates and rules. This use case is mentioned here because it is often talked about in blockchain circles, but in the opinion of Awywi, does not offer any substantial value over emerging insurance as a service platforms.

Ok, so what are the downsides of blockchain

Blockchain is not without its issues. It's hard to justify the extra engineering expense to build a system that in most cases can just be built with traditional software technologies. Recruiting the right technical talent to build and maintain a blockchain solution is both incredibly difficult and expensive. Any application running on a public blockchain will have its business logic exposed which might limit the ability for an insurer to rate policies on it. A private blockchain is controlled by one entity, which essentially nullifies the main advantages of having a 'trustless' system. Practically speaking a private blockchain from an outsider's perspective is equivalent to a traditional centralized software application.

> *"It's hard to justify the extra engineering expense to build a system that in most cases can be built with traditional software technologies"*

What the Heck is Serverless?

Serverless is a term which describes the manner in which a software program is hosted and executed. Despite the name, it always involves a server. Serverless can be hosted on premise, but is more commonly used with a major cloud platform such as: Azure or AWS. The key of what makes something serverless is typically whether or not your organization has to worry about the underlying server running your software. If your provider rather than your team decides the hardware and operating system that your application runs on, it's probably serverless.

Serverless is not the same thing as a microservice

It's also worth noting that people often use the terms 'microservice' and 'serverless' interchangeably, but these are in fact different things. A microservice is a self-contained application that usually performs a single indivisible business task. A microservice can be hosted on a serverless platform, but not all serverless platforms exclusively host microservices.

Typically you pay per hundred milliseconds of time your software runs on a serverless platform. For insurance uses this can provide excellent cost savings. If in one year a customer has a quote, policy renewal and

a claim they have probably used only a couple seconds of server time, costing fractions of a penny with serverless. Contrast this to a music/movie/game streaming platform, where a user might consume hundreds of hours of compute time per year through content streaming. Additional cost savings will be found in having a smaller engineering team. System administrators for your serverless systems won't be needed as the concerns of hardware and operating system maintenance fall on the technology vendor. Usually technology vendors will handle upgrades and updates with a smaller error rate, resulting in less downtime for your software as well.

Serverless also handles large bursts of traffic well. If suddenly your system has to handle thousands of simultaneous policy issuances, a serverless system would be able to rapidly scale up to meet the demand in most cases.

The major downsides to serverless technologies are that they require technical knowledge that isn't yet standard in most IT teams. The engineering cost of rebuilding a system for a serverless platform should be carefully weighed before considering any major changes. The cost will vary greatly depending on your specific technology situation . In situations where you are building a new application from scratch or a new feature for an application it might be worth investigating whether serverless can be an effective cost reduction solution with your engineering team.

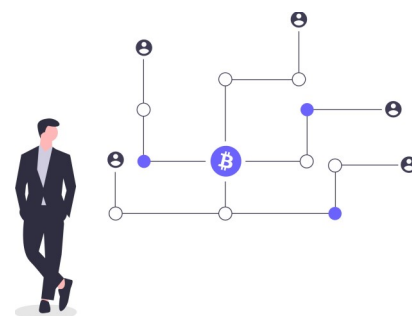## How Useful is Blockchain in Practice? (Continued)

Is there a future for blockchain in insurance?

At Awywi we are continuing to experiment with limited blockchain deployments, but so far we have not found it to have a greater cost reduction than our regular insurance as a service software platform. Our cost savings benchmark is 90% or more of average insurance distribution costs. Future articles will be written as we test and mature our blockchain solution. If you are interested in getting access as a strategic partner (brokers, and insurers are welcome) contact us at blockchain@awywi.com.

RPA: Biggest Bang for Your Buck

The number one technology for reducing expenses related to insurance distribution is Robotic Process Automation (RPA). As much as 70% of an insurer's expenses are related to manual processes that have resisted innovation for too long.

Traditionally manual tasks such as: quoting, communication between stakeholders, gathering information, recommending coverage options, filing, billing, and generating policies can be entirely automated. RPA represents the single largest cost reduction in distribution expense for insurers.

When you realize the actual savings from RPA, your staff now have time for the important things like selling, advising and building relationships. Being a slave to pushing paper is now history.

RPA enables your business to offer 24/7 service, not relying on specific business hours tied to a physical location. This is inline with what today's internet consumers expect. Compared to other technologies in this newsletter it has relatively cheap engineering costs. This is because RPA systems can be implemented with your existing soft-

ware technology stack, usually not requiring additional specialized software expertise.

The major barrier will be organizational attitudes and employee adoption to embrace the cost savings technology. Additionally, as with all engineered systems, there is ongoing expense associated with server costs and having engineers maintain the systems.

"The lowest cost for insurance distribution"

Awywi Insurance Services Ltd.

Address:
15555 16 Ave
Surrey, BC V4A 1R7

Contact:
Dominik Kaukinen, CIO

(833) 462-9994 ext 702
dominik@awywi.com

WHAT IS AWYWI?

Awywi partners with insurers and brokers reducing distribution costs and bottlenecks to allow all products to be sold for 0% commission in a real-time complete service environment. We use the latest technology to provide an insurance distribution ecosystem for insurance fulfillment.

Awywi's fulfillment platform handles infinite real-time quoting, issuance, change and renewal transactions for multiple insurers.

We sell through exclusive partner brokers for zero commission to consumers to drive unprecedented new business growth.