

29th India Fellowship Seminar

Selling of Products through alternate channels, tech giants. How far can we go?

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Agenda



- Introduction
- Alternate channels
- Tech Giants
- Where do we as Actuaries fit in?
- How are can we go?

Our Audience today



- Young just-qualified actuaries
- Many years of merciless study effort
- In one of the toughest markets to qualify
- Our perspectives on our topic
- And your future
- Since you are tomorrow's innovators and leaders

A changing world



- The world is being re-shaped, as we speak
- Tech giants, new services, destruction of the traditional way
- Unexpected sources and ideas, to say the least - but for insurance?
- How far can we go?

Alternate channels

- What was alternate a few years ago ...
- ... is mainstream now; Internet, Mobile/Smartphone Apps, Social media, Mobile social media
- What are we missing? Real alternate channels? AI? IoT? Robo Advisers? Vehicles?

Internet of Things (IoT)

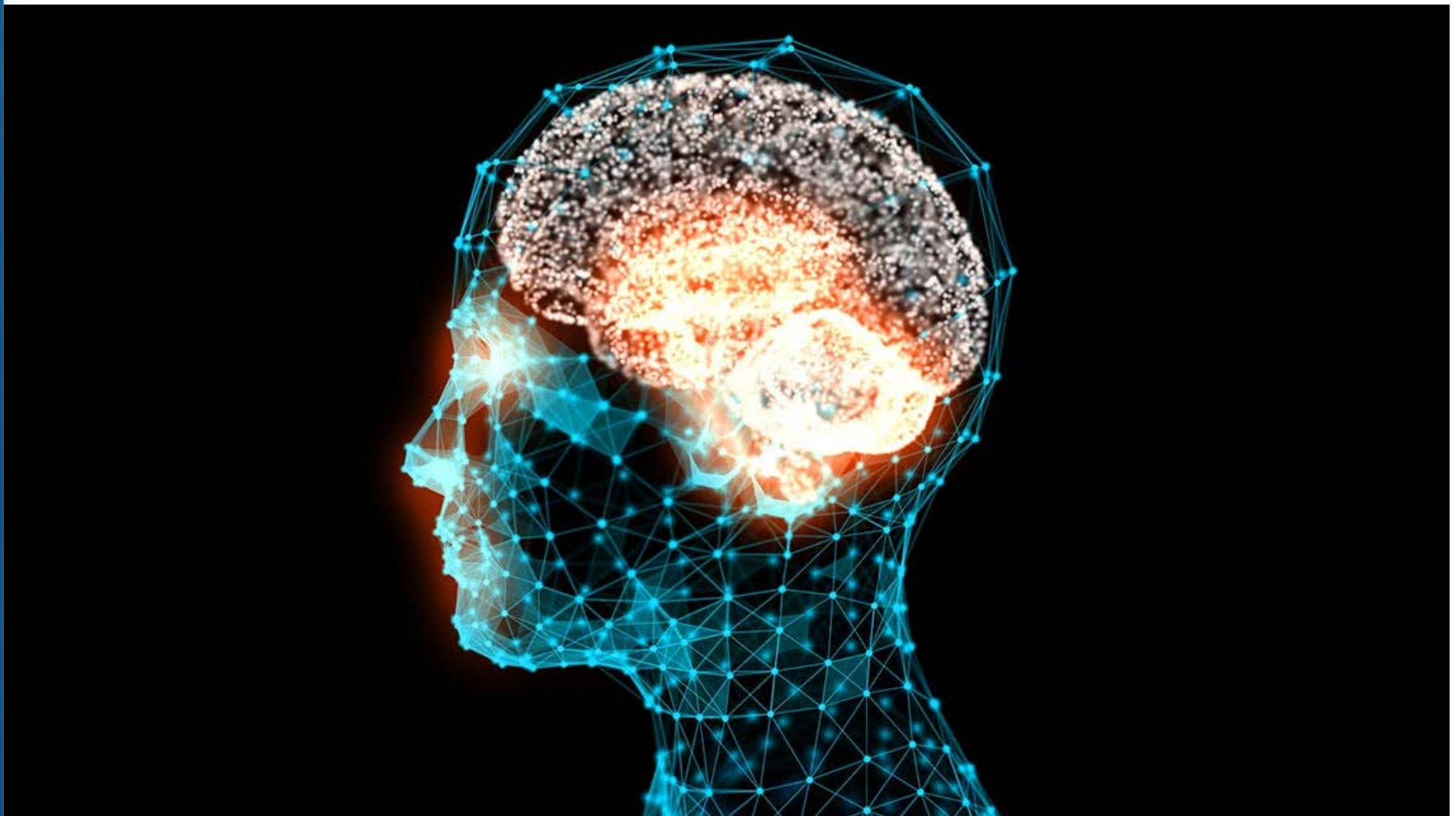


Internet of Things (IoT)



- Geospacial Applications. For example, auto insurance carriers now use what they call “telematics” to gather history of speed, distance, turning and braking patterns, time of day and much more from the vehicles of prospective policy owners in order to price and maintain “usage-based” insurance (“UBI”).
- Environmental Sensors. Homes, office buildings, warehouses and factories have sensors installed to detect temperature, smoke, toxic fumes, mold, earthquake motion or other hazardous conditions. With two-way communication, these IoT devices can also provide predictive alerts on potentially dangerous conditions in the near future.
- Connected Biometrics. Our kids may already be bored with their fit bits, but life, disability, medical and worker’s comp insurance executives should remain excited about “wearables”. Numerous large employers have established programs that award points to employees having healthy lifestyles as documented by their daily activity, calorie burn, heart rate and sleep pattern history uploaded daily.

Artificial Intelligence

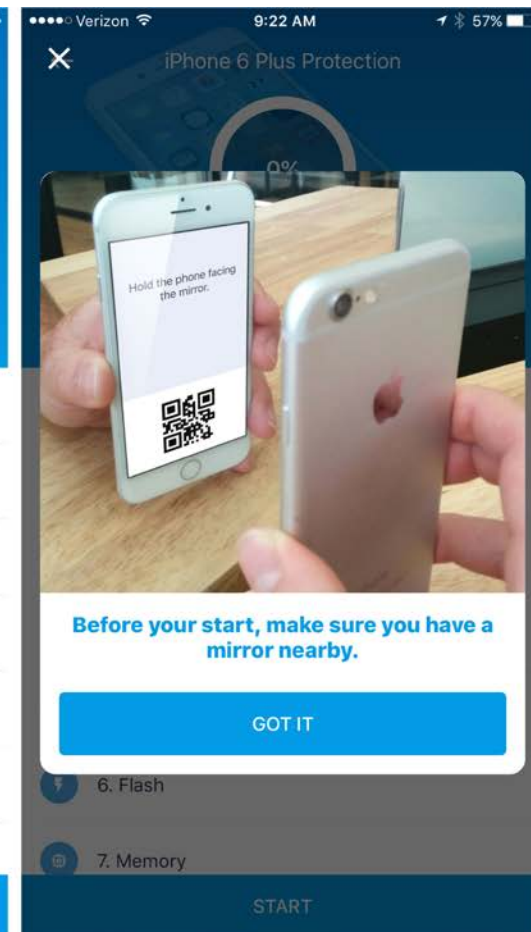
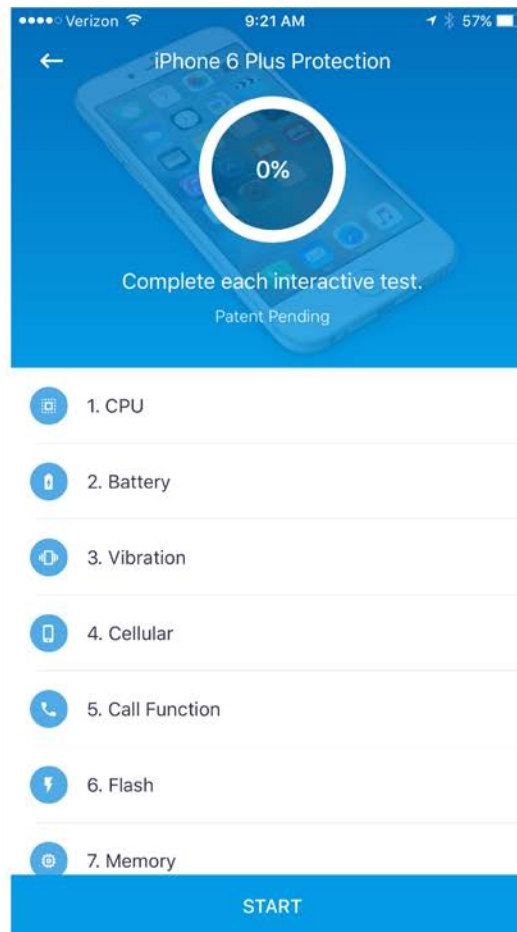
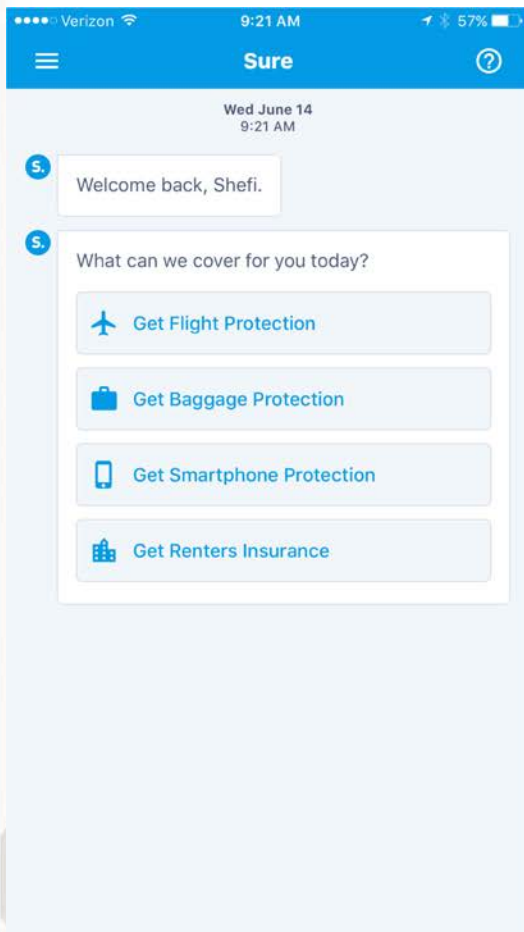


Artificial Intelligence



- Amazon are well positioned to take advantage of its internet of things (IOT) developments, including its Echo and Dot voice-activated speakers that use artificial intelligence. There has been a wave of activity in the insurance technology (InsurTech) space surrounding artificial intelligence and the so-called connected home, an area Amazon may be able to make some headway relatively quickly.
- If Amazon enters the insurance business, why wouldn't it utilise Alexa directly for customer care and claims processing? As Amazon already has all relevant data available, the simple voice command "Alexa, I have a claim" would be enough for the friendly voice to guide customers through the claims process in a few steps.

On Demand Insurance



On Demand Insurance



- On demand insurance allows to get the policy on demand rather than annual coverage. It is basically slicing down the policy, for example, car insurance for an hour when it is actually in use or 'at risk'.
- The past two years have seen the rise of a new trend in insurance: on-demand coverage. However, on-demand insurance still represents below 1% of the global insurance market.
- Baidu and Alliance provides scenario based insurance consisting of small situational protection offered for high frequency location-based or Internet transactions, such as OTA purchases, online-offline services, such as dining, ticketing, and other transactions.
- Trove is an another company that provides 'swipe to protect'. Under this on demand insurance scheme, a customer can swipe right on the smartphone to activate the coverage and swipe left to turn it off.

Zhong An - China's 1st digital insurer



Zhong An: A new model for digital insurance

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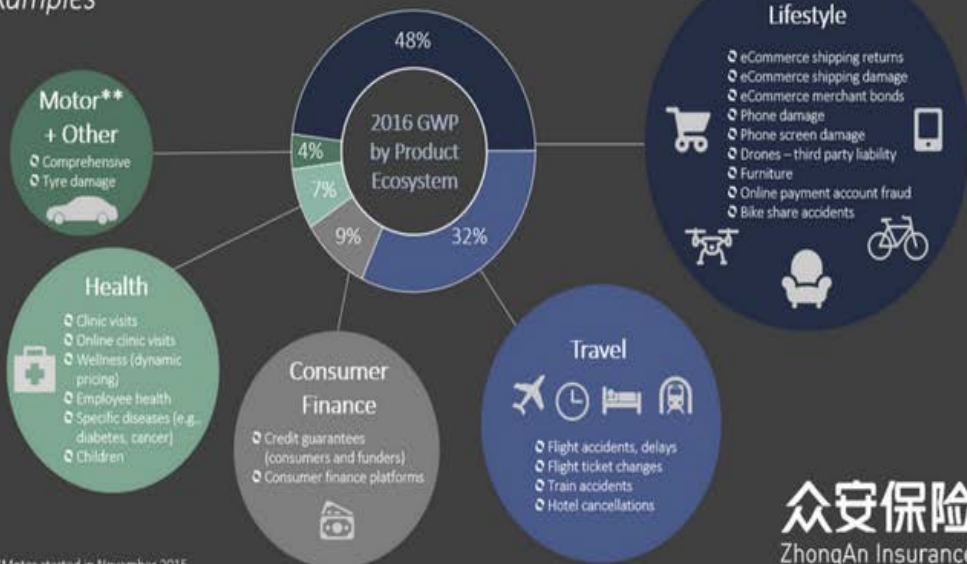


Targets underserved segments



Over 200 innovative products

Examples



众安保险
ZhongAn Insurance

Zhong An - China's 1st digital insurer

- An insurtech model launched by Ping An, Tencent and Alibaba in 2013.
- The Chinese insurtech company that has sold 5.8bn insurance policies in 4 years serving around 460m customers which is way too high than any traditional insurer have sold.
- Zhong An uses artificial intelligence and big data to simplify insurance, price risk more finely and distribute cheaply to a mass market via the internet.

Key Partners



Zhong An has excellent backers and investors. Some of them are as follows:

- a) Ping An - one of China's largest insurers.
- b) Tencent - China's top mobile messaging company.
- c) Ant Financial - an affiliate of Alibaba, operates China's largest retail payments platform.
- d) Zhong An is backed by some of China's largest online financial services groups and its public debut has attracted prominent cornerstone investors such as Japan's Soft Bank.
- e) Zhong An have not restricted this approach to ecommerce. They now have 300+ partners extending their reach across ecommerce, health, travel, auto and banking.

Channels conclusion



- IoT and AI are going to create alternate distribution channels.

Potential Ethical Issues

- Insurance products were traditionally developed to cater to the need of protecting people against unfortunate events. However, providing unnecessary coverage may lead to people being less cautious and taking advantage of the insurance benefits. Eg, Ola users in India may take advantage of the low premiums and miss their flights in order to receive the insurance benefits.
- The question whether the model of driverless cars should be made from the view point of the passengers or the “greater good” creates an ethical dilemma. Given the choice of saving a group of 5 pedestrians or the passenger in the car can't be answered.

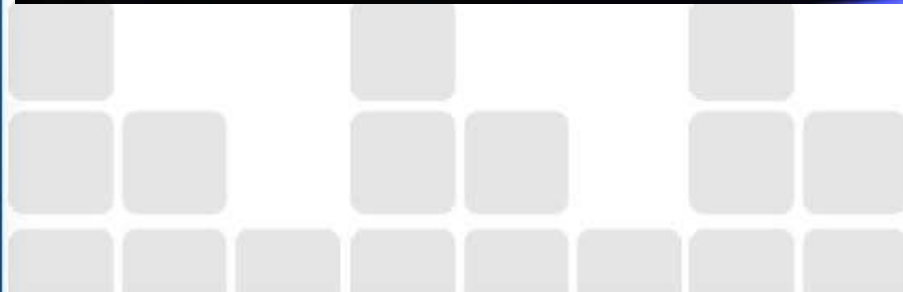
Positive outlook on ethics

- While actuaries think its ethical to charge a higher premium to people who pose a higher risk, research shows that genetic factors play the biggest role in determining the state of our health. As a result, big data could be used for genetic profiling and behavioural analytics to distinguish between policyholders that choose an unhealthy lifestyle and those whose health issues are caused due to genetic factors

The Tech Giants

- Barrier to entry? Or paving the highway?
- Space for the small, but will they muscle in where the money is huge? Do you really want to compete with Amazon?
- Change in ... say search algorithm, could kill your business
- How do we live and invest with these giants hovering in the background?

The Tech Giants



Amazon



- Amazon launched its first insurance division in London, UK. They offer an own-brand insurance product to protect against damage and theft. It adds to the manufacturer's existing guarantee including replacement options and coverage for accidental damage.
- Another advantage for Amazon is the subscription membership package "Amazon Prime," with which it has managed to create a bundle of services ranging from free premium delivery, access to special VIP offers, to e-books, an online video streaming service, a music streaming service, and an unlimited photo cloud. Beyond this, the company is moving in on various industries, ranging from the stationary food trade with "Amazon Fresh," the cloud service industry to financial products by offering an Amazon credit card through co-operations with banks as well as building a competitor to PayPal "Amazon Payments."

Google



- In 2011, they acquired Beat That Quote, which is a UK insurance price comparison site for 61 million, and then they starting making a number of investments and partnerships with both start ups, as well as insurance providers.
- Google sister company Verily is reportedly bidding for health insurance contracts now.
- The recent launch of the Google Assistant could enhance the user experience for both purchase of insurance and claims processing.

Apple



- Apple partnered with Cisco, Aon and Allianz to offer insurance against cyber incidents. Cisco and Apple provide the technology to keep users secure meanwhile Aon and Allianz offer cyber insurance evaluation services and insurance coverage against cyber attacks.
- Apple has also made small steps into the market by partnering with Vitality in the UK to provide smart watches for life insurance customers.
- Apple & IBM released an app called “Retention” which is aimed at insurance brokers to assist them in streamlining their business. It is sought to quicken the transaction process, and can be linked to a client base to provide up-to-date information and reminders on a client book.

Tesla

- Semiautonomous and autonomous vehicles from Tesla and other companies are altering the nature of auto insurance;
- Forbes has estimated that premiums could be reduced by as much as 75% as a result.
- However, a potential worry for insurers is cyber risk and hacking of the systems.



Tech Giants conclusion



- Insurance still too small and localized?
- Insurance has never been glamorous?
- Grudge purchase so stay away?
- Tesla and Amazon the only ones with substantial markets?

What do we (A's) offer?



- IoT will not just bring **big data**, but **new data**, unlike anything ever seen or used before. Insurers are focused on the ways to use the new data and analytics to improve pricing, underwriting, segmentation and claim management.
- A troubling threat - and potential opportunity - is the quantum increase in the insured companies' understanding and control of their operations made possible by IoT.
- Which quantitative professionals will the world turn to for expertise, insight and solutions in causal analysis? We can make the case for actuaries as leading candidates because of our expertise in evaluating the financial impacts of contingent incidents. In order for manufacturers to internalize this risk management capability, they will need both causal and financial analysis.

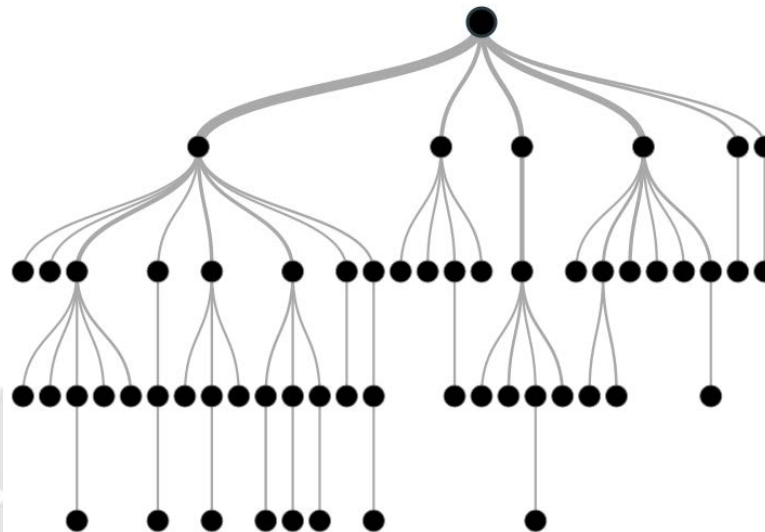
Pricing/Underwriting



- Various advanced analytical methods can add value at different stages of the modelling process.
- About a decade ago, GLM and decision trees were combined with new data sources to come up with a pricing strategy. Now, vastly improved technology and the availability of open source programming languages and libraries are providing greater opportunities.
- Some of the techniques getting attention right now include: decision trees, neural networks, gradient boosting etc. Applying these approaches to supplement the power of a GLM yields a more predictive result than using either independently.

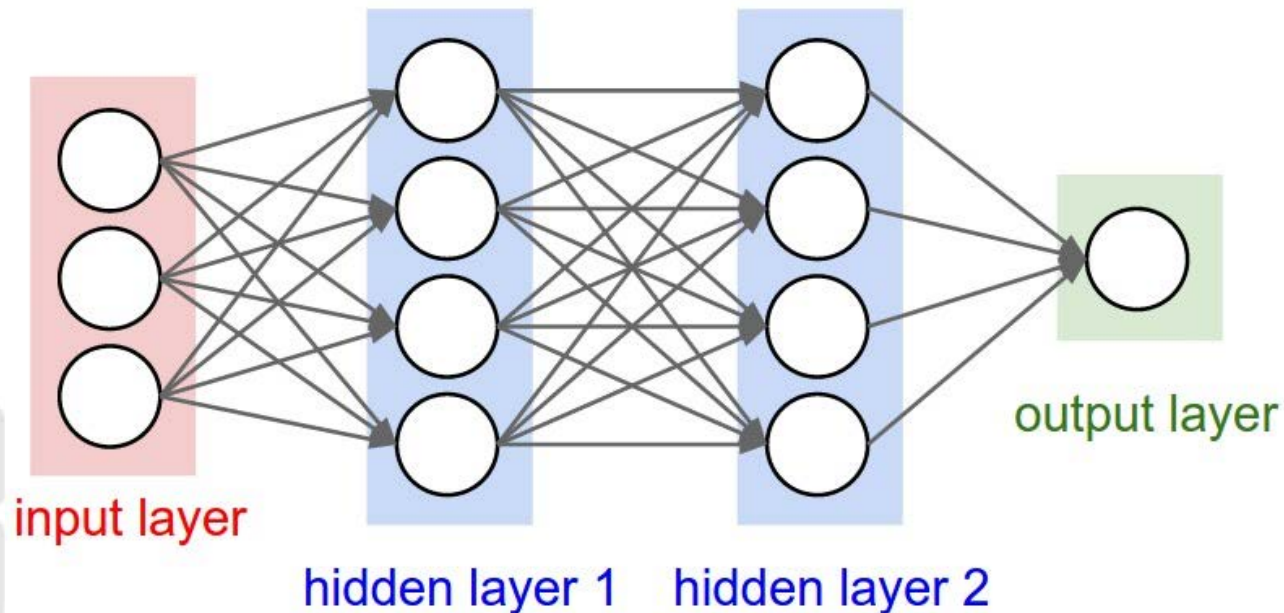
Decision Trees

- It is a recursive binary model which lays down the groundwork for random forests and Gradient Boosting Machines.
- This technique enables the creation of trees that:
 1. Predict outcomes of interval targets
 2. Classify observations based on the values of binomial, nominal or ordinal targets or
 3. Predict the appropriate decision when a decision alternative is specified



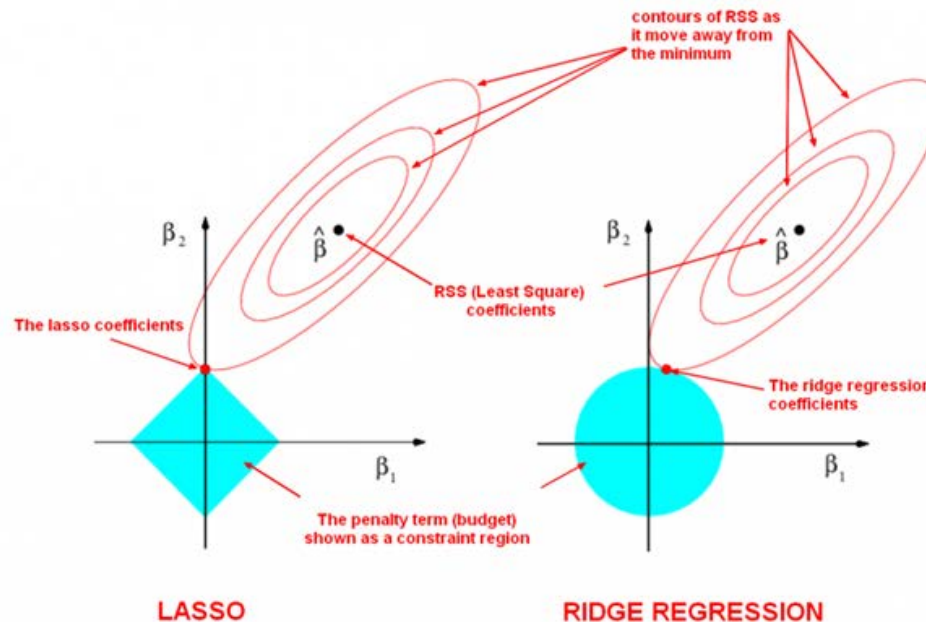
Neural Networks

- A neural network imitates how a neural system processes information and uses rules inferred from data patterns to construct hidden layers of logic for analysis.
- This method can be used to develop classification, regression, link analysis, and segmentation models.
- This technique represents its model in the form of nodes arranged in layers and weighted links between the nodes.



Penalised Regression

- Penalised Regression refers to the family of methods for building Generalised Linear Models using regularisation.
- It's a regression technique where an extra term constrains the coefficients of the covariates. The penalty term shrinks the coefficients closer to 0. This technique biases the model but decreases the variability to give better predictability.
- Some of the widely known methods include lasso regression, ridge regression and elastic net.



Boosting Mechanisms



- Gradient Boosting Machines - it is a machine learning technique that features solutions to regression and classification problems. The algorithmic method includes statistical elements (eg, additive modeling and MLE), which enable us to derive diagnostics assessing the quality of predictions, the variable influence and marginal effect by variables. This has blurred the boundary between machine learning and traditional statistical modeling.
- Delta boosting - similar to gradient boosting, this method attempts to solve for maximum loss reduction. Its done through partitioning data and adjusting parameters simultaneously. The process is more synchronized hence improves the efficiency in each iteration.

How Far can we Go?

- What are our limitations?
- Ethical & Moral
- Actuarial Science
- Market boundary - what people will spend their money on
 1. An unsold product has no impact other than wasted company resource.
 2. So, how far we can go, is still dictated by what people will buy.
 3. Product design and marketing and sales (probably) trumps all other questions.