THE FUTURE OF UNDERWRITING

International Insurance Society

Mentorship Program

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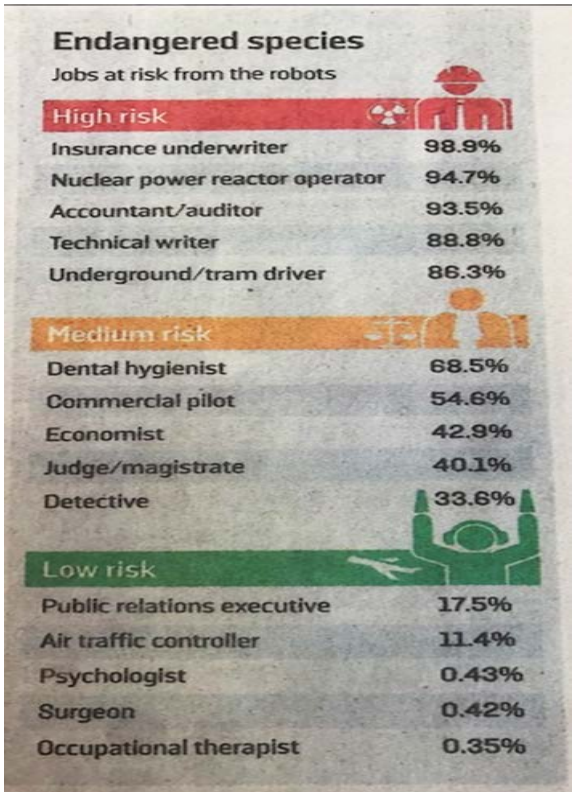
INTRODUCTION

It was early 2016 and I had just boarded a plane headed for Munich. I was quite pleased that there had been no delays on the trains and my flight was on time. I was sitting comfortably in my seat thinking how lucky I was to have an interesting and challenging job. I ordered a drink opened the newspaper and then it happened. Turning to page 6 I was confronted by an article analysing which industries are most at risk at being replaced by robots. The Underwriter was listed as a 99% probability of being replaced by robots within the next decade.



Source: The Independent

Although Allianz had been doing some work on this issue this was a wakeup call that in reality this fact could be just around the corner. With this in mind I have a keen interest to make sure that our industry survives the challenges ahead of it and remains relevant for years to come. For this reason I chosen this subject for my IIS paper.

So we must ask ourselves the question "Why is it that after all these years of trading we now face justifying our value and existence?"

Up until recently the way we underwrite had been in place for many years and accepted as "Business As Usual" However the industry faces a new challenge as we face exponential digital growth and a new breed of competitor.[1]

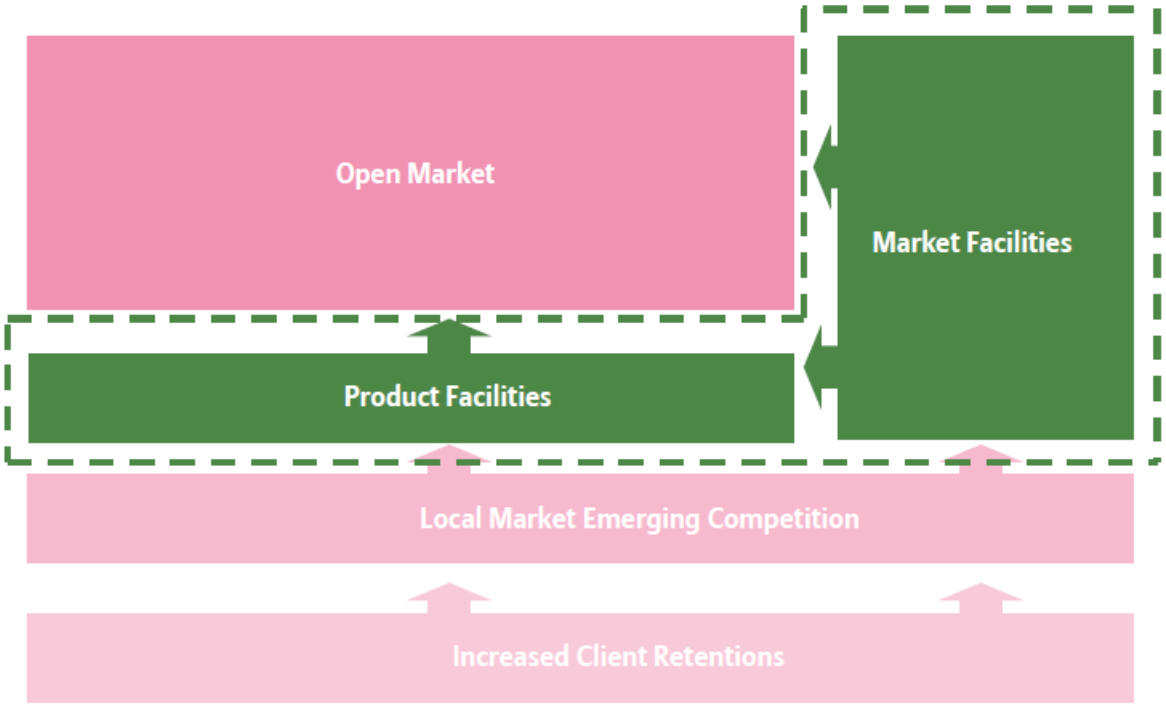
Science fiction is now becoming science fact and the way businesses operate is changing at an exponential rate. If we as Underwriters do not change the way we do business then we could face being made redundant.

In this paper I will explore the competitive landscape we are in today, new technology that is changing the way we do things as underwriters, new exposures in the market we need to underwrite and how the future Underwriters role will change in order to adapt to the changing market.

[1] Youtube – Quoted from "The Future Underwriter." See bibliography

THE COMPETITIVE LANDSCAPE

Until recently competitors were merely other insurance companies. However we now face additional competitors and threats who are taking on and reducing capacity in the insurance industry.



Source AGCS SE

Facilities

Over the past few years we have some an increase in the amount of facilities available in the London market. Some senior people in the industry think the commoditisation of insurance has gone too far while others think it's the sign of the times. Either way the broker and Insurer relationship is strained.

Evan Greenberg, Chubb's CEO recently criticised broker facilities in his Q1 report. He said brokers collect a portfolio of one off risks into one placement and use the volume to attract underwriters who will then price and underwrite at terms that are not sustainable.

As a result broker compensation is increasing putting more pressure on expense ratios for insurance companies. This is not sustainable and at some point we will need to question whether or not to support the increasing amount of facilities which take business from the market and increase insurer costs.

Since 2010 the amount of facilities has steadily grown. Dominated by the big 3 brokers, AON, Marsh and Willis Tower Watson, the facilities do not have identical structures but share essential characteristics. The Insurer will offer an agreed amount of capacity and in return the guaranteed follow form business they pay and enhanced commission. Commissions are the cost of doing business and it's in the brokers best interest to maximise commissions. If Insurer's are willing to pay for new business in a soft market then this is fair competition.

Marsh for example has put several facilities in place since 2010 when it formed the Project Blue energy facility. It now has several, spanning diverse property-casualty classes from energy to terrorism. Last year it introduced FL

Echo, an excess facility for all classes of management liability insurance at Lloyd's and in the wider London insurance market. Willis Global 360 launched in 2013 with a set of seven optional capacity facilities across its Aviation, Space, Construction, Property & Casualty, Marine, Energy and Facultative Reinsurance London-market subscription business. Aon Client Treaty was launched in 2015 as the mother of all facilities with over half a billion dollar annual premium throughput. A pre-placement of a 20% share of Aon's London market wholesale business, over half a dozen Lloyd's carriers led by XL Catlin subscribe to the facility.[2][3]

Brokers advise that by using data analytics they are providing an efficient service and value for price whilst meeting client needs however will the claims handling, terms and conditions and pricing be as robust as individual service.

In summing up there is a growing concern on the increase of facilities and the effect they are having on the market. Much attention has been focussed on the high cost of participating on them as brokers get desperate for more business. The impact is lower premiums and higher costs and the question remains is this sustainable or is this a sign of the new normal way of doing business.

Disruptors

Many years ago the competition we faced was from our direct competitors. We could compete against other companies by offering bespoke products, better price or improved service. However today the industry faces a new type of competition and this comes in the form of a disruptor.

Disruptors can upset current markets and in some cases make current markets redundant. Here are a few examples of what disruptors have achieved outside the insurance industry and why you can't ignore disruptors.

Kodak – There are few corporate blunders as staggering as Kodak's missed opportunity in digital photography, a technology that it invented. The strategic failure was due to the digital photography market destroying its film based model. Kodak's management's inability to see digital photography as disruptive technology. Kodak had a 10 year window of opportunity and even then they invested $500m in a film based product called Advantix which failed. Kodak went from a billion dollar company to nothing in 10 years as it failed to see the disruptive technology and act accordingly.

Amazon - Whilst the previous example of Kodak was an example of a company that failed to see disruption Amazon is an example of a company that became a disruptor to the retail market. It had a different way of operating that was different model from a standard retail outlet. It provided people with an opportunity to shop without having to leave the comfort of their own home.

Amazon started as an online book shop back in 1994. It has since grown to be one the biggest companies in the world expanding its offering beyond books to include everything from groceries to producing TV shows.

Amazon share price has risen from 18 to 957 in 20 years. It's first quarter sales for 2017 were 35bn. The company now employs 19000 people in the U.K. alone.

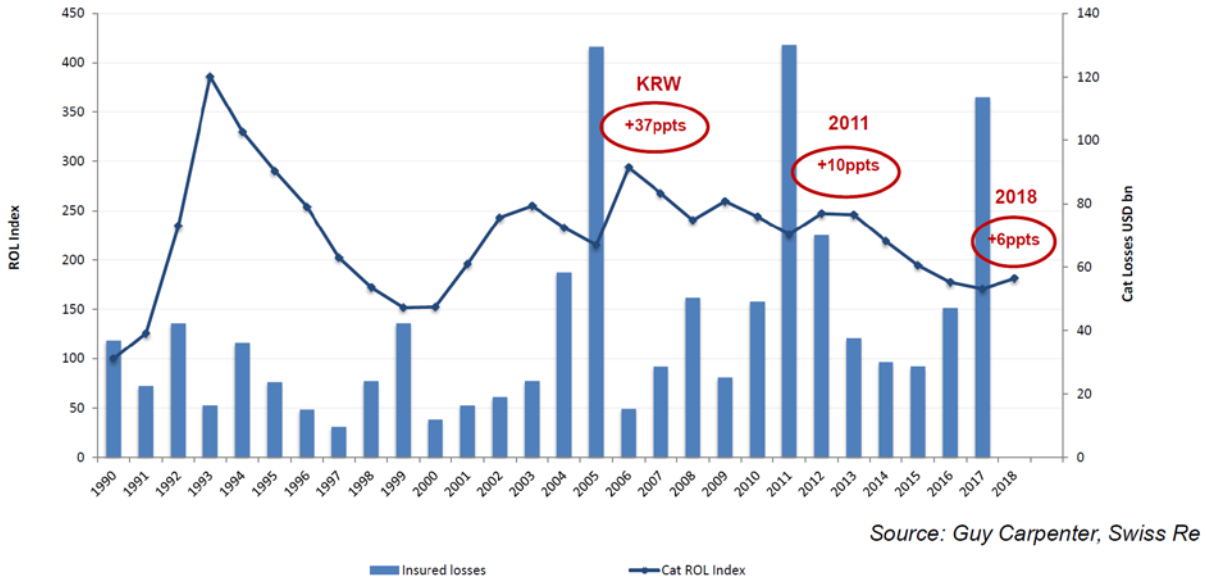
Within insurance will there be a company like Amazon that takes on the entire industry by doing something different. This is what we need to be aware of.

[2] Internal Graphic from AGCS
[3] Are Facilities the Future of Insurance Broking – Reactions

Buyer behaviour

Due to the competitive landscape Insurance buyers have many options to them in order to transfer risk and with health and safety improving each day we are seeing less claims. It is a buyers' market and here is a list of a few factors contributing to this.

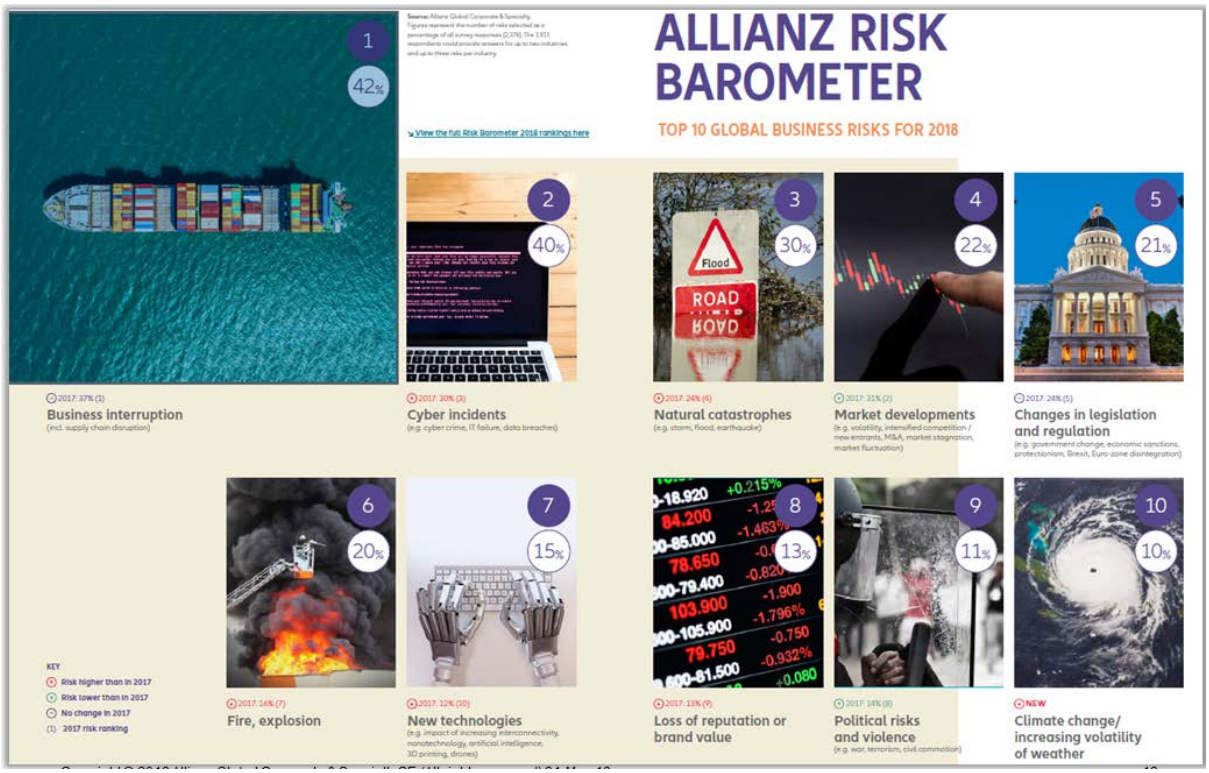
- It some areas where there is limited appetite in the market such as Pharmaceutical companies we are seeing them increasing their deductible and in some instances not buying insurance anymore. In the last 4 years of trading I have personally seen $24m worth of premium withdrawn from the market as buyers have decided to self-insure.
- As you can see from the chart below 2005, 2011 and 2017 were full of catastrophic losses to the industry and each year after we are seeing a reduce increase in price to compensate for those losses. In 2006 year the industry witnessed a 37% increase in rates after catastrophic 2005 year. However in 2012 1nd 2018 we are seeing reduction in premium increases following a catastrophic claims year. This demonstrates there still excess capacity in the market and other offerings for clients to take advantage of.



Source: Guy Carpenter, Swiss Re

EXPONENTIAL GROWTH

Allianz Risk Barometer 2018



Source AGCS SE

Every year AGCS identifies the most important risks for our customers for the forthcoming year. 1,911 clients across 80 countries were surveyed about what keeps them awake at night. In 2018 new technologies were 7th on the list which is up 3 places from 2017 where it was graded 10th. In 2016 it did not even register on the top 10 scale.[4]

Businesses face new liability scenarios caused by the shift of responsibility from human to machine. Coverages for liability are more challenging as products become more complex and digital. Claims could arise from two machine that did not communicate or defect from a 3D printer.

This shows us that technology is increasing in the work place and its unknown potential exposures are causing clients concern.

[4] https://www.agcs.allianz.com/insights/white-papers-and-case-studies/allianz-risk-barometer-2018/

EXISTING

ARTIFICIAL INTELLIGENCE

Artificial Intelligence (AI) refers to the ability of a computer program to think and act like a human. AI's applications are bringing increased benefits to the workplace providing increased efficiencies, new products and less repetitive tasks

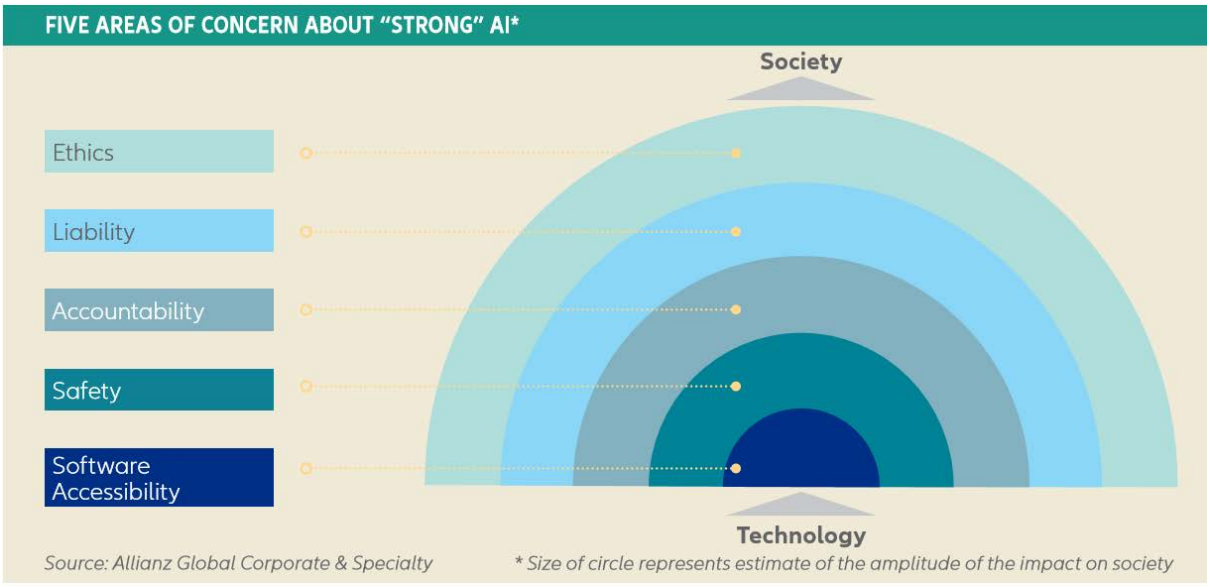
AI technologies are projected to boost corporate profitability in 16 industries across 12 economies by an average of 38% by 2035.[5]

Companies face new liability scenarios and exposure as tasks shift from human to machine. In order to assess the exposures of AI we need to differentiate between strong and weak AI.

Weak AI – Is what we see in the work place today such as chatbots, solving a puzzle, Siri, Amazon Alexa. Limited application and complexity and no real danger should there be a malfunction.

Strong AI – Is what we can expect in the future which will take appropriate assessment and analysis to understand the exposure. For example with autonomous driving the AI will have similar cognitive abilities as humans. It will make complex decisions and learn from them and wrong decisions could result in an accident resulting in injury or possibly death.

With this in mind we need to analyse the 5 areas of concern as part of our assessment.



Software Accessibility – Assesses whether or not some technology should be available to the general public. If some of the technology got into the wrong hands the consequences could be catastrophic.

Safety – The appropriate test are in place for the AI to perform its intended use before being introduced into society.

Accountability – The right to an explanation on how AI reaches a decision. This prevents unintended bias towards humans based on their characteristics such as race, gender, religion etc.

[5] Internal AGCS publication. The Rise of Artificial Intelligence: Future Outlook and Emerging Risks

Liability – The producer of the AI is liable for defects and damages it causes to humans. According to current law if AI were to face court action due to its own interpretation there is no clear law in place showing negligence against AI therefore any litigation would be expensive and complex.

Ethics – When developing AI can it distinguish between a good and bad decision. How are ethics installed into AI with its ongoing learnt behaviour.

3D PRINTING

The first idea of 3D printing came about and in the 1980's and since then technology has advanced. Parts are built up layer by layer which is why we call it 3D printing. 3D printing also known as additive manufacturing can be used in many phases of the product life cycle therefore having a major impact on design, business models and the supply chain. This technology can be beneficial for multiple industries. For example:

Aviation – Lightweight design, improved performance, new materials and spare parts on demand.

Medical – Individual and bespoke fit, manufacturing costs, improved functionality

Automotive – Lightweight design, short development cycles, small batch size production costs and customisation.

Machinery – Improved functionality, short development cycles and manufacturing costs.

Food – Chocolate, noodles and pastries

Construction – Structural work

3D printing can come in 2 forms. The first being power bed infusion (PBF) which uses common printing techniques where by a laser beam is used to melt or fuse material together and second being material deposition process (MDP) which virtually prints on a layer by layer concept. [6]

The number of materials available for printing uses is also growing. Currently on the market there are various types of plastic additives that can be used and the list of available metals is growing. In other areas we are also seeing concrete for building in the construction industry although not yet mainstream, food products such as fondant to make sweets and yarn to make clothing.

Companies are actively looking into different ways to implement 3D printing into their workplace. The technology is improving at a steady rate and will incrementally improve product development revolutionizing the way we do things.

Presently we are seeing development in aerospace, dental, jewellery, implants and other surgical devices, textiles, prosthetics, sports equipment, toys, electronics, furniture and automotive products. Will the future see us printing replacement human organs or spare parts for a space shuttles whilst in space. The uses are endless and as underwriters we need to understand the exposures. Below is a few points that could go wrong:

- Defective digital file.
- Corrupted copy of a model digital file.
- Defective printer.
- Human error in initial design or using the printer itself

6

http://www.lboro.ac.uk/research/amrg/about/the7categoriesofadditivemanufacturing/powderbedfusion/

BLOCKCHAIN

Blockchain is a digital ledger in which transactions in form of cryptocurrency (e.g. Bitcoin) are recorded chronologically and publicly.

When we talk about blockchain we are discussing an idea with endless uses. Many people perceive blockchain to be only used with cryptocurrencies and finance markets however Blockchain can be used in a variety of different ways. Later on in this document we will look at Blockchain uses in insurance. This part looks at Blockchain generally and its uses.[7]

Decentralised Internet - Programmers are currently working on decentralised internet platforms to distribute all the functions of the internet over distributed nodes which will increase the resiliency of the world wide web.

Smart Contracts - Smart contracts can be built on top of a ledger and operate as decentralised applications. These programs can run functions which are becoming more sophisticated and may diminish the need for standard legal contracts.

Decentralised Markets - One challenge with cryptocurrencies such as Bitcoin is the need to trade on centralised exchanges which can be shut down or hacked. Decentralised markets allow trading without having to trust a third party.

Distributed Cloud Storage - Distributed cloud storage avoids the need to place faith in large centralised companies where personal data is vulnerable and pricing may escalate to cover the expanding number of data servers.

Decentralised Social Networking Sites - Social networking sites are centralised and are prone to censorship of information. Decentralised social media platforms mitigate this and financially reward the content creators.

Encrypted Messaging - Peer to peer messaging can leverage blockchain technology to encrypt messages and store data bits efficiently on many different computers where they can only be accessed with a private key.

Proof of Ownership - Items that are purchased could be tracked on the blockchain to demonstrate proof of ownership and to prevent the sale of stolen goods which may eventually help to reduce crime.

Authenticated Voting - While digital voting can be susceptible to tampering, blockchain voting technology is verifiable and would allow anybody to audit the blockchain to confirm votes are time stamped and legitimate.

Stock exchange - In traditional stockmarket there is typically a delay of 2–3 days for settlement of stocks and bonds. Trading stocks on a blockchain is more cost effective and provides instant settlement.

Real Estate - Property titles, transactions and historic value can be built onto the blockchain providing transparency and reducing the time and cost associated with real estate transactions.

As you can see there are many uses for Blockchain that could create new exposures for underwriters. We need to be discussing these exposures with our clients to make sure they adequately insured for the risk

AUTONOMOUS DRIVING

Driverless cars and automated vehicles offer major benefits that could change our lives. However insurance companies will need to think about how this impacts their exposure. As you could imagine world-wide motor

[7] https://hackernoon.com/10-uses-for-blockchain-that-will-change-the-world-c5b96cf7c976

premiums account for a large part of a business portfolio due the large amount of vehicles insured. What will be the impact as autonomous driving increases?

At present there is a lot of testing happening in the UK and the legal and regulatory framework is not a barrier. However the law and regulation needs to be updated so Insurers know who will be responsible in the event of an accident. If we no longer have drivers on the road, will there be no more accidents. Will the motor insurance markets cease to exist or will it create a different exposure whereby the manufacturing companies and AI developers are negligent for each accident.

It is estimated that the average driver spends 6 weeks a year driving so there could be a real opportunity to dramatically decrease the amount of accidents on the road as an autonomous vehicle will never get distracted or fatigued. However what happens if an autonomous vehicle collides with a driver operated vehicle. Will the AI that operates the choose to crash into a wall injuring all inside the car or hit the pedestrian that walked out in the middle of the road. This brings a moral dilemma to the equation.

NANOTECHNOLOGY

Nanotechnology is science, engineering and technology conducted at a nanoscale level, which is about 1 to 100 nanometers. This involves the manipulation of individual atoms and molecules.

It has been around since the early 2000's but still is classified as an emerging risk as scientists are still using this technology to create new products that could have different exposures. For example if Insurers insured water there would be no exposure to water causing a burn. However what if you used nanotechnology to turn water into steam you would then have a very different exposure that could burn someone. Below are some examples of how nanotechnology is used in the workplace.[8]

Medicine - One application of nanotechnology in medicine currently being developed involves employing nanoparticles to deliver drugs, heat, light or other substances to specific types of cells, such as cancer cells. Particles are engineered so that they are attracted to diseased cells, which allow direct treatment of those cells. This technique reduces damage to healthy cells in the body and allows for earlier detection of disease.

Electronics - Nanoelectronics holds some answers on expanding the capabilities of electronics devices can be expanded while reducing their weight and power consumption. These include improving display screens on electronics devices and increasing the density of memory chips. Nanotechnology can also reduce the size of transistors used in integrated circuits.

Environment - Nanotechnology is being used in several applications to improve the environment. This includes cleaning up existing pollution, improving manufacturing methods to reduce the generation of new pollution, and making alternative energy sources more cost effective. Potential applications include cleaning up organic chemicals polluting groundwater, generating less pollution during the manufacture of materials and i creasing the electricity generated by windmills. Epoxy containing carbon nanotubes is being used to make windmill blades. The resulting blades are stronger and lower weight and therefore the amount of electricity generated by each windmill is greater.

Consumer Products - Nanotechnology has already found its way into numerous consumer products you use every day, from clothing to skin lotion. They include silver nanoparticles in fabric that kill bacteria making clothing odour-resistant, skin care products that use nanoparticles to deliver vitamins deeper into the skin, lithium ion batteries that

[8] http://ccweek.com/article-2630-everyday-applications-of-nanotechnology.html

use nanoparticle-based electrodes powering plug-in electric cars and flame retardant formed by coating the foam used in furniture with carbon nanofibers.

Sporting Goods - Sporting goods have been improved by nanotechnology. Current nanotechnology applications in the sports arena include increasing the strength of tennis racquets by adding nanotubes to the frames which increases control and power when you hit the ball, filling any imperfections in golf club shaft materials with nanoparticles; this improves the uniformity of the material that makes up the shaft and thereby improving your swing and reducing the rate at which air leaks from tennis balls so they keep their bounce longer.

FUTURE

The Gartner Hype Cycle[9]

Source: Gartner (July 2016)

The Hype Cycle is a graphical presentation that represents the maturity and, adoption and social applications of specific technologies through 5 phases[10]

1. Technology Trigger - A potential technology breakthrough kicks things off. Early proof-of-concept stories and media interest trigger significant publicity. Often no usable products exist and commercial viability is yet to be proven.
2. Peak of Inflated Expectations - Early publicity produces a number of success stories and interest in the community often accompanied by scores of failures. Only a few Companies will act on this.
3. Trough of Disillusionment - Interest decreases as initial research fails to deliver. Producers of the technology reassess the situation. Investment will be difficult to attract as they must appeal to the satisfaction of early adopters.
4. Slope of Enlightenment - More instances of how the technology can benefit the enterprise start to crystallize and become more widely understood. Second- and third-generation products appear from technology providers. More enterprises fund pilots; conservative companies remain cautious.
5. Plateau of Productivity - Mainstream adoption starts to take off. Criteria for assessing provider viability are more clearly defined. The technology's broad market applicability and relevance are clearly paying off. If the technology has more than a niche market then it will continue to grow

[9] https://en.wikipedia.org/wiki/Hype_cycle
[10] https://www.gartner.com/smarterwithgartner/top-trends-in-the-gartner-hype-cycle-for-emerging-technologies-2017/

Let's look at some new technology that Insurer's could be dealing with in the next 5 to 10 years that could change the traditional way of underwriting.[11]

4D Printing – With 3D printing now going being used in the workplace 4D printing is entering the innovation trigger stage. 4D printing is when the substance you print with can react to the outside world. For example a valve that can sense water passing through then closing or a building that can sense a cold temperature and can turn the heat on.

Smart Dust – This is the ability for a machine to smell and taste. In respect to smell a machine could sense any hazardous materials and warn accordingly and for taste could detect any contaminations preventing food poisoning. However would be the exposure should they fail to do their jobs.

Human Augmentation – This is the ability to enhance human characteristic and capabilities through implants or other technologies. For example an eye implant that allows humans to see in the dark. As a new risk this is will bring many new exposures to consider.

Wearable IT – At present we have various types of devices we can wear to measure fitness and health. However this technology continues to grow at a steady pace. In the medical area we are seeing many prototypes being developed to monitor people with certain conditions.

Neurobusiness – Just like neuroscience this is the study of the human brain then applying this science to buyer behaviour. At present we see advertising based on your internet searches. For example when you are researching your summer holiday then on your Facebook page later that day you get adverts for holidays destinations. Same methodology but based on buyer behaviour.

Smart Robots – At present we have robots but the question is how smart can these robots get and what new exposures can come from this?

802.11ax – This is the new generation of Wi-Fi bringing improved performance. This is similar to the internet going from dial in to broadband.

IOT Platform – Is a system of interrelated computing devices that have the ability to transfer data over a network without requiring human to human or human to computer interaction.

There are of course many more examples which you can see within the Hype Cycle.

[11] Brief descriptions bellow from Hype cycle and wikapedia searches.

ADAPTING TO EXPONENTIAL GROWTH

BLOCKCHAIN

At present blockchain technology has mainly been used in the financial services area such as Bitcoin however this technology offers huge potential for the insurance industry. This technology could increase efficiencies in fraud detection, pricing and general administrative processes. With limited growth in mature markets Insurers can use technology to be more efficient and reduce costs.

The implementation of Blockchain requires planning as it needs to comply with regulatory conditions and the appropriate platform will need to be selected to ensure a smooth and efficient implementation. At present the insurance industry is exploring ways to implement blockchain and unlock its potential. Blockchain can be can graded into three areas to suit and Insurance business model.[12]

First Generation - Blockchain technologies (which traditionally supported digital currency bitcoin) focus on capturing unique identities, protecting sensitive customer data, and maintaining a payments transaction audit trail.

Second Generation - Focuses on content (contracts, documents, claims forms, invoices that link end transactions with the client, and policy or claims documents) and access to third-party information.

Third Generation - Concentrates on programmable services (indexation of assets – driving third party automation or verification services) and Internet of Things (IoT) data reporting.

In order for blockchain to be successful timing and planning is key to its success. As we are in unchartered territories people are cautious and it is yet to prove its value and strength. However there are several opportunities that could benefit the industry.

- In respect to the detection of fraud and the prevention of risk blockchain can significantly reduce error and detect fraud by providing a decentralised digital repository to verify customers, policies and claims with a recorded transaction history. This provides a public record of all transactions.
- With the ability of a public ledger and encrypted personal data we can explore how this technology can reduce fraudulent payments

BIG DATA ANALYTICS

Data and analytics capabilities have made a leap forward in recent years. The volume of available data has grown exponentially, more sophisticated algorithms have been developed, and computational power and storage have steadily improved. The convergence of these trends is fuelling rapid technology advances and business disruptions within the insurance industry. We are seeing an increase in the IT platforms we use and the way we gather information is staring to change.

Most companies are capturing only a fraction of the potential value from data and analytics. The biggest barriers companies face in extracting value from data and analytics are organizational; many struggle to incorporate data-driven insights into day-to-day business processes. Another challenge is attracting and retaining the right talent—not only data scientists but business translators who combine data with industry and functional expertise.

[12] https://www.globaldata.com/blockchain-whats-insurance/

Data and analytics are changing the basis of competition. Leading companies are using their capabilities not only to improve their core operations but to launch entirely new business models. The network effects of digital platforms are creating a winner-take-most dynamic in some markets.

Data is now a critical corporate asset. It comes from the web, billions of phones, sensors, payment systems, cameras, and a huge array of other sources—and its value is tied to its ultimate use. While data itself will become increasingly commoditized, value is likely to accrue to the owners of scarce data, to players that aggregate data in unique ways, and especially to providers of valuable analytics.

Data and analytics underpin several disruptive models. Introducing new types of data sets ("orthogonal data") can disrupt industries, and massive data integration capabilities can break through organizational and technological silos, enabling new insights and models. Granular data can be used to personalize products and services. New analytical techniques can fuel discovery and innovation. Above all, data and analytics can enable faster and more evidence based decision making.

Recent advances in machine learning can be used to solve a tremendous variety of problems—and deep learning is pushing the boundaries even further. Systems enabled by machine learning can provide customer service, manage logistics, analyze insurance exposure and claims records, or even provide some underwriting. The value potential is everywhere, even in industries that have been slow to digitize.

Data and analytics are already shaking up multiple industries, and the effects will only become more pronounced as adoption reaches critical mass. An even bigger wave of change is looming on the horizon as deep learning reaches maturity, giving machines unprecedented capabilities to think, problem-solve, and understand language. Organizations that are able to harness these capabilities effectively will be able to create significant value and differentiate themselves, while others will find themselves increasingly at a disadvantage.[13]

MAKING SENSE OF ORGANISED DATA.

In order for us to be efficient in our jobs we must have the most simplistic platform to retrieve our information. If we design systems that are too complex to use or have many different systems doubling up the workload then we risk spending additional resource on keeping these systems running.

An example of this is the LA Police Department. LAPD had 7 different systems that the Police Force would have to use when entering a crime report. They had log in individually to each site to extract information for crucial crime reports. This created a heavy administration burden on all employees. A few years they merged all 7 systems into 1 intranet site. This meant that with one click they could have all the information on the one page saving time.

Difficulties can happen when companies merge and then possible merge again which we have seen many times in the insurance industry. This means that you could possibly have 4 different databases for claims information (ie one for each company acquired). Not only claims but this could extend to invoicing, client databases etc.

By merging systems together by creating one will create much additional efficiencies within the business meaning that employees would no longer need to double type on several systems and concentrate on the job at hand.

CHATBOTS

Consumers are currently experiencing mobile app fatigue. They are not as popular as they once were however the one exception to this is the use on messaging apps such as WhatsApp, snapchat, messenger etc. Chatbots on these

[13] Executive summary of The Age of Analytics: Competing in a data driven world – McKinsey Global Institute

platforms allow brands to personally engage in the style of these chats and they getting chatbots to do it. Hiring people to communicate with people is expensive so chatbots technology is an inexpensive way communicating in respect to products and services.

Chatsbots are extremely useful for answering routine questions with quite straight forward answers. This means that a customer does not need to hold on the line for 30 mins to wait for a simple question to be answered. Chatbots mixed with AI means that companies can communicate their products in the desired format to clients with the potential of upselling and introducing further services.

In the next 3-5 years chatbots voice activation and images and AI will significantly rise to the point where it will difficult pick real person from a chatbot. In the insurance industry we can use them internally for quick response on questions such as credit, invoicing, explaining strategy and HR queries.[14]

ARTIFICIAL INTELLIGENCE

We looked at AI previously and its uses in the workplace. We need to understand the exposure of AI however how can we also take advantage of it to help us during the underwriting process. AI is increasing and machines are getting faster, AI can now beat the world's best at chess and win game shows and quiz challenges. Here are few examples of what we can expect to see in the Insurance world.

Behavioural policy pricing – Based on statistics and the internet of things IOT we can analyse company data through machine learning and data analytics to adequately price a risk based on claims, exposure and the implementation of risk manage. In personal lines and motor insurance you could see bespoke policies for individual based on this technology.

Customised claims servicing – If you apply machine learning to similar claims you can speed up the claims payment process and help detect fraud.

Connected world – We are becoming more connected. At present we see fit bits, smart phones and personal assistants such as Alexa. Soon we will see business to business connectivity that allows information to be traded and shared amongst companies.

Ecosystems – Various entities will come together to form ecosystems in order to share data for multiple uses. For example I-Tunes is an example of an ecosystem whereby everybody trades and buys from it.

AI and its related technologies will have a significant impact on all aspects of the insurance industry, from distribution to underwriting and pricing to claims. We are currently seeing this type of technology introduced into our market

[14] https://www.ttec.com/resources/articles/what-expect-rise-chatbots#.WzX97o2Wyhc

THE FUTURE UNDERWRITER

In recent years the Underwriter was at the heart of the industry, they were an indispensable asset to the company driving profit and risk management. The Underwriters skill was to educate on leading edge information and to advise on Risk Management.

However we now face the challenge that technology and other innovations are replacing previous underwriting functions. With the implementation of predictive modelling, automated evaluation, sophisticated risk profiling techniques we have to ask ourselves the question on whether or not our jobs will become obsolete.

In order to ensure our existence in the future we need to adapt to the changing world.

The Underwriter of the future will need to embrace and lead new technologies adapted in the industry. Underwriting talent will involve being proactive and not reactive and be able to use data and technology as part of the underwriting process to pursue client demands and profiles. With this information they can launch targeted marketing initiatives using real time analytics to lead business initiatives that interests clients. The Underwriter of the future will display the following characteristic:

Sales Executive / Customer Advocate – Instead of waiting for brokers to present us with presentations we need to be talking to our customers directly and implement changes based on their feedback.

Decision Scientist – The ability to use big data analytics and implement it as part of the normal underwriting process. We can direct data scientists to specifically home in on the information we need to underwrite to be more productive and efficient.

Innovator – As a result of the two points above we need to implement new products and new ways of doing things so we ensure we remain valid to our clients and do become commoditised.

In the future our products will look fundamentally different, existing roles will evolve and new roles will emerge and service platforms will play a central role.

CONCLUSION

In conclusion the way we underwrite business needs to change or we risk being disrupted to the point of extinction.

We are experiencing exponential technological growth which is changing the way we operate and run our businesses. We must adapt to these changes and understand the new exposure these bring to the underwriting process. We can't be seen to be selling typewriter insurance to IT companies.

We are facing a shrinking market with an increase in facilities and Insureds self-insuring. There is excess capacity in the market which is driving premiums down. On top of this we have the threat of disruptors who could completely challenge the way we do things and reduce business available.

We must be in a position to understand the new exposures that enter the daily lives of our Insureds. At present we see AI, drones, nanotechnology, 3D printing, autonomous driving, robotics, blockchain and many more. Not to mention what technology is around corner that we must consider.

There are many things that Insurers can consider to assist them to be more efficient in the way they do things and assist in keeping up with technological changes. Data analytics, AI, blockchain, chatbots and making sense of data are methods we can employ to make us a more efficient and provide us with the information we need quicker than ever before.

The underwriter of the future will need to adapt to the new world we face. Our products will look fundamentally different, service platforms will change and existing roles will evolve and new roles will emerge.

We must change and that change must happen now.

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