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From the UN back to Galileo – An Unlikely Insurance Journey

How the heck did I get here? A human rights lawyer by training, I spent most of my career in diplomacy – advising politicians and Nobel laureates, writing their speeches and negotiating international agreements between United Nations (UN) Member States.

And then, somehow, I discovered insurance along the way. Now, at face value, this wasn't the intended choice. I sort of fell into it. And the main person responsible for first getting me hooked is Rowan Douglas. Lots of people simply talk the talk. Rowan doesn't. The most powerful aspect of his argument was something that is often buried under a cloak of mixed perception about the industry – at its core, insurance has a fundamental societal value. As a UN guy, this made a lot of sense. In my old job, we saw day in and day out the rippling effects of devastating perils and how they negatively impact both the present and future of a community plagued by disaster risk.

Protecting against such risks – both in anticipation and prevention – is therefore paramount. This consideration is at the heart of the Insurance Development Forum (IDF) that Rowan, Mike Morrissey, myself and so many others worked so hard to get off the ground. As the first public private partnership between the insurance industry, the UN and the World Bank, the IDF is designed to build greater resilience and protection for people, communities, businesses, and public institutions that are vulnerable to disasters and their associated economic shocks. Now, this makes sense to most – catastrophic perils like tsunami, earthquakes and hurricanes are easily understood to affect entire communities. Protecting against them is therefore everybody's collective responsibility.

The same cannot be said of personal insurance. Somehow, the vast majority of population still believes that what happens to them individually (i.e. theft, disease, accident, etc.) only affects them personally. Where did the societal part of insurance go? This narrow belief is one critical factor that contributes to massive underinsurance and under-penetration – particularly among Millennials and Gen Z. At a time where the younger generations anchor their purchasing consumption in greater purpose, it also explains how insurance is often seen as one of the least popular industries, surveys after surveys.[1]

Now, some of you might just think this is inherent to the nature of the business. As Meyer and Kunreuther put it, *"it is difficult to convince people that the best return on an insurance policy is no return at all."*[2] Since insurance is about downside protection, no Millennials' friendly innovation will ever change that reality.

I believe that not to be the case. As one of our *hall of fame inductees* kept repeating to me, the industry hasn't managed its communication very well over the years. But is it just a messaging

1 See a few examples including a Forbes article here, and an Insurance Business article here.
2 Robert Meyer and Howard Kunreuther, *The Ostrich Paradox: Why We Underprepare for Disasters*, Wharton Digital Press, 2017.

issue? Or is there something more fundamental? Is the business model itself to blame? In other words, are the fundamental pillars of a 400-year-old industry still applicable today?

In May 2017, I left the UN to spend time at the Massachusetts Institute of Technology (MIT) and try to answer these questions.

This is what I found out.

The Magic Wand

I know that many of you have seen over the years industry outsiders come in and try to tell you what you're missing. InsureTech – especially the bashing and arrogant ones –, worst of all. Admittedly, there is something incredibly presumptuous about this. After all, what do outsiders know about risk or customer experience? What can they contribute to an industry that has mostly thrived in its 400 years of existence? The answer is most likely not much. And looking at the innovation ecosystem in particular, especially the one constituted by InsureTech, one cannot help but feel underwhelmed by the lack of true innovation.

So, what could we add to the debate?

Well, with no prior industry expertise, my team leveraged the only advantage we had – the absence of bias. Instead of asking specific questions, we asked our target segment to design their ideal insurance experience – like if they had a magic wand. From user interface to coverage to payouts, everything was on the table.

Did we think we would get greater insights than firms that spend billions of dollars in customer research? Certainly not. Unless, the insights were used to design a new business model as opposed to simply fixing or repackaging it.

So, we talked directly to hundreds of customers and reached tens of thousands via qualitative surveys. After crunching their answers, this is what their wish list look like:

- ***Unified experience***. The fact that insurance is siloed forces customers to go to different providers to get different products. This means different onboardings, different renewal dates and different claims processes. All of it contributes to making the process of insurance quite painful for customers, which in turns fuel some of the resentment. John, one of our interviewees, simply asked: why can't I simply have a John insurance covering everything that I care about?

- ***No Exclusions***. There is nothing that customers hate more than exclusions buried in the fine print of these 40-page policies. This was a big surprise to us. We always thought that price would be the ultimate pain point. But based on our research, coverage is. Many of our interviewees asked the rationale behind exclusions and why it wasn't possible to have certainty of payouts with little to no exclusions?

- ***An Apple-like experience***. Unsurprisingly, the research confirmed that getting insurance and going through the process of claims is often painful. From the onboarding where an agent calls back within 72 hours to arguing with a customer service to get a claim through, the research shows that many are frustrated with their experience at a time where most of their other business is conducted on a phone, seamlessly.

To many of you, the above is not new. And, I am sure, as you read this, you may even be thinking about the underwriting aberrations that this wish list creates.

At the time though, we didn't. Our industry ignorance led us to question whether it was possible to create an experience that would fulfill the wish list. Before getting into a guessing game, we looked for industry players who could be offering a similar product. After all, if insurance companies could deliver exactly what customers want, with economics that made sense, why wouldn't they? It turns out we couldn't find any product that would deliver on the wish list. Why is that? Because delivering on this would require fundamental changes to some of the core principles that have underpinned the industry for hundreds of years.

In particular, we identified three main hurdles:

- ***First hurdle: Siloed nature of the industry***. One of the consequences of the historical development of industry is that underwriters, insurers and regulators typically operate in siloes (e.g. car insurance; health insurance; travel insurance, etc.). The business side of insurance relies and even intensifies on the siloed nature by dividing into customer groupings, different product lines and/or regions. Managers are also often compensated on the performance of their division (for example Auto) alone. Throughout our research, regardless of the seniority of the people we spoke to, the majority only had a knowledge of specific industry sub-sectors i.e. auto insurance, health insurance, etc.

  While this approach does provide benefits of specialization, it is putting the emphasis on product/line of business as opposed to the customer. When asked for why the industry developed in this manner, the vast majority reply that the competitive nature of the industry forced companies to specialize to provide some form of differentiation. This focus, however, materially hinders cross-divisional collaboration and the ability to introduce products outside of the historically defined lines.

- ***Second hurdle: the data conundrum***. Few industries have access to, and are generating, more data than the insurance industry. As one Chief Underwriting Officer quoted by Deloitte said, "we have a lot of data, but the question remains what to do with it."[3] The critical question for insurance companies is how to move from conducting simple data analytics to creating competitive tools that provide insightful predictions and personalized risk assessments.

This is where the siloed nature of the business directly translates how products and risks are underwritten, "largely based on the analysis of historical data to carry out the risk assessment of a policyholder". For instance, car insurance has traditionally been priced based on few variables including "age, marital status, and driving history."[4] What if other variables were more predictive of risk? Like health factors, or income, or travel habits? What if the individual as a whole – in all its dimensions – was a better pricing basis?

- ***Third hurdle: constrained innovation***. With the rise of technology, many industry leaders are becoming increasingly conscious of the need to overcome these silos. Kathleen Reardon, CEO of *Hamilton Re*, recently said that "In a decade, our venerable, well-established carriers with legacy systems and cultures—if they manage to survive—will be anachronistic."[5] Mike Hammond, *Lockton* chairman of international operations, concurred, saying "it is easy to think we can compartmentalize risks into old and new. [Risk and insurance professionals] should view risks holistically."[6]

  In light of this, one positive for the industry is the broad recognition that it needs to innovate and shift from being a product driven sector to one that is customer driven. This is highlighted by both the creation of numerous industry-led incubators and partnerships (for example, Startupbootcamp, Plug and Play and MetLife Digital Accelerator) and – more importantly – the significant investment that has been made in InsureTechs over the past five years.

  Corporate venture capital in InsureTech has gotten the message. In 2017, 36% of the InsureTech financings involved a strategic and corporate VC. But as the OECD points out, this predominance is essentially driven by major (re) insurance players who have dramatically increased their funding over the last five years. There is a large disparity, however, between the approaches taken by insurance companies, with certain corporates significantly more active than others (AXA Strategic Ventures and MassMutual Venture leading the way in that space).[7]

[3] Quote extracted from Deloitte Digital Report, "From mystery to mastery: unlocking the business value of artificial intelligence in the insurance industry", November 2017. Available at https://www2.deloitte.com/content/dam/Deloitte/de/Documents/Innovation/Artificial-Intelligence-in-Insurance-Whitepaper-deloitte-digital.pdf.

[4] Patti Griffin, "Big Data, Analytics, and Machine Learning: Changing Insurance", The Information Week, 6 January 2018. Available at https://www.informationweek.com/big-data/big-data-analytics-and-machine-learning-changing-insurance/a/d-id/1330824?.

[5] Carrier Management, "Who Said It? Executives Predict the Future of Insurance", 1 September 2017. Available at https://www.carriermanagement.com/features/2017/09/01/169702.htm.

[6] Mike Hammond quoted in "The future of insurance: avoid silo approach to emerging risks", *StrategicRisk*, 12 February 2015. Available at https://www.strategic-risk-europe.com/the-future-of-insurance-avoid-silo-approach-to-emerging-risks-/1411788.article.

[7] FTPartners Fintech Industry Research, "2017 InsurTech Almanac", *op. cit*.

> This is a general theme with regards to innovation in the space, with certain companies – especially reinsurers – materially ahead of others.
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> So, what's the impact, five years in? Not much. The InsureTech focus so far has been on improving the customer experience and removing selected inefficiencies in the value chain (claims being one of the most prominent areas of investment). And while selected InsureTech have shown an ability to acquire customers at a slightly cheaper price than the traditional players, they also often have horrendous loss ratios and are also losing significant revenues.
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> So where is the breakthrough? Nowhere in sight. Why? Because we believe that the fact that the insurance industry has such a controlling hand over innovation in the sector begs the question of whether technology in insurance can actually disrupt the industry (as opposed to simply improve specific bottom line niches) by demonstrating the value of a new insurance model that is not product but consumer centric.

To summarize, the siloed nature of the industry makes it hard to integrate products; data diversification in underwriting is hindered by business legacy and regulation; and innovation is constrained by sources of financing.

So how does an InsureTech bring true innovation in these circumstances? This is where Waffle comes in.

'You' as the New Insurance Model

Mike Greene, CEO & Co-Founder of Hi Marley recently said "I could see a day where the industry is insuring and protecting individuals and their lifestyle with no gaps, no overlap and one premium."

After months of research and in reaction to the arguments developed above, we believe that inspired technology, combined with a fundamental restructuring of the insurance business model, can deliver Mike Greene's premonition by dramatically improving protection for customer while changing the nature of the coverage.

The premise. The premise of this new model is an individual as a whole – as opposed to just the individual as a driver or a homeowner – provides a better risk basis for underwriting coverage. This material change should trickle down into the way the business is conducted. In other words, insurance should move from an asset/product-based assessment to an individual-based assessment. As we describe below, progress in data science has made possible a holistic risk assessment. This is something that is already well understood across the Atlantic. *Sherpa,* a UK startup that aims to provide its customers with a personalized risk assessment as part of its insurance wallet offering. *Wrisk*, another UK startup, claims that its "unique Wrisk Score helps you understand the things that affect your premium – like a credit score, but for personal insurance risk," albeit they provide individual scores per traditional product lines. *GetSafe* is a German startup backed by major Re-insurer Munich Re, claims to be "the first single-platform, digital insurance that covers all insurance areas and allows you to modify your plan individually." Now, none of these startups has yet established a sufficient track-record of success to assess whether the concept of personal risk is sustainable.

Underwriting you as an individual. Research (currently in peer-review) at MIT's Operations Research Centre has shown the existence of multiple cross-correlations between different traditional insurance lines. This was made possible by leveraging several advanced analytic techniques developed at the Centre. For example, by understanding what car a person drives, you can assess the likelihood of that person claiming on their health insurance. This is consistent with the concept of each individual having a personal risk score rather than a specific (and unrelated) risk for each asset.

This personalized risk assessment can then be projected on to the items that the person owns, rather than the other way around, to build a tailored insurance policy. The research is ongoing, but it has already shown to be more effective at pricing the likelihood of a someone claiming across three different lines.

This is both revolutionary and anchored in common sense. Revolutionary because it shows that a holistic risk assessment results in better pricing. Common sense because it is well understood that having more data about an individual allows to better understand him/her.

Reinventing insurance. In light of the above, we believe that insurance can be sustainably restructured around the individual's risk model, as opposed to the siloed structure based on the assets the individual owns/rents.

In insurance terms, this new model can be defined as a comprehensive bundle of products based on the needs of the individual. Beyond the risk model, the bundling approach makes complete sense from a customer' perspective: every time a customer acquires a product from a single-line insurance companies, s/he has to pay an equivalent of 40-50% in brokerage fees, customer acquisition and G&A – every time.

If the individual were to buy all her/his products from the same insurer, some of these costs would not be necessary for the second, third and fourth product since the individual is already a client and there is no longer need to 'acquire' the customer or pay for brokerage fees. The more products s/he would add to the bundle, the more savings could be made.

The question becomes what to do with these savings and how to improve the coverage. This is essentially a business question that we won't expand on in this paper. But the bottom line is this: while more research needs to be done, the rise of data science is clearly about to change the insurance industry from a product-based model to an individual-based model.

Beware of the FANGs

Earlier this year, Tim Cook stood in the Steve Jobs Theater in Cupertino and announced the formation of what is likely to be the most prominent FinTech in the world: Apple and its Apple Card. As Jon Zanoff noted, "Apple Card is certainly not the first to conveniently track spending trends. Nor is it the first to help you understand credit card interest or offer easy push notification verification of suspicious charges. And it's not even the first to offer virtual burner card numbers to reduce fraud. However, in the same way that Mac mail, calendar, and contacts aren't spectacular in isolation, the sum of the parts and associated user experience is far superior to alternatives."[8]

What does that mean for the industry? It means that the FANGs[9] (*Facebook, Amazon, Netflix* and *Google)* are no longer afraid to cross industries. Many of their strengths including customer obsession, mass customization, rapid change, diverse products & services and user experiences that enhance daily life, are now the standard of most experiences and what customers will end up desiring for their insurance experience.

Will the FANGs get into insurance? They haven't to this day (*Google* has been the most active in insurance although it shut down *Google Compare* in February 2016)[10] but that was also true with credit card industry up until this year.

From Galileo to Waffle and Back

In August 1609, Galileo Galilei invented the modern telescope that was first used to observe ships on the horizon. But when he turned the instrument towards the stars, his life and set of beliefs dramatically changed. The moon had a rocky surface, Saturn had rings and Jupiter moons. More fundamentally, our Moon had phases and so did Venus. This disproved the official, Church-approved theory that earth was a the centre of the universe. Instead, Galileo demonstrated, we lived in a solar system where all planets, including Earth, orbit around the sun. Copernicus was right and Aristotle wrong. When Galileo went public with his observations in *Dialogue Concerning the Two Chief World Systems*, the Catholic inquisition declared him a heretic and sentenced him to house arrest for the rest of his life. But his work lived on. Through invention and technology, Galileo had solved a mystery that had escaped the most formidable thinkers of the past 3,000 years.

Five hundred years later, we argue that data science is the new telescope. And it tells us that the great new frontier is not in outer space but within ourselves – a monumental leap forward that allows us to better understand who we are and how we function as human beings.

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8 See Jon Zanoff, "Apple is the new FinTech to watch", April 7, 2019 available here.

9 "FANGs Stocks" coined by Jim Cramer available at https://www.investopedia.com/terms/f/fang-stocks-fb-amzn.asp.

10 Don Jergler, "Insurance Industry Analyzes Google's Failed Online Insurance Experiment", *Insurance* Journal, 23 February 2016. Available at https://www.insurancejournal.com/news/national/2016/02/23/399632.htm.

Part of the knowledge we gain from that introspection can now be turned to better protect us against the curve balls that life throws at each of us. Over the past hundred years, insurance has tried to do just that. And thanks to dedicated men and women who are working in the industry, insurance has fueled economic growth and saved countless lives and properties. But it has done so imperfectly – and sometimes at the cost of its policyholders.

So here we are. Five years after organizing the first meeting of the Insurance Development Forum, I find myself exploring another part of this industry. Since September 2018, my co-founders and I are running Waffle Labs, an NY-based InsureTech dedicated to leveraging this new frontier in data science and reinventing insurance to deliver on the wish list of the thousands of people we reached out to.

This is a daunting but incredibly exciting journey in an industry that I have come to love. And I can't wait to see where it leads us.