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Future Underwriting: Driven by Data and AI, Powered by Human Intelligence

A whitepaper with insight from PartnerRe, AF Group, Burns & Wilcox, Ethos Specialty and Salesforce

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The Future of Underwriting: A Fundamental Tranformation

Risk has never been so frequent or severe as it is now, representing serious threats to carriers, reinsurers, and brokers across all lines of business. With the impacts of the global pandemic still being felt, amid new and evolving threats of cyber crime and climate change, the industry and especially the function of underwriting is facing a fundamental transformation. As carriers, large and small, jostle to acquire increasingly online customers, disruption is coming from insurtech start-ups and even external actors like Amazon, Google and Tesla. In view of this, the expectation is that innovations in digital, data and cloud technology will provide solutions to support and enhance portfolios, streamline operations and deliver better customer experiences.

Rich Fusinski, Corporate SVP and Chief Information Officer of Burns & Wilcox, an independent insurance wholesale broker and managing underwriter, explains further.

"The future of underwriting is leveraging artificial intelligence (AI) and automation to deliver as much straight-through processing as possible —leaving large, complex business and high-value underwriting work to specialty professionals who have the knowledge, expertise and relationships to place the business."

Spurred on by Covid-19 and the increasing affordability of next generation technologies, the major carriers, though slow starters, have now embarked on a transformation path to harness data and AI. Such capabilities are streamlining information gathering and document review, automating increasingly complex tasks and customer liaison, cutting expense ratios and time to market.

Jeff Canfield, EVP, Casualty & Product Innovation, Ethos Specialty, argues that insurers which delay in applying modelling will see "increased loss ratios and expense ratios for employing costly underwriters to do manual tasks when robotic process automation or a bot can do those tasks more efficiently and at a much lower cost point".

5 Trends on the Underwriter's Wall

1. Automation must be led by the customer, human brain power and a critical eye
Insurance is an industry based on relationships, and the mantra of every carrier is the promise of a great customer experience (CX), whether in person or via an online self-service platform.

At global reinsurer PartnerRe, Karen Phelan, VP Underwriting Innovation & Strategy for US Life, who has spent three decades in the US life insurance business, says: "My aim is to connect insurers with solutions that provide insights and understanding in a marketplace that's undergoing a significant paradigm shift." However, while CX is an important part of this, Phelan knows too that automation and innovation can also lead to better mortality rates and risk assessments, allowing PartnerRe and its customers to write better business.

At Burns & Wilcox, investment priorities are always centered on innovations in underwriting and the agent experience. "As a managing general agent, we want our partner agents to love doing business with us," Fusinski says, an approach technology partner Salesforce lives by. "Automation should always be a tool to enable the carrier to be easy to do business with," says Raja Singh, Salesforce's SVP & GM Insurance, but cannot underscore enough the importance of human connection. "If you are renewing a commercial policy for the 21st time and there isn't a person to call to negotiate flexibility, then automation has gone too far," he says.

Critical thinking, and human intelligence will always be needed, according to Phelan, who worries that "models left on their own can get a little dangerous. What is vital is appropriate transparency and supervision to ensure that models do what they were intended to do".

Commenting on the potential for bias in AI, Abel Travis, VP and Head of Fundamental Underwriters, AF Group, an American specialty multiline insurance company, says "it's real and we have to be extremely cognizant of getting the desired outcomes as we rely more on AI-modeling".

2. A paradigm shift in the risk landscape is powering preventative data-driven and parametric models

Figuratively speaking, Jeff Canfield, EVP, Casualty & Product Innovation, Ethos Specialty, says: "Underwriters are sort of like the military in that we're always fighting yesterday's war." What he is referring to is their reliance on historic data to predict future trends, which is no longer working for some of today's emerging, evolving and even potentially uninsurable risks like cyber. AF group's Travis points to the alarming severity and frequency of weather events as one reason. The fundamental shift in the insurance distribution landscape as digital heavyweights like Amazon and car manufacturers like Tesla dip their data-laden toes in insurance waters, is another red flag.

On both counts Fusinski agrees, pointing to the recent "record-setting start to the Atlantic hurricane season" and the "substantial risk to traditional carriers and other players in the value chain from the likes of Amazon". There are opportunities for these companies and any insurtech, an industry forecast to be worth $119.4bn by 2027, to partner. But the more likely scenario, he says, "is that they will hire their own talent and attempt to disrupt the market. This is why going digital is an imperative."

To minimize risk, it will be incumbent on carriers, MGAs/MGUs (managing general agents/underwriters), and agents to partner with these disruptors to transact business digitally with customers. A plus, says Canfield, is that the MGA model, where specialized agents or brokers underwrite on behalf of insurers or other capital providers with delegated authority, is growing up. "There's capital out there that knows it wants to place some bets but doesn't want to have to build out the infrastructure," he says.

To limit liability, interest is also growing in parametric policies, which MunichRe has defined as "coverage for the probability of a predefined event happening, like a major hurricane or earthquake, paying out according to a predefined scheme instead of a lengthy claims adjustment process".

Tackling cyber security risk

It is at an all-time high, Fusinski has these top tips:

- Deploy as many mitigating controls as possible, ensure mandatory information security and privacy training, and leverage anti-phishing and anti-ransomware technologies to minimize threat vectors
- Ramp up patching capabilities to be able to apply critical updates quicker than ever
- Prioritize security information and event management to quickly aggregate and analyze data from multiple systems, identify anomalous behaviors and shut down cyber attacks before it is too late
- Choose the right cyber Insurance for when the inevitable occurs
- Remember the all-important role of critical thinking and human brain power to make sure it is doing what you are setting it up to do

3. Ways to accurately predict the price of complex risks requires a sharp pencil
More severe and less predictable than ever, weather events are resulting in rising rebuild costs at a time when social inflation is yielding more expensive settlements. "This may seem straightforward, but the tools that insurers have to work with to be able to continue to underwrite profitable policies are pricing and exposure management," Fusinski says.

On this front, Travis says there are number maturing data and analytics tools that will be vital to the underwriter's ability to evaluate risks and write profitable business. With terabytes of data being generated from internal and external data sources "it really is about creating more efficiencies at the backend for the underwriters on the frontend to be more effective".

Extracting third-party data not just from words but photographs or videos in the ether-sphere can also deliver another perspective. "Images of a restaurant may show it has a dance floor, which could inherently mean either there is a bar or it transforms into a nightclub, that changes the risk that you're underwriting," he says.

In the long-term life business PartnerRe too is finding ways to go further to streamline more complex cases. It has conducted research on predictive models and new datasets, overlaying results with previous decisions to stratify risk that was once thought homogeneous. "This allows carriers to sharpen their pencils and become better risk assessors" Phelan says.

She sees every reason to leverage medical data from a variety of different sources for insights but acknowledges it's "complex work". Because of data protection regulations like California's landmark consumer privacy act, Europe's GDPR and others, data sources and models are subject to careful scrutiny and must always be verified, validated and transparent.

Meanwhile, Canfield is calling for underwriters to go deeper still. By harnessing technologies like natural language processing (NLP), he says a good underwriter could identify emerging liabilities in litigation when, for example, a word or phrase has been significantly used. "Instead of waiting for a client's exposure," he says, "let's start underwriting for that now versus waiting for the losses to come".

Much too has been said for the value of installing location-based sensors in real estate, such as security alarms, cameras, or thermostats which can help detect everything from motion to sound, humidity and water. Like wearable 'fit-tech' are influencing humans to be healthier, and hence lowering premiums, smart connected devices and the data they unleash could lead to faster responses to emergencies like flood, fire or theft.

4. Low-hanging fruit is aplenty, even if picking the right one varies in complexity

Automation is not new and there is plenty of low-hanging fruit left to address mundane and repetitive tasks. "Beyond the savvy process of underwriting and pricing complex risks, there's also intense competition to make writing straightforward policies as fast and easy as possible," says Saleforce's Singh, adding that as a result of this trend, "small businesses, for instance, are increasingly able to secure coverage online with the same convenience as personal lines."

Opportunities of how and where to drive automation include:

- **Automatic payment and document generation:** Automated payments, billing and document generation has evolved and is straightforward. In the personal insurance space, application submissions typically involve a broker collecting forms from an applicant and forwarding them on for multiple carriers to ingest. Inevitably each carrier would also want to ask for supplemental data but there is no unified structure for such information exchange, hampering efficiency.

- **API Integration:** Leveraging partnerships in the wider ecosystem by plugging in through API integration to harness third-party data, AI or other next generation solutions is also important. The dearth of application programming interfaces is particularly true outside of the standard market. For instance, many Excess & Surplus or specialty lines carriers still do not have fully featured or even reasonably error-free APIs, which are the foundational building blocks for real-time integration between organizations within the insurance value chain. Even fewer organizations are prepared—or staffed—to utilize them in a meaningful way.

- **Data services:** The days of ordering a credit report may be long gone but there is still plenty of real-time data available about location, litigation history, finances and other types of business practice. This is both an aid to the underwriter and the customer, as with forms pre-filled, CX can be faster and more focused. Job two is to write rules so that underwriters only have to look at exceptional cases. For most applications 95% can be dealt with by technology so that an underwriter can focus on the 5%.

- **Data collection:** Several providers are using AI to collect data from hard-to-access sources like zipped municipal databases stored five-levels deep on a website, and making it available in such a way that insurers only need to provide a name or address to access it in a structured, useful format. This data is often more accurate and/or more robust than what a policyholder would normally provide, yielding a far more accurate risk profile than standard, manual underwriting processes.

- **Optical Character Recognition (OCR) technology:** Enables automated document onboarding, sorting and analysis, and makes all business workflows - from the insurance claims process to product development to customer service - more efficient and effective. Instead of the impossible task of manually scanning countless documents, insurers can get their customer to do the work by uploading their own data, saving time and money and purports to improve CX because customers feel better in control of their data. With more data, insurers can also attract more clients by better aligning product to client.

- **Robotic process automation:** Repetitive administrative or redundant tasks, gathering external data, while increasing productivity and reducing operational risk are among the benefits of using RPA. It can also help expedite everything from setting contract prices to account settlement.

- **Rules engines:** Today's insurers expect to be able to quickly reconfigure business rules, without coding slowing things down. So, when certain conditions are met that fall within an underwriter's pre-defined appetite for risk, rules can be automatically applied to bind contracts in real time without human intervention. In the same way, claims can be adjudicated and settled.

- **Submission triaging automatically:** This involves gathering small amounts of data relevant to the customer and using it to make a decision based on the insurer's business model and appetite for risk. Hours, even days, filtering submissions into bad, okay and good potential business buckets can be accelerated by AI and machine learning, freeing underwriters from complicated tasks to better price and deliver appropriate cover for policyholders.

- **Workforce automation:** There are many things like vision analytics that can apply deep learning techniques on images and live video stream, which can be used, for example, by underwriters assessing risk on a multibillion-dollar property portfolio. When there is no way of getting out to all those properties to a assess risk, there are technologies that can scan properties and flag critical hazards to build into the underwriting process on the backend.

5. Underwriters belong in an ecosystem

Claims are often the most important customer touch point. But automated or not, no claim exists without underwriters who are binding carriers for hundreds of thousands, if not millions of dollars on one individual risk. In the digital age, both these central insurance functions have brought with them rich streams of data, which advanced analytics is helping to leverage. "Employing AI and machine learning is absolutely mission critical, now more than ever," says Phelan, who notes that this applies not only to new business and underwriting, but prospecting marketing, customer acquisition as well as administration and servicing.

Meanwhile, at Burns & Wilcox, a strong commitment to IT investment has shown that every organization that is part of the insurance value chain must invest in technology and provide digital options. For this reason, the company is building a fully featured underwriting and Agent360 platform with a foundation in Salesforce. "This will merge the traditional broker channel with robust digital capabilities, and a focus on positively impacting the entire value chain in every part of the insurance lifecycle," Fusinski explains.

Conclusion

If there was only one word to write large on the underwriter's wall today it would be data. The underwriters that do not leverage data, whether big or small, structured or unstructured, in their decision-making processes stand to lose. Firstly, their loss ratios will continue to be relatively high, while others are reducing theirs, resulting in relatively higher expense ratios. Underwriters performing manual tasks are much costlier and less efficient than automation. Inefficiency they cannot afford. Customers are demanding personalized, relevant, efficient, digital solutions delivered with outstanding service, and insurance, the backbone of global commerce and a backstage pass to the world, is no exception.