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Is Hybrid Working the Real Challenge for the Insurance Industry This Year?

By Paul Brady

Major players in the insurance industry are developing their plans for a "smart working revolution." Companies have learned from their responses to the COVID-19 pandemic and how they adjusted to teams working from home and are keen to take a more strategic approach to the hybrid challenge.

Flexibility seems to be at the heart of many carriers' strategic responses, balancing business and employee needs around:

- Ensuring diversity, equity and inclusion stay at the top of the agenda.
- Retaining focus on development and bench strength.
- Maintaining and improving productivity.
- Collaboration and socialization.
- Making optimal use of real estate.
- Maintaining and improving well-being.
- Managing safety.

So, the hybrid way of working is almost inevitable. But that's not to say that the blended approach won't present challenges. How can we adapt and make the most out of what seems inevitable?

Here are some suggestions for managing the human capital side of things.

Problem: Favoritism and preferential treatment for those in the office

Solutions:

• Level the playing field in team meetings. Have everyone join team calls from their own computer at their own workstation. It's tempting for in-office colleagues to sit around the putative boardroom table together while colleagues working from home dial in. But we all know that the remote experience is not the same, so level out the experience for all.

• Have a Yoda. That wise guru character from the "Star Wars" franchise has a place in team meetings. Rotate the role of the wise inclusion champion who can address microaggressions, interrupting and behaviors that may exclude.

Problem: Collaborative and "stretch" tasks are given to in-office colleagues

Solutions:

• Look out for presentist bias—offering preference and opportunity to those who are present and visible. Record the opportunities, record who gets what, and identify the patterns.

• Offer meaningful problem-solving tasks for all. A recent HBR article focused on motivation and how team members' motivation dipped when they were given no choice in where they worked. The hybrid challenge may well exacerbate this phenomenon. The research indicated that giving all colleagues the opportunity to be creative and solve real business problems may well be the answer, whether working from home or in the office.

• Put career development back on the agenda. The initial response to lockdowns was often to focus on delivery, outputs and outcomes; career development seemed like a luxury we could no longer afford. As the situation eases and we move to hybrid models, we need to get careers and development back on track—and not just the development of those who are in the office.

Problem: Technology and meeting fatigue

Solutions:

• Learn from royalty and have stand-up meetings. The UK's Queen Victoria countered her limited attention span during Privy Council meetings when she famously told her privy councillors (long-winded politicians) they should stand. The meetings became shorter and more focused. The same principle is being applied to huddle or scrum stand-up meetings that are short, sharp and to the point. More frequent but shorter meetings may be the future...so history tells us.

• Use the cream of the morning brain. Author Virginia Woolf recognized that many of us are more creative in the morning. Team meetings that focus on collaboration and complex interactions should be reserved for earlier in the day when our social skills and attention are more available.

• Monitor your micro-expressions. We are increasingly invited to turn our cameras on and use headsets and earbuds in meetings to reduce fatigue and get closer to the face-to-face experience. Be aware that your every eye roll and tut will be amplified by the technology. Psychologists use the term "leakage" to describe our unintentional messaging. Stop the dripping tap and remember that you are very much on show. CM

Paul Brady is a Senior Associate at global diversity and inclusion training consultancy PDT Global.

How to Value an InsurTech

By Russ Banham

Next year, Chubb will turn 140 years old, an extraordinary feat of longevity that partly explains why it's the world's largest publicly traded property/casualty insurance company. By contrast, startup Root Insurance made its debut as a public company on Oct. 28, 2020. Fewer than five months later, its stock trading at less than half the IPO price, the automobile insurer was named in a shareholder class action complaint.

Perhaps these growing pains should have been expected. Like other InsurTech insurer startups, Root Insurance was billed by its founders as a disruptive force in the insurance industry. Following its billion-dollar valuation in 2019, a newspaper headline stated that "Insurance Will Never Be the Same."

Well, insurance remained as it was, and now the question is will Root be the same as it appeared in 2019. Recently posted first-quarter 2021 results showing $200 million in direct written premiums and $6 million in gross profits did not budge its stock price in early May from late March, when the class action complaint was filed.

Other InsurTech insurer startups that became public companies, such as Lemonade, also have endured a tough trek lately. The once-fizzy renters and homeowners insurer's stock peaked in January 2021 at about $188 per share before sliding to around $79 in early May. Auto

Executive Summary:

Stock drops and lawsuits tell the tale of some disappointed investors in publicly traded InsurTechs. But it may well be that investors were looking at the wrong metrics in assessing prospects before making their bets on the InsurTech class of 2020.

insurer Metromile's stock in February 2021, nearly $20 per share, was trading around $8.40 in early May.

(*Editor's Note: This article was written in mid-May, when Root shares were trading at about $9.45 per share. In early June, Root shares climbed to nearly $13.47, with some analysts attributing the boost to meme-stock status. Root's October 2020 IPO price was $27 per share*.)

The story of these startups is a cautionary tale for early investors and future shareholders in InsurTech insurers, who may be reading the wrong tea leaves in assessing their prospects. As Lindene Patton, former senior vice president and in-house counsel at Zurich Insurance, put it, "Technology is cool, but insurance is difficult."

Different Strokes

She's got that right. The startups fall within a category of the insurance industry of companies using a tech innovation to improve operating efficiency and reduce prices—hence *InsurTech*. But there's a big difference between the valuations for an insurance company versus a technology company.

"Insurance companies have a completely different economic profile than most any other industry," said Nicholas Lamparelli, chief underwriting officer at reThought Insurance, a tech-centric managing general agency focused on climate and natural catastrophe insurance. "What's getting the InsurTech investors in trouble is that they're using the same metrics to gauge a technology company's future performance when gauging an InsurTech company's future performance."

Patton agreed. "Investors get blindsided by the 'shiny new techy thing' and forget to look at the fundamentals—things like attracting a market, generating revenues across a period of time, future growth plans, and whether or not the technology underpinning the insurer will make the organization more efficient over the long term, thereby disrupting the marketplace," said Patton, a partner at Earth and Water Law Group, a Washington, D.C.-based law firm specializing in environmental advisory and litigation. "Investors are at risk of being misled."

Her comments appear to align with the allegations made by the seven law firms representing shareholders in the complaint against Root Insurance. As *Carrier Management* reported on March 23, the complaint alleges that Root's IPO offering documents were negligently prepared and omitted important facts, asserting that traditional insurance competitors like Progressive and Allstate already offer the type of telematics platforms that Root believes set it apart.

The contention draws from a March 9 report by Bank of America Securities Analyst Joshua Shanker, which stated that the incumbent insurers enjoy a "sizable advantage over Root in terms of the amount of [telematics] data and engagement with the data" used to price auto insurance. The two insurers and GEICO will continue to impede Root's profitability, the report maintained. "Root will require not insignificant cash infusions from the capital markets to bridge its cash flow needs," one of the filed complaints stated.

As Root seeks to untangle the "mess in which it has found itself," future investors in other InsurTech startups "need to heed its example," said Mica Cooper, CEO and president of Aisus/InsureCrypt, a comparative quoting and policy administration

"What's getting InsurTech investors in trouble is that they're using the same metrics to gauge a technology company's future performance when gauging an InsurTech company's future performance."

Nicholas Lamparelli, reThought Insurance

"Investors forget to look at the fundamentals—things like attracting a market, generating revenues across a period of time, future growth plans, and whether or not the technology underpinning the insurer will make the organization more efficient over the long term."

Lindene Patton, Earth and Water Law Group

"The insurance business is typically not a land grab; it's one of consistent and steady maturation."

Adrian Jones, Hudson Structured Capital Management Ltd.

InsurTech. He believes InsurTech insurers are valued on technology tools that offer process improvements that are not truly disruptive. A "disruptive technology," he said, is "a solution to a problem that no one else has thought up. If InsurTechs actually delivered on their promise of market disruption, they'd have hit $1 billion in sales their first two years like a real unicorn."

Cooper should know what a "real unicorn" is. He helped build Hotels.com, working with two investors that put up $10 million each to launch the successful travel startup, he said. "The first 30 days, we chalked up $30 million in sales, and reached $1 billion [in sales] the first year," Cooper said. "Two years later, we sold it [to Expedia] for $3.2 billion. No InsurTech startup has come close."

Better Than Sliced Bread

InsurTech insurers have yet to live up to their promise because insurance is a business of consistent growth, and InsurTech founders are pitching breakneck growth. "Seasoning matters in insurance," said Adrian Jones, managing director and a partner in the InsurTech venture investing group at Hudson Structured Capital Management Ltd.

Jones said that consistent year-over-year performance across insurance cycles is important. "The insurance business is typically not a land grab; it's one of consistent and steady maturation," he explained.

Tell that to today's InsurTech insurance startups. "InsurTech founders keep repeating 'disruption, disruption, disruption,' but if the technology really doesn't solve a big problem, it's not disruptive," said Cooper. "That's just noise."

The ballyhoo goes with the territory. "Tech founders do what they have always done, which is cause a stir and create drama to cull attention," said Lamparelli. "They've been extremely successful attracting investors with what are little more than vanity metrics."

He's referring to puffed-up performance indicators that fail to suggest a realistic long-term strategy. Root's recent shareholder troubles are a case in point, as is the downward stock trending of other InsurTech insurers. "Investors are either unaware of or disregarding the metrics that most accurately project consistent shareholder returns," said PhD economist Robert Hartwig.

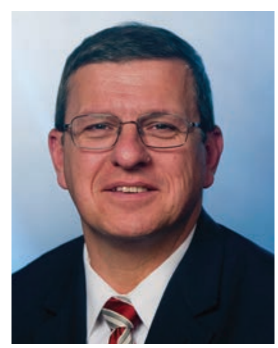
Hartwig, an associate clinical professor of Finance and Insurance at the University of South Carolina's Moore School of Business, has studied the InsurTech sector since its sprouting more than a decade ago. He is highly critical of the startups' chances for success. In an email, he wrote: "Virtually all of the InsurTech insurer startups in existence today will fail. They operate in the 'kill zone' of the majors—whatever modest innovations they've developed can be quickly and less expensively replicated by the incumbent insurers."

In a follow-up interview, Hartwig elaborated on his opinion, leveraging Lemonade as an example. "Lemonade was priced at $29 a share in July 2020 when it IPOed, opened at $50, peaked at $188 in January and is under $80 today," he said, referring to the price on May 7. "That means the company's market cap is about $6 billion. My question is, could it really have been worth nearly $12 billion just 90 days ago? The company has generated zero profits since its founding six years ago."

Nevertheless, he does see

"Investments in most InsurTechs have about the same degree of rational appeal as an investment in Dogecoin."
Robert Hartwig, University of South Carolina

"If the technology really doesn't solve a big problem, it's not disruptive. That's just noise."
Mica Cooper, Aisus/InsureCrypt



"What we're looking for is consistency—an insurer's ability over a five-to-10-year period to consistently grow their surplus organically each year to absorb any risks they're exposed to."
Robert Raber, AM Best

value in InsurTech, insofar as the "outsourced R&D" service they perform for the rest of the insurance industry. Hartwig explained that the companies liberate incumbent carriers from having to spend as much capital on technology research and development, trying out and bearing the cost of innovations that insurers can acquire for their own use.

What he values much less is the concept of a tech company becoming an insurance company. "Investments in most InsurTechs have about the same degree of rational appeal as an investment in Dogecoin," he said.

His point is well taken. InsurTech insurer founders often crow about the inventive technology underpinning the business, as if they were actual tech startups. In reality, each is an insurance company, albeit armed with an innovative technology tool like telematics or artificial intelligence deemed to differentiate it from legacy insurers. Many ordinary investors may not appreciate this distinction.

"Investors are valuing InsurTech startups the wrong way," Lamparelli said.

Wrong valuations have consequences, he said. "Insurance has a completely different economic profile than a technology company or any other industry sector. A retailer, for instance, can undercut its price on a product 10 percent, which is how much it now loses on that product," he explained. "In insurance, you cut the premium 10 percent and you can lose multiples of the premium, as you're committing to absorb hundreds of thousands of dollars in potential risk."

Metrics That Matter

Obviously, the onus is on investors in any public company's stock to separate hype from reality. The interviewees offered several suggestions on how to appropriately value an InsurTech insurer, downplaying the tech novelty to evaluate the metrics that really matter.

Jones cited four metrics an investor must examine before plunking down a single penny: projected premiums, profits, capital and the return on capital. "A company can suboptimize any of these four metrics for a short period but not forever," he said. "The numbers need to grow in a balanced way. Fixing one metric can unexpectedly throw the others off; long-term businesses optimize across all four metrics."

Cooper offered a similar perspective, citing three metrics: gross written premiums, combined ratio and surplus. "Those are the numbers investors need to look at to know how much cash a company has on hand to operate and the point at which it will become profitable," he said, noting that "Root is so far out before it realizes a profit, it will need more cash [from shareholders] to get there."

Rating agencies like AM Best keep a particularly close watch on insurer surplus. "What we're looking for is consistency—an insurer's ability over a five-to-10-year period to consistently grow their surplus organically each year to absorb any risks they're exposed to," said Robert Raber, AM Best director, Rating Services.

Other factors under review at the agency include an insurer's year-over-year operating profitability and investment returns. "Investors should understand that with market dynamics being what they are, top-line growth isn't always the best measure of an insurance company," Raber said. "Consistent growth that's supported by the capital base is a more reliable metric."

Other metrics that investors need to evaluate include customer acquisition costs, customer lifetime value, technology capabilities that other insurers lack, and the quality of the executive team and skillsets within the company, Jones said. "It's also important to understand *how* the company plans to expand very rapidly across geographies and markets," he added.

In addition to these metrics, investors need to ask tough questions of InsurTech management, such as the probability of a one-in-100-year loss, Lamparelli said. "Wouldn't you want to know the kind of event that would put a company out of business, not to mention the powder keg underneath to keep the business going in such an event?" he said. "Instead, investors ask if the company has a 'capital-light structure,' which is nice when you're an actual tech company. But it's an insurance company, which should cause them to run for the hills."

He explained that "capital-light" in an insurance economics context means the company is outsourcing plenty of capital to reinsurers—a very different connotation. "Long-term, the reinsurers have the leverage in the relationship, not the InsurTech," Lamparelli said. "If the reinsurers decide they don't want to do business with the InsurTech anymore, the company has no more capital."

All the interviewees cautioned investors to appraise performance across longer time frames and not to expect quick wins. Raber provided the example of an InsurTech insurer that decides to enter the small business insurance segment.

"It takes about a year to study the market and another year to figure out how to enter it," Raber said. "It then takes at least 18 months to develop an insurance policy in line with regulators. Add another six months to a year to put together the distribution strategy, another year to start writing the business, and a year or two to put premium on the book. Then tack on five more years to get traction in the market...That's a lot different than an InsurTech that rolls out an app today and expects everyone to be using it in six months."

Hartwig concurred. "Innovation is a wonderful thing, but when it comes to an insurance company, investors should be looking for KPIs that show a modest rate of return over an extended period of time," he said. "A valuation focused on the 'tech' suffix (of an InsurTech) and not the 'insur' prefix is unjustifiable."

Added up, the interviewees are in lockstep that investors are making foolhardy bets that an InsurTech without a truly disruptive market strategy will become the next Amazon, which completely upended the retail industry over a period of many years. As for Chubb, Allstate, GEICO and other incumbent insurers, they have shown stamina over decades of multiple financial crises, economic meltdowns and natural catastrophes.

"In insurance, staying power is everything," said Hartwig.

So is a basic understanding of the business by investors. "Does the management team really know how the business will perform as it grows, or are they flying a bit blind?" said Jones. "Because when you're flying blind, you might run into a mountain." CM

Russ Banham is a Pulitzer-nominated financial journalist and best-selling author.

One Year In: How Insurers Did on AM Best Innovation Assessments

By Jason Hopper and Edin Imsirovic

In early March 2020, AM Best released "Scoring and Assessing Innovation," our formalized criteria for measuring a company's innovativeness. Within weeks of its official launch, this methodology was put to the test by the COVID-19 pandemic.

COVID-19 was a real-life fire drill. It challenged insurers' ability to pivot and innovate in the midst of global upheaval and great uncertainty. Not surprisingly, the pandemic accelerated insurers' moves toward digitalization, increased their focus on customer experience and spurred product innovations. While some insurers had to recalibrate resources and shift their attention toward maintaining operations in a remote environment, others were able to double down on their innovation efforts.

One tumultuous year later, AM Best set out to see how insurers performed in their innovation efforts since implementation of the criteria.

In a series of innovation-focused research reports

Executive Summary:

AM Best analysts are giving *Carrier Management* readers a look at how carriers are performing on the rating agency's innovation assessments. Just over a year since AM Best started using the innovation assessment criteria unveiled in early 2020, they find that only 1 percent of rated companies earned the highest scores as innovation "leaders," and many struggle to transform innovation efforts into results. In other words, rated company innovation output scores lag far behind innovation input scores in the two-part assessment.

released in May, we looked at scoring trends, examined innovation efforts by line of business, evaluated regional approaches to innovation and dissected innovation scores by category (financial size, financial strength rating, business profile and operating performance).

One clear takeaway emerged: While the pandemic has forced businesses to cram years' worth of innovations into one year, most companies still have a long way to go.

Innovation Scorecard

AM Best's innovation scores are the sum of two factors: an input score and an output score. Innovation input scores are based on leadership, culture, resources, and processes and structure. Output scores are based on results and levels of transformation. Innovation scores are then translated into five innovation capability assessment categories: Leader, Prominent, Significant, Moderate and Minimal.

One year in, we found that insurers generally still face difficulty drawing clear linkages between innovation inputs and results, especially in times of crisis where quantitative evidence may be obscured by noise. As a result, our innovation assessment output scores are slightly lower than our preliminary results.

More than half of our rating units scored Moderate versus 19 percent for Significant, 18 percent for Minimal, 6 percent for Prominent and 1 percent for Leader. Overall, these results remain closely aligned to preliminary assessments.

Insurers fared better on input scores than output. Leadership, in particular, was a bright spot, with 4 percent of organizations earning the highest score of 4 for senior management's commitment to innovation efforts. Management teams have largely recognized that innovation is a critical aspect of an organization's operations.

Ultimately, though, innovation must lead to measurable results that make the investment of resources worthwhile. This is where insurers have struggled.

Only 1 percent of companies earned the highest score of 4 on the results subcomponent, with 12 percent scoring a 3. Output scores for the level of transformation are even less favorable; less than 1 percent of organizations earned the highest score of 4, while just 6 percent earned a 3.

The low output scores show that actual sustainable results have yet to be proven over a longer period in what is considered to be the new normal business environment.

Nonetheless, it is important to note that one scoring trend holds true: More favorable innovation assessments skew toward higher-rated organizations

Benchmarking

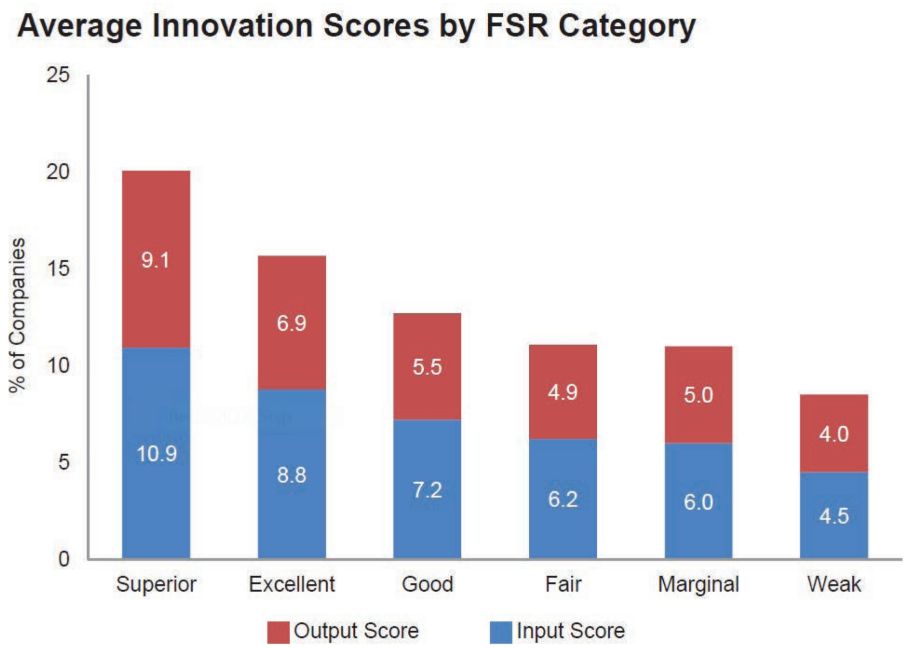
There is a high correlation between the financial strength rating of organizations and the innovation capability assessment. This correlation implies that innovation was always embedded within our rating process before AM Best formalized it within our methodology.

The average innovation score for companies with a Superior financial strength rating was 28 percent higher than that of those with an Excellent rating and 58 percent higher than that of those with a Good rating.

Superior-rated insurers, effectively using cutting-edge processes and technology, transform their innovation initiatives into transformative results comparable to those achieved by leaders outside the industry. This

On May 10, AM Best published five reports providing updates on its innovation assessments of insurers and reinsurers a year after launching innovation scoring criteria. Some of the information contained in the reports is summarized in this article. The reports are:

- "Pandemic Speeds Up Pace of Insurer Innovation"
- "COVID-19 Pandemic Shifts Innovation Benchmarking Results Slightly"
- "Reinsurance, Autos, and Health the Most Innovative Lines of Business"
- "Innovation in EMEA: Underlying Principles Consistent Across Markets"
- "Innovation in Asia-Pacific: Varies by Market Maturity and Business Needs"



In AM Best's Innovation Assessment, Input Scores range from a low of 4 to a maximum of 16; Output Scores also range from 4-16.

became apparent as the pandemic unfolded. Higher-rated companies generally had already made innovation-focused investments and were more prepared to deal with the challenges brought on by the pandemic, while other companies had to make years' worth of changes instantaneously to improve customer engagement and continue growth opportunities.

We also saw correlations between innovation scores and business profile, operating performance and financial size category. Companies with more favorable operating performance assessments post a higher average innovation output score, demonstrating that these companies have proven tangible results from their innovation efforts.

Companies with larger amounts of capital at their disposal tend to have more financial resources and thereby receive higher scores for the resource input. The distinction is clear, as about 60 percent of companies with more than $500 million of capital and surplus scored a 3 or 4 versus just 15 percent of companies with capital and surplus of less than $500 million.

Line of Business

According to our insurance industry innovation assessments, reinsurance, health and auto are the lines of business that have been the most transformed by innovation.

In our preliminary assessments last year, the reinsurance segment scored the largest share of Leaders (6 percent) of any segment. That trend continued into 2021. For reinsurers, growing competition, ongoing third-party capital and InsurTech opportunities have driven innovation and created an environment of innovativeness. Over the next few years, reinsurers are likely to continue to innovate primarily in distribution, third-party capital management and using their expertise to get closer to cedents.

More than 10 percent of the

While the pandemic has forced businesses to cram years' worth of innovations into one year, most companies still have a long way to go.

Innovation must lead to measurable results that make the investment of resources worthwhile. This is where insurers have struggled.

health segment scored in the top two innovation capability assessments—Leaders (5 percent) and Prominent (8 percent). The health insurance market continues to change rapidly owing to regulatory and legislative changes, market demand, and medical advances. As a result, health insurers are quite receptive to new technologies and are usually early adopters that have produced quantifiable results.

Finally, in auto insurance, technological advancements such as usage-based insurance and telematics as well as customer interactions are driving significant changes, the speed and scale of which are transforming the line into one of the most innovative in the property/casualty industry. Personal auto is characterized by a higher level of interaction with consumers. As a result, customer expectations are driving innovation efforts.

International Efforts

Innovation is increasingly critical to insurance companies globally, as they continue to pursue long-term competitiveness and profitability. Having said that, we've observed many interesting differences in regional approaches to innovation.

In Asia-Pacific markets, we looked at how specific circumstances in each market shape innovation initiatives. For example, geographic and demographic challenges are shaping innovation in Japan, while in South Korea, changing consumer behavior and preferences, the threat of external disrupters, and shrinking profit margins are persistent drivers of innovation.

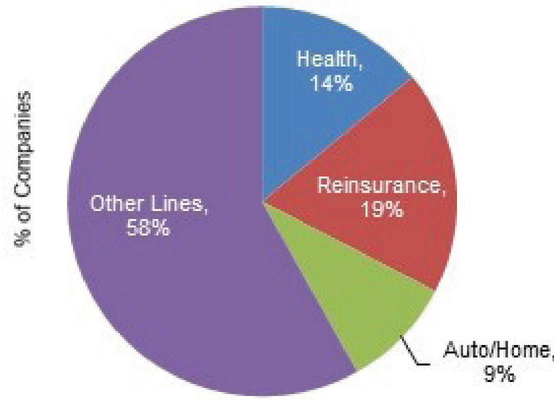
There are many similarities between European and U.S. markets when it comes to innovation, as European insurers also have prioritized efforts related to digital transformation, customer experience, innovative product offerings as well as expansion of distribution channels.

In emerging markets, where insurance penetration is relatively low and customers tend to be price-motivated, innovation efforts focus on improving insurance distribution, operational efficiencies and product affordability. Microinsurance and microfinancing schemes for customers in the agriculture sector, which is the leading industry in many of these markets, are an ongoing priority for retail insurance lines.

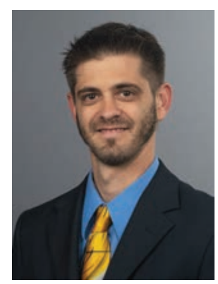
Real-Life Test

The pandemic presented a real-life test showcasing both the limitations and the success of current capabilities. Those insurers that already had an innovation mindset in place were quick to adapt and fend off competitive threats. Those that failed to innovate have significant ground to make up. And for all insurers, there remains tremendous opportunity to innovate. CM

Leader & Prominent Assessments by Line of Business



Source: AM Best data and research



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Carriers Struggle to Transform Innovation Efforts Into Results: AM Best

Although COVID-19 forced many insurers to seek out innovative solutions, most companies still have room for improvement, according to rating agency AM Best.

In a recent analysis of innovation assessment scores, which the rating agency first introduced into the rating process last year, AM Best found that the scores this year are slightly lower than the preliminary results released ahead of the innovation criteria in 2020. The differences are driven mainly by the challenges of the pandemic, AM Best said.

In particular, in a two-part assessment that measures innovation inputs (items like leadership and culture) and innovation outputs (such as results and levels of transformation), AM Best found that insurers tend to struggle with output. Basically, insurance companies have difficulty transforming innovation efforts into results.

AM Best Innovation Assessments 2021 vs. 2020

Input Components	Score Range	2021 Average	2020 Average
• Leadership	1-4	2.3	2.3
• Culture	1-4	2.1	2.2
• Resources	1-4	2.2	2.2
• Process and Structure	1-4	2.1	2.1
Input Score	4-16	8.7	8.7
Output Components	**Score Range**	**Average**	**Average**
• Results	1-4	1.8	1.9
• Level of Transformation	1-4	1.6	1.7
Output Score (=Sum x 2)	4-16	6.8	7.2
Innovation Score	**8-32**	**15.5**	**15.9**

Sources: AM Best Special 2021 and 2020 Reports

"Pandemic Speeds Up Pace of Insurer Innovation" (May 10, 2021)

"Understanding AM Best's Innovation Scoring (March 10, 2020)

Averages calculated by Carrier Management using percentage distribution of 1-4 scores for each subcomponent.

"Developing an innovative culture among insurers has been an ongoing challenge, but COVID-19 upended the industry's methodically slower pace, causing insurers to act swiftly to adapt to the rapidly changing environment," the rating agency said. Even with the strides they have made in creating more innovative cultures, however, most companies still score at the lower end on their innovation output scores, "in large part highlighting the obstacles created by the pandemic," AM Best said in announcing a series of reports detailing its analysis of innovation assessments.

AM Best reported on the distribution of its innovation assessments for rated carriers and individual subcomponents of its innovation input scores (leadership, culture, resources, process and structure) and subcomponents of its innovation output scores (results and level of transformation), in a report titled "Pandemic Speeds Up Pace of Insurer Innovation" and in the summary article published on page 10 ("One Year In: How Insurers Are Doing on AM Best Innovation Assessments").

"While the pandemic has forced businesses to cram years' worth of innovations into one year, most companies still have a long way to go," Jason Hopper and Edin Imsirovic, co-authors and AM Best associate directors, wrote in their *Carrier Management* article.

The analysts also provide an overview of the distribution of innovation assessments by financial strength and size category, by line of business, and by region in the *CM* article, with more details available in a series of reports published on AM Best's website.

Among the findings in one of the reports, "Reinsurance, Autos, and Health the Most Innovative Lines of Business," the analysts reveal that reinsurers continue to have the best innovation scores, with roughly 16 percent assessed as "prominent" innovators or "leaders" in innovation compared to only 7 percent of property/casualty insurers.

AM Best Innovation Assessments 2021

		Percentage in Category		
Innovation Category	Score	All Insurers	P/C Insurers	Reinsurers
Minimal	<12	18%	12%	27%
Moderate	12-17	56%	62%	39%
Significant	18-22	19%	18%	18%
Prominent	23-27	6%	6%	10%
Leader	>28	1%	1%	6%

Source: Special Report, "Reinsurance, Autos, and Health the Most Innovative Lines of Business" (May 10, 2021)

AM Best Innovation Assessments 2020

		Percentage in Category		
Innovation Category	Score	All Insurers	P/C Insurers	Reinsurers
Minimal	<12	17%	15%	18%
Moderate	12-17	50%	61%	44%
Significant	18-22	23%	18%	18%
Prominent	23-27	9%	5%	15%
Leader	>28	1%	1%	6%

Source: Special Report, Innovation by Line of Business (March 10, 2020)

Another report, "COVID-19 Pandemic Shifts Innovation Benchmarking Results Slightly," reveals that the most favorable innovation assessments skew toward organizations with higher financial strength ratings.

"Higher-rated companies generally had already made innovation-focused investments and were more prepared to deal with the challenges brought on by the pandemic, while other companies had to make years' worth of changes instantaneously to improve customer engagement and continue growth opportunities," the analysts wrote in their summary article for *Carrier Management*, explaining why that dynamic persisted throughout the pandemic.

The analysts also note that favorable innovation assessments tend to correlate with company size. In particular, with larger amounts of capital at their disposal tend, they tend to have more financial resources and thereby receive higher scores for the resource input subcomponent of the assessments.

Still, in a video on AM Best's website, Hopper stressed that it is not true that smaller companies cannot score well on innovation. "Smaller companies can partner with InsurTech companies or MGAs. And new entrants don't have legacy issues," which means they can "start fresh with a newer and more focused innovation process and mentality," he said. CM

Traveling the Far Reaches of the World of Embedded Insurance

From Salt Lake City, Utah to Basel, Switzerland to Paris, France—and into the Google Cloud.

When *Carrier Management* reached out to industry veteran David Bradford to find out what traditional carriers, reinsurers and InsurTechs are doing to make the concept of embedding insurance in non-insurance commercial products and services a reality, we had no idea how far we would travel on his guided tour that unfolds in the following pages. Nor could we imagine the breadth of problems that they are solving—from fixing small business pain points to cybersecurity concerns.

In our prior magazine, Darcy Shapiro, chief operating officer for the Americas for Cover Genius, described the benefits of embedded insurance that Cover Genius and other InsurTechs and their partners in retail, online travel, logistics, mobility, proptech and fintech are already experiencing—among them high customer satisfaction and greater data access for product innovation and customization.

With recent surveys revealing that 60 percent of consumers prefer to buy risk protection from their favorite online retailers, and 70 percent of digital bank customers saying they're very or extremely interested in receiving insurance offers from the banks based on their transactional data, "embedded insurance is the way of the future for optimizing the insurance sales journey," Shapiro reported.

Picking up right where Shapiro left off, James Hall, co-founder of Salty in Salt Lake City, tells Bradford, "I think the future of insurance is embedded insurance, which is why we attempted to create this category of insurance." Creating the category started with sales of auto insurance and other wheels coverages that originate in vehicle dealerships, Hall explains in Bradford's interview titled "The Story of Salty: From Oxford U. to 'Embedded Insurance.'"

At Baloise Group in Basel, Switzerland, Sibylle Fischer, director of Strategic Venturing and Startup Scouting, told Bradford about a version of wheels insurance—but the wheels are mobile campers that owners and vacationers take turns using via a sharing platform that embeds insurance.

And in the home ecosystem, the insurance group owns a digital home moving services platform that offers insurance together with relocation services.

Even more novel use cases Bradford uncovered are Hokodo's trade-credit-as-a-service offering and Munich Re's partnership with Google Cloud and Allianz Global Corporate & Specialty using the concept of embedding insurance to offer Google Cloud customers expansive cyber coverage while providing underwriters access to robust behind-the-firewall data.

Where to next?

"While pure-play D2C InsurTechs will play a role going forward, we'll also see the world's largest technology companies start to occupy the insurance space that they command in other areas, confirming Marc Andreesen's seminal thesis that software eats the world. Akin to their efforts to conveniently embed finance and payments into omnichannel experiences, the digital giants will embed insurance into underlying activities, where the offers are strengthened by datasets that ensure relevance. For a handful of innovative companies, *that* new future is already here," Shapiro told us in her second-quarter magazine article.

More recently, during a CB Insights Tech Market virtual event, "Digitizing P&C Insurance," CB Insights Principal Mike Fitzgerald put together trends emerging with IoT (Internet of Things) technology and embedded insurance, warning traditional insurers to be on the lookout for Amazon and Tesla, and even industrial giants like Siemens, ABB and GE moving into their territory. (Read more in the page 52 article, "IoT Players 'Greasing the Skids' to Boost Growth of Sensor Tech.")

Bradford and Fitzgerald teamed up late last year to present *Carrier Management's* "Virtual Roundtable on Innovation," first introducing the idea that insurance-as-a-service—a.k.a., embedded insurance—was a trend to watch in 2021.

We're pleased to present Bradford's midyear interviews with executives from Salty, Baloise, Hokodo and Munich Re to give us a sense of just how prescient that prediction has turned out to be. CM

Meet the Guest Editor

This edition marks Dave Bradford's third stint serving as guest editor for *Carrier Management*. Last year, he also served as guest editor for a section of *CM's* May/June magazine edition focused on the theme "Future Shock: Managing Risk in a Time of Accelerating Change."

Bradford, the principal of Iosis Consulting, learned his own lessons about keeping up with rapid change during a 40-year career that started at Allstate Re in 1980. After holding executive positions at Reliance Re and Swiss Re, as well, Bradford and Tom Ruggieri, a former managing director of Marsh & McLennan, teamed up to launch Advisen—an information and media company and one of the industry's oldest InsurTechs—with the goal of providing an online information resource specifically for the commercial insurance industry.

"We didn't get it right at first," Bradford said, noting that the pair assumed people wanted to do all their work digitally. "We envisioned an Advisen on every broker's desktop, but that wasn't the way brokers worked, [and] it wasn't the way risk managers worked," he said. Over time, Advisen "migrated to becoming largely a data company," licensing the data separately from the Advisen.com platform.

The Advisen pioneers were ahead of the curve with another part of their vision: to create underwriting tools using natural language processing and machine learning. "We made a huge investment in that technology, which in 2000 was pretty primitive." With no payoff on the investment, the idea was scrapped. (Note: In mid-November 2020, insurance technology firm Zywave announced the acquisition of Advisen.)

Leading his own consulting firm today, Bradford aids tech startups as they navigate insurance markets. His sobering past experiences—of taking fantastic ideas to market and then having them not work out—help him guide InsurTechs when they need to pivot, he said.

At Iosis Consulting today, Bradford works with leading firms to provide feasibility studies, financing, outsourced back-office functions and other services to early stage insurers, MGAs and RRGs, and helps mature players develop innovations to address emerging risks and underserved markets. CM

The Story of Salty: From Oxford U. to 'Embedded Insurance'

By David Bradford
Carrier Management Guest Editor
Principal, Iosis Consulting

Salty owns embedded insurance—literally.

"EMBEDDED INSURANCE" is a trademark of Salty Dot Inc. Salty's SaaS platform enables carriers and their distribution partners to offer policies to insure products or services during the purchase process.

The company, whose origins are in Oxford University, was launched in 2019 in Salt Lake City, Utah.

CM Guest Editor David Bradford spoke with Salty Co-Founder and CEO James Hall about a company that Hall says is in the "hyper-growth stage. So, it's basically 24/7.

Q: Give us some background on what led you to launch Salty. What problem did you see that needed to be fixed or what opportunities did you perceive in the market?

Hall: I spent the last 10 years at Oxford University teaching in the business school as their executive director of entrepreneurship. And basically we put a team together—folks at a thousand-year-old institution thinking about the future of insurance.

We started this back in about 2015-2016, looking at what we called the frictionless insurance market. Essentially, how technology can create frictionless matching—matching the buyers to the providers of insurance coverage. And we started looking at this intersection of technology [and insurance]. We looked at about 300 InsurTech businesses between Europe and the U.S.

We felt like there was a better model that would serve the ecosystem around insurance on a more fulfilling basis. And that's how we came up with embedded insurance, which was essentially looking at how to reduce all frictions and embed insurance at the point that a customer thinks that they're most likely to need it. Technology can drive the right policy to the customer without any human biases. So, that's the origin.

We also were trying to figure out how to invert the underwriting table. What I mean by this is, if you look at the traditional underwriting practices, all are screening for adverse selection, moral hazard or collusion—the three destructive factors that distribution networks sometimes bring to carriers. So, as you build your pricing models for insurance, you're always trying to figure out how to avoid those things, right? Because any increase in claims is a disrupter to your pricing model.

If you look at insurance, most of the insurance today is being sold as "switch and save." Even if you look at the advertisements on television, there are basically billions of dollars spent that say "switch and save," "switch and save," "switch and save."

First of all, only customers that have a reason to shop, shop. And the reason is usually an adverse reason. They've had a premium increase. They've had infractions to their claims record. Something has occurred where they've had a premium increase and suddenly they say, "Oh, we should shop this." Those are higher-risk customers. And we inverted that, saying "how can we come in at the top of the funnel and spread the risk against good classes of risk," which is what embedded insurance does.

So, if you're embedding insurance and you come in at every single transaction, you're spreading that risk against a broader risk class versus just those that are interested in switching and saving. That's how we came up with it.

Q: How does the platform actually work?

Hall: A customer is going through the journey and we are collecting data—basic information on that customer. We enrich that data, so we know exactly who they are and what their needs are. Think of it as using AI and ML to build out an algorithm to determine what type of policy that person needs. We shop that out in the marketplace. We find the best policy for the consumer and then we push that out through a mobile device. So, it's a mobile-first platform, and they can click, find and pay for coverage, right from their mobile device.

Q: So, are you essentially an MGA or an automated agency?

Hall: We consider ourselves a third-party administrator and an MGU—a managing general underwriter. Many InsurTech businesses started as an MGA and then moved to become a full-stack insurer. We don't think moving to a full-stack insurer is our path. We like enabling the

"I think the future of insurance is embedded insurance, which is why we attempted to create this category of insurance."
James Hall, Salty

ecosystem, and we hope that we can continue to do so and still be innovative.

The question is, will the incumbents keep up with advancements in technology and the commitment to driving a frictionless insurance transaction? I think so. My belief is that existing carriers need to make a digital transformation, and we're an enabler of that. We view it less as disruption and more as enabling the ecosystem to make the leap to the great digital transformation.

Q: So, let me understand this. You're not licensing the platform itself; you're not licensing the software. You are providing a platform to distribute business to your insurance company partners. Is that correct?

Hall: That is correct. We're writing other people's paper at this point in time.

Q: What lines of business are you covering at this point?

Hall: We started with what we call wheels. So, think of this as auto, everything within the wheel space—so, from auto to power sports to motorcycles to e-bikes, RVs, just anything in the wheels category.

One of your questions was, "What's the problem you're trying to solve by launching the company?" And for us it's that nobody likes to buy insurance and yet everyone needs it. What we're trying to solve is the problem that nobody really feels comfortable buying insurance. It makes the customer stressful, and yet everyone needs it. We are creating a technology platform that takes out all biases and drives expertise so that the customers get the coverage that they actually need.

Q: What was the response from investors when you took this to the marketplace? Did they get it?

Hall: We have some of the best investors in the world. It took very little time. We raised about $31 million so far. And I don't think I've had to handhold anybody. I think this is a business model that attracts the brightest and the best talent.

Q: The concept of embedding insurance has been around for a while, but it has gained a lot of traction in the last several years. Do you think that this is an idea whose time has come? What's the real trigger behind all the interest in embedded insurance?

Hall: I think the first thing is customers and their desire to do things more simply, more effectively. Customers demand a frictionless experience, so they demand a digital experience. From there, I think you could say that the regulatory environment and the competitive environment have all moved forward and we're now moving at a rapid pace.

Q: Do you see a division in your customers along age lines? Is this something that's going to be more appealing to a millennial than somebody who's perhaps more accustomed to buying insurance the traditional way?

Hall: We just looked at that data a couple of days ago. Our age band on the platform ranges from 17 to 81. These are people who are purchasing their auto insurance through an embedded platform on their mobile device.

While we think that the younger people definitely are digital natives, we find that all demographics are demanding a more simple experience.

I think people are losing patience with calling an insurance agent, entering into a lengthy sales process in which they provide lots of data and then wait for them to perform. I think that dissatisfaction is across all demographics.

Q: So, walk me through how somebody actually acquires a policy on your platform.

Hall: We started in the auto space, mainly with automobile dealers. So, if you think of that customer journey, generally somebody has done some online research. They know what kind of car they want to test drive. They walk into a retail dealership, if they're buying through a retail experience. They go for a test drive. They come back and they negotiate their payment price or the lease payment, whatever it might be. From there, they have a waiting period before they go into the F&I [Finance and Insurance] office to sign their completion paperwork on the vehicle. Once they agree on their payment, we release a text message to the customer. We get a consent form over their mobile device to collect a little bit of information from them. And then we provide a quote right to the mobile phone, and they can click bind and pay from the mobile phone. And then we feed the certificate of insurance directly into the dealer's system.

Q: How have regulators responded to this?

Hall: You're seeing the need for blue ink signatures changing, which used to be required on all applications. So, there's lots of progress from regulators as they adopt to digital experiences.

We haven't come across any [major regulatory roadblocks] yet, but we're always cautious. We always comply with all regulatory environments—and all of them are different—about the way you deal with data. Think of it as privacy issues within the state of California versus the state of Minnesota.

We have a team dedicated to making sure that everything's in compliance. And the U.S. is a difficult marketplace; we have 50-plus regulators in our market. Now, our market is the largest insurance market in the world, but the regulatory requirements are heavy, being a state-regulated industry.

Q: Are insurance companies concerned about channel conflict? Do they view Salty as a competitor of their traditional distribution sources?

Hall: That has to be a valid concern for carriers. How do they serve their traditional marketplace while they make the digital transformation? It's happening to all of them. So, whether that be Progressive, GEICO, State Farm or any of the others, they have to find answers for how they make this digital transformation. That's why you see the new entrants, like a Branch, like a Root, like a Lemonade. The incumbents are tied to an old school, traditional distribution model. That makes it difficult.

What we are trying to do is partner with the ecosystem and help insurers through that process as they make a transition. I strongly believe that it's all going to change at a very rapid pace. Customers are demanding a digital experience and a frictionless experience, and they deserve it. Technology is going to drive the friction costs out of insurance and produce greater transparency and a better user experience.

Q: What do you see as the future of embedded insurance, and what do you see as Salty's role in that future?

Hall: I think the future of insurance is embedded insurance, which is why we attempted to create this category of insurance. We not only copyrighted [the term "EMBEDDED INSURANCE"], but we're also building lots of moats around it through patents and everything else that we can do.

Embedded insurance is an expansion of the marketplace. If you can make insurance more convenient and less stressful for the customers, then customers are more willing to insure things that they haven't perceived a need for insuring. If you look at it from a supply and demand curve basis, this moves your equilibrium out to the right, as you make it more convenient.

This is an opportunity for companies to leapfrog the competition and the traditional marketplaces. And we think we'll have an opportunity to lead this marketplace of embedded insurance in all categories. We're building out the platform so that it can be scaled to that capacity.

We are insurance nerds. We're innovators and nerds and geeks about insurance. It's fun trying to figure out how to drive a better user experience for a product that everybody needs in the world. The world is better when there's a more efficient insurance market, and we just keep trying to solve for that. CM

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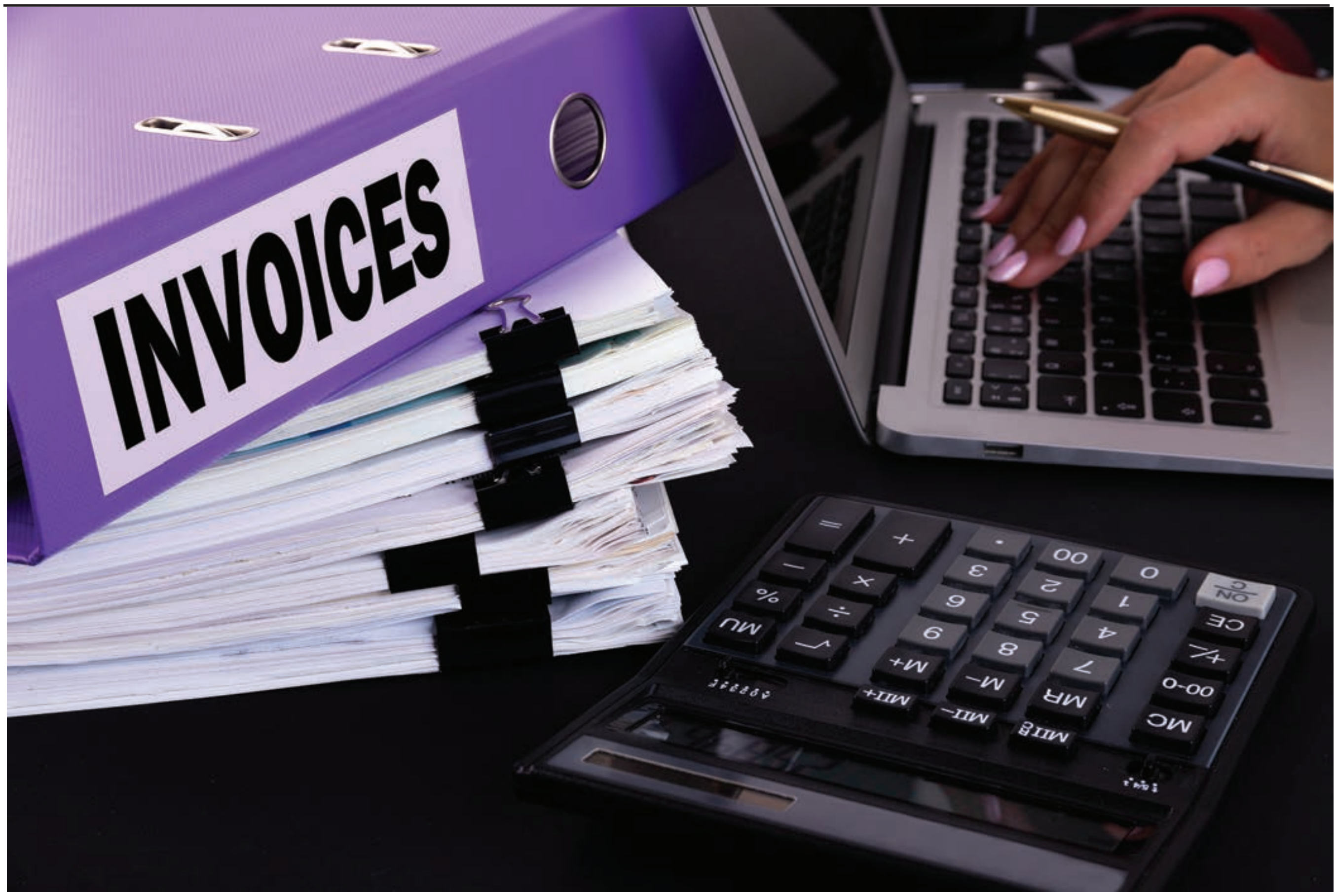

Trade-Credit-as-a-Service: How Hokodo Is Fixing Small Biz Financing Pain Points

By David Bradford
Carrier Management Guest Editor
Principal, Iosis Consulting

Most often, the concept of embedding insurance refers to a means of distribution—offering more or less traditional insurance coverages for products or services at the point of sale. For Hokodo, insurance embedded within a financial service is an essential and inseparable element of an innovative way for small merchants to offer favorable trade terms to customers.

CM Guest Editor David Bradford spoke with Hokodo Co-Founder and Co-CEO Louis Carbonnier from Paris.

Q: Let's start with a bit of your background. What were you doing before, and how did it lead to you co-founding Hokodo?

Carbonnier: It's really nice to have this conversation today because embedded finance, in particular embedded insurance, is really at the core of what we do. Our personal trajectories reflect that. I have a background in financial services. I started out at Oliver

Wyman in their financial services practice in London. I was given a lot of opportunities to see different businesses—different banks and insurance companies—and work on some fascinating projects with high-caliber people.

I left in 2014 because I wanted to be more involved in digital transformation for financial institutions. I wanted to have more impact, so I went into the industry. I joined Euler Hermes, the world leader in credit insurance. It's a very specific niche insurance that protects people against the risk of unpaid invoices. It's also part of the Allianz Group. All the distribution was through brokers and agents, and it was clear that this vertical was on the verge of a big shift.

It's around this time that my thinking around embedded insurance began. I met one of my co-founders at Hokodo when I was at Oliver Wyman, and together we were doing a lot of bancassurance types of projects—how to distribute insurance at the point of sale, for instance, when a car is sold.

It was clear to me that insurance against unpaid invoices would make trade credits easier between a seller and a buyer by putting yourself at the point of sale. That's how I got the idea for Hokodo. In 2018, we set up Hokodo as a group of three co-founders. It was a bit of a gamble. Hokodo is three years old now, and that's exactly the age of my first child. It was a bit like raising two babies in parallel for some time.

Q: When you launched Hokodo, what was the specific problem or pain point you were addressing?

Carbonnier: We're fixing trade credits, which is basically the payment terms that companies give to each other when they're selling and buying. That's a fundamental part of supply chains and an important part of financing in general.

We're solving two big problems in trade credits. No. 1 is the fact that the ones who most need credit can't have it. When you're a small buyer, there's a big chance that the supplier is going to telling you, "Hey, we like you, but if you want our product, you're going to have to pay up front or give us a deposit."

By the way, the opposite is true. If you're a tiny farmer supplying into [UK grocery chains] Tesco's or Sainsbury's, there's a good chance that Tesco is going to force you to accept long payment terms like 60 days. So, you basically are punched on both sides. You need to pay your suppliers quickly, but you also must give long payment terms to your customers. That's the first problem that we saw.

The second problem is that today, offering payment terms to your clients—to your trade customers—is extremely painful for merchants. The typical process is going to be you've got a customer that comes to your website and they say, "Hey, we'd like to buy your products. Could we benefit from payment terms?" And then the trouble starts because you need to run a credit check on the customer. That typically takes 48 hours. Eventually you get back to your customer, but in 50 percent of the cases, you're going to say no. And even when you say yes, it took you 48 hours to get there.

Once you've given your customer payment terms, you still need to manage your credit limits. About half of B2B invoices are paid late today. That creates massive burdens for the finance departments. Reconciling, dunning, collecting are massively cumbersome, time-consuming and honestly not that value-generating for the companies.

These two fundamental pain points are solved with Hokodo's trade-credit-as-a-service. Our mission is to help merchants grow. But by doing that, the customers benefit from a better purchasing experience, and they can buy now/pay later more often than they used to.

Q: Can you explain how it works? How does it function for the merchant and the customer?

Carbonnier: I think it's easiest to view Hokodo as a payment method for B2B. We're not an app in itself; we're really an API solution, a stripe that you put on your websites to receive payments. The way it works is simple: Merchants install Hokodo on their website, and that allows them to offer credit terms to trade customers instantly, and even on the first purchase. If you look at what the journey looks like for a customer that comes on the website, the customer comes [and] starts shopping online, fills up their cart, and as they do it, the merchant pings our API and asks us, "Is this customer eligible to payment terms? Yes or no?" We provide them with a sub-second answer. If yes, we tell the merchant what credit limits the client is good for.

If the customer is eligible—which is the case about 80 percent of the time—then the merchant displays a different payment button on the checkout next to all the other payment methods. So, you're going to have Visa, MasterCard, PayPal, and then you've got Hokodo deferred payments. Then if the customer is interested in benefiting from 30 to 60 days of payment terms, they will click on that button.

Q: Credit insurance is one of the key features of your program—every Hokodo transaction is backed by insurance. Since Hokodo is assuming the credit risk, who is the insured—Hokodo or the individual merchants? Who receives the insurance proceeds if there is a claim?

Carbonnier: We're structured as a managing general agent, and we've built our insurance capacity through Lloyd's of London. So, we work hand in hand with Channel, one of the Lloyd's syndicates, who are themselves a unit of SCOR Global P&C. SCOR, as you know, is the fourth-largest reinsurer globally, AA rated and so on. That gives us a strong backing, and credit insurance is really the bedrock of all our solutions. We assume the risk of nonpayment for our clients with the backing of Lloyd's, which means that when we tell a merchant a client is eligible to payment terms, then they are protected. And if the buyer doesn't settle the invoice, then that's on us. The merchant still receives the money through Lloyd's of London.

Q: Explain your relationship to Lloyd's. Did they understand your mission and your business plan? How did underwriters respond when you first approached them?

Carbonnier: When we crafted this innovative product, there was a

"Once you've given your customer payment terms, you still need to manage your credit limits. About half of B2B invoices are paid late today. That creates massive burdens for the finance departments."

Louis Carbonnier, Hokodo

lot of engineering and structuring that took place. It's not only innovative on the distribution front but also in some of the more fundamental steps of the value chain. We ran an RFP when we looked for insurance capacity, and we got offers from six other insurance organizations. That was a lot of interest for an innovative new product.

The theme of embedded insurance also resonates [with insurers] because it gives you leverage in your distribution that you cannot find through the traditional channels. Beyond the pure commercial side of the deal, we were looking for a partner who shared our vision and had the flexibility to support our growth.

When you're a startup, you're inevitably going to go through product adaptations and iterations until you really discover your markets and learn from your clients. We wanted an insurer that really understood that this was part of the innovation process, and that's where SCOR and Channel really stood out from their competition. We've got a really, really close relationship where every week we review the exposures together. Whenever we have anything that requires additional structuring, we're able to form a deal team and really go for those deals and beat the incumbents.

Q: When you say incumbents, who are you competing against for this business typically?

Carbonnier: We're a bit of a new type of animal, because in a way, we're at the intersection of InsurTech, fintech and paytech. But if you look at who we're competing against on some of the deals, you've got the traditional credit insurance; you also have factoring or invoice financing providers. These would be the main competition that we face today.

Q: Hokodo is in six European markets at this point. Are those six markets where the merchants are located or where their customers are located?

Carbonnier: These are the countries, the geographies where the merchants are located. So, we currently serve the UK, France and Germany. We're working on opening Spain, Belgium and the Netherlands in the third quarter.

The customers can come from anywhere. Obviously, if they come from a tiny country in Africa, it's going to be more difficult for us to assess them, but for the main countries, then that's not going to be an issue.

Q: Looking ahead three to five years, what do you see for both your company and for your marketplace?

Carbonnier: I think that this space that we're exploring is going to get more and more crowded because the opportunity is huge. And I think now it's becoming quite obvious. When we went for it, it was a bit of a gamble. But now with the benefit of hindsight, I'd be surprised if new entrants didn't come to this market.

So, I think over the next three years, there's going to be more competition in this space. But this being said, I think we really have a good chance now of becoming the dominant provider of trade-credit-as-a-service in B2B. That opportunity will be just as large as in the B2C market.

I think we're the firm that is best positioned to achieve this vision. We're going to consolidate our position in the UK, France, Germany, then go for the rest of Europe in the next two years. Beyond this expansion,

"Our mission is to help merchants grow. But by doing that, the customers benefit from a better purchasing experience, and they can buy now/pay later more often than they used to."

"When you're a small buyer, there's a big chance that the supplier is going to be telling you, 'Hey, we like you, but if you want our product, you're going to have to pay up front or give us a deposit.'"

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what we'll keep doing is differentiate through our data platform and our risk approach.

In terms of the vision for Hokodo, we're adamant about bringing together cutting-edge technologists and people with lots of business acumen and industry expertise. We really think that one without the other isn't enough to crack that market, so we've invested a lot in all the credit risk and fraud management capabilities. I think that this is ultimately what will make the difference.

As concerns the insurance market, it is not only the top line but it's also how you manage your losses and how you build a sustainable business over time. It's really about winning throughout the market cycle. We're building a data platform that's putting us in a very strong position. We want to keep doing that because while some players may come, some players may go, those that stay will be those that recognize the sustainability of our model. CM

Getting Behind the Firewall: How Munich Re, Allianz Underwrite Cyber Risk for Google Cloud Users

By David Bradford
Carrier Management Guest Editor
Principal, Iosis Consulting

The best cyber underwriting information often is the least accessible. A thorough assessment of information security practices requires data from inside an organization's firewall, which is both sensitive and difficult to compile.

A recently launched partnership among Google Cloud, Munich Re and Allianz Global Corporate & Specialty uses the embedded insurance concept to offer Google Cloud customers expansive cyber coverage while providing underwriters access to robust behind-the-firewall data.

CM Guest Editor David Bradford spoke with Bob Parisi, head of Cyber Solutions-North America at Munich Re, to learn more about the partnership.

Q: Describe this alliance. How did it come about, and what was the motivation?

Parisi: The thought process behind it is to facilitate a more data-driven underwriting model. We continue to strive to get better insight into applicants, but there hasn't been a lot of innovation since cyber insurance first came out. It's still largely a hands-on exercise—a call with the CISO [chief information security officer], and maybe some outside-in tools that give you some scores and useful information. But it's still not all that underwriters would like to have to work with. *(Editor's note: Outside-in tools means outside-the-firewall security data-gathering tools.)*

Google Cloud customers have access to a risk management tool. It is independent of insurance, but it has a helpful functionality for underwriters: a risk manager dashboard. The risk manager dashboard gathers information. It gives the Google Cloud customer a very good look at how their systems are running, how they're doing against best practices.

If the customer wants to apply for insurance, they essentially share with us insurers a snapshot of the dashboard. We've mapped that information against the ISO 27000 [data security] standard, and we use it in our underwriting tool.

Depending on how much business a customer runs in the Google Cloud and the information we can gather from the Risk Manager tool, we may be able to shorten the underwriting process. If they've put everything into the Google Cloud, our underwriting is pretty much done. If they are using their own servers or other cloud providers, we only have to ask about the things that aren't already covered by their Google Cloud relationship. So, it creates a quicker, more efficient and more transparent underwriting process.

And frankly, it gives us more comprehensive data as compared to a traditional application. It enables a data-driven underwriting process. At the end of the day, that will facilitate improved underwriting and therefore help us improve the breadth of coverage we can offer. Also, I think it contributes to the sustainability of the cyber insurance market.

So, that was the main reason for getting into this partnership with Google Cloud. Also, Google is a company with a huge number of relationships. This is another way to get cyber insurance distributed throughout the economy, which benefits everyone.

"I do think that a greater alignment between technology companies and underwriting is inevitable... Data from submissions and conversations with the CISOs are enlightening, but it's not comparable to inside-the-firewall data."

"This program also allows a Google Cloud client to access $50 million of capacity with just two underwriters...In the present hardening market, at a time when clients are eager to find capacity, this kind of access is a real advantage."

Bob Parisi, Munich Re

Q: The benefits from the underwriting side are pretty clear, but what does Google gain? What does a customer get out of it?

Parisi: I think it clearly differentiates their cloud services, given that this is an added benefit that a Google Cloud customer can have. What the cloud customer gets out of it is an efficient underwriting experience—a more transparent process. Simplicity and transparency drive value.

Based on an applicant's unique risk profile, there are also certain coverages that we are willing to provide, over and above what's available in the standard cyber insurance market, related to a policyholder's Google Cloud activities. We provide a longer period of restoration [for business interruption claims]. There are some additional affirmative grants of coverage should there be a problem where Google is the proximate cause of the loss. The benefits increase enormously with the amount of data the policyholder has in the Google Cloud.

This program also allows a Google Cloud client to access $50 million of capacity with just two underwriters and one claims entity because we've agreed to have Gallagher Bassett handle the claims. In the present hardening market, at a time when clients are eager to find capacity, this kind of access is a real advantage.

Q: How does a transaction actually work? Is this a button on the dashboard that a Google Cloud user pushes to apply for insurance? Do they go through a broker? What is the process?

Parisi: There almost is a button. The whole Google Cloud Risk Manager tool and the risk manager dashboard are independent of insurance. Someone could be a Google Cloud client, go into the cloud, use the Risk Manager tool, and never deal with insurance—or at least not deal with insurance through this channel. But the Risk Manager tool does have a prompt. And the customer is educated both by the tool and by the Google sales team about the additional benefits of being a Google Cloud customer.

So, on this dashboard, there is a prompt: "Would you like to know more about cyber insurance?" And then there is a dropdown box: "Do you know who your broker is?" Next, the customer either chooses their broker or will find a prompt that kicks it back to the insurance-buying stakeholders, the CFO, the treasury side of the house.

At that point, the Risk Manager tool engages the parties who normally deal with the purchase of insurance. The broker and the client, through Risk Management, reach out to Allianz Global Corporate & Specialty and Munich Re with the application.

They provide us with access to that snapshot of their Risk Manager tool. This information then is imported into Munich Re's underwriting tool. We do the workup, we share it with AGCS and generate a quote.

Q: From Munich Re and Allianz's standpoint, there seems to be no sales process. It is passive; you're just waiting for someone to push the button. Or are you going out to brokers and introducing them to this and encouraging them to take it to Google Cloud clients?

Parisi: We've done a whole education process to the brokerage community. There is a Google salesforce that is explaining to Google Cloud customers why being in the Google Cloud is a good thing, and that includes our cyber insurance offering. As we have no way of knowing who

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is a Google Cloud customer, we usually engage when the client or Google contacts us.

In some cases, though, companies are very public about their use of Google Cloud. Based purely on publicly available information, we may contact a broker. As a matter of principle, insurers are very sensitive to the confidentiality of where clients put their technology.

Q: I assume the CISO is the Google Cloud risk management dashboard user in most organizations. Do you find a different attitude toward insurance, a different way you have to communicate the benefits of insurance to a CISO? Or do they typically bring in the risk manager—the traditional insurance buyer—to handle the insurance purchase?

Parisi: Most of my activity at Munich Re is with larger companies with CISOs that are board level or reporting into the board. The concept of a broader, holistic risk management approach to technology is already really ingrained in their DNA. So, most of the CISOs that we're talking to recognize that financial risk transfer is the fourth leg of the risk management stool. We're seeing a lot more coordination among the stakeholders that manage cyber risks. It's rare that the CFO or the treasurer or whoever we are talking to doesn't already have some visibility with the CISO.

What we're seeing, though, is that this approach to buying cyber insurance is particularly powerful in the middle market—the SME space where you often have very flat hierarchies and managers often have multiple roles. I think this simpler, more efficient process will be very much to their liking.

Q: Do you see this as a template for other sorts of insurance arrangements with the big tech companies? Or is this specific to the characteristics of the Google cloud?

Parisi: For the immediate future, we're focused on our relationship with Google Cloud and on extending the cooperation regionally. In the bigger picture, I do think that a greater alignment between technology companies and underwriting is inevitable. As I said, we insurers need more and better data. Data from submissions and conversations with the CISOs are enlightening, but it's not comparable to inside-the-firewall data.

To the extent that technology companies are open to partnering with the insurance community to provide access to more of this in-depth data, that's a model that we want to pursue. And I think this will be seen as beneficial in the cyber marketplace. CM

Swiss Insurer Baloise Moves Forward With Insurance Innovations

By David Bradford
Carrier Management Guest Editor
Principal, Iosis Consulting

Swiss insurer Baloise may be nearly 160 years old, but it is a company with its eye on the future of insurance, including embedded insurance.

Sibylle Fischer, director of Strategic Venturing and Startup Scouting, is responsible for driving innovation to create a steady stream of new product solutions for the insurer's customers.

Q: Tell us about your role, not just with embedded insurance but also other projects you're working on and some of the innovative things that you're doing at Baloise.

Fischer: I'm working in the Group Strategy and Digital Transformation team, where we are building Baloise's digital ecosystem. I am also responsible for our corporate venture capital investments. Our team chases unicorns, so to say. We are looking around the corner, trying to see trends and upcoming things in the insurance industry. Additionally, we also find startups and solutions which we can match with the needs of our core business.

Q: It seems that Baloise is committed to innovation.

Fischer: Yes, I would say so. We have a strong commitment to reimagining our core business and also diversifying our business.

The diversification will be in the mobility and home ecosystems. And the reimagining is really to smooth the interaction with our customer by making their lives simpler and safer.

Q: Let's talk about embedded insurance. What is the opportunity Baloise sees in this segment? What led you to pursue opportunities embedding insurance?

Fischer: I think the main factor is that insurance is not really an exciting product. I always say, "No one wakes up in the morning and wants to buy insurance." So, we have to bring it to the point of sale. Like when you are buying a smartphone, you might also buy insurance for it. Or if you buy a house, you might also think about term life insurance for protecting your loved ones. The main point of embedding insurance is to make insurance more accessible, more understandable for customers, and bring it to the point where they are ready to think about insurance—when it's not just a pain or a burden to do so.

Q: In one of your blog posts, you cite the well-worn statement that insurance is sold, not bought. Is that the paradigm that you're trying to change with embedded insurance?

Fischer: I think insurance would always be something which is sold, especially in the pension and life section where advice is appreciated by the customer because it's a complicated product. You have to think twice about what do you need for your retirement or protecting your family or loved ones. With the new developments in the sharing economy, where you don't buy a car, you just rent one or have a subscription model, the insurance model will change to make it easier for the customer to get to insurance.

Q: Do you think this is a generational thing? Do you think that millennials expect a different insurance experience than their parents?

Fischer: That's a hard one, but I think the millennials are more used to using digital tools to buy stuff online, in general. I also think [many older people] are often digital-savvy, are front-runners for buying stuff digitally and getting digital products and using these kind of channels. Even COVID has an impact on that because agents and brokers just can't visit their customers, so they are getting used to video calls. And they are used to chat because everyone uses WhatsApp. People are used to chat and having quick answers 24/7.

Q: Does the fact that the technology is changing and getting better make this type of insurance more of a possibility, more of a reality? Is there a technology component to the move toward embedded insurance?

Fischer: Yes, for sure. I think about open banking but also open insurance, like plug-and-play—having an interface to a new system and then plug it out, plug it in. The technology makes a difference.

Q: Baloise has two embedded insurance programs that I'm aware of. You have one with a Swiss moving company, and the other one is a homeowner insurance product that's being distributed through a real estate website, if I understand correctly. Can you share some information about *these programs and how they work? Maybe we can start with the moving company, MOVU.*

Fischer: You're referring to the product where you have insurance for when you move into a new apartment. When people move, they may want moving insurance where everything is covered.

Q: How does that work? Do customers purchase the coverage through the moving company?

Fischer: MOVU is a platform business that matches you with a moving company and handles all the invoices and the administrative stuff. If you order your moving company through the platform, you can have this [coverage] as an additional product.

Q: What other embedded insurance activities is Baloise involved in now?

Fischer: We have a cooperation with a startup called MyCamper. That's a camper-sharing platform—private persons sharing their campers. That has been good in COVID times because people start to do their holidays differently. And we provide the insurance for this sharing. Both the camper owner and the renter are fully protected against damage. I think that's a very good example of embedded insurance.

Q: Who is the insured then? The owner of the camper?

Fischer: The vehicle, literally. I mean that—it's the vehicle which is the insured person.

Q: Are you happy so far with the response from the marketplace as you move into the embedded insurance area?

Fischer: That's a tricky one. I think it works only if you have an existing sales force. It's not easy. We have a single-item insurance product designed for younger people where our sales force helps us massively to sell this kind of product. I really believe that embedded insurance is coming, but it's not yet replacing a working sales force.

Q: So, when you say a working sales force, you mean insurance agencies?

Fischer: The agencies, the intermediaries and so on—whoever that will be in the specific insurance markets. I mean, Switzerland is a tied agent market for private persons. Belgium is a complete broker market for everyone. It depends on which market you are in.

Q: Are you getting pushback from your traditional agents against embedded insurance? Do they see this as competition?

Fischer: You have to think twice about how to integrate them in the whole story. I don't think you can work completely without them.

Q: How about regulators? Are you running into questions from regulators, or perhaps even resistance to embedded insurance products? Are European regulators open to the idea?

Fischer: I'm not so close to the regulators, but I don't think they are enthusiastic. And I do think they are asking their questions in general on innovation. I believe that regulators have to adapt because we're meeting the customers' needs, and they can't regulate the business far away from customer need. So, they somehow need to innovate too.

"I really believe that embedded insurance is coming, but it's not yet replacing a working sales force."
Sibylle Fischer, Baloise

Q: What are you looking for in terms of new ideas for embedded insurance products?

Fischer: In general, we like ideas in home and mobility.

Q: Are you out actively looking for InsurTechs, or do they bring ideas to you?

Fischer: It's a combination of both. We are looking out for InsurTechs—for something interesting. But sometimes someone approaches us with an idea. If we see a fit, we start a discussion. We're also actively looking for use cases within core businesses and then going out and trying to match startups with them. CM

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Getting to Know Baloise Group

Located in the heart of Europe, with its head office in Basel, the Baloise Group is a provider of prevention, pension, assistance and insurance solutions.

Its core markets are Switzerland, Germany, Belgium and Luxembourg.

Innovation is a high priority at Baloise.

In 2016, Baloise embarked on what it refers to as its Simply Safe strategic journey, aiming to make customers' lives easier and safer in four key areas: home, mobility, financial wellness and business services.

Within these four ecosystems, Baloise entered into partnerships with external companies, invested in startups and established startups of its own.

Highlights of the innovation journey listed on the group's website include:

- The 2017 acquisition of digital home-moving services platform MOVU, in the home ecosystem.
- The 2017 launch of digital insurance startup FRIDAY in Berlin, offering motor vehicle insurance in the German market with innovations like pay-per-kilometer billing and the ability to cancel on a daily basis. FRIDAY started offered home contents insurance in 2019 and expanded into France early in 2021.
- An investment partnership with Anthemis Group.
- Investments in InsurTechs KASKO, Insurdata, Trov, omni:us.

In June 2021, Baloise was recognized as one of the world's most innovative companies, receiving gold and silver awards in two separate categories of the 2021 Efma-Accenture Innovation in Insurance Awards.

Recognized for innovation in embedding insurance, one of the two honors came in the "Connected Insurance & Ecosystems" category for a project known as Inshareance in Switzerland.

Inshareance is an insurance solution tailored to sharing models, including MyCamper, a platform tailored to sharing camping vehicles.

Baloise also was awarded gold in the Efma-Accenture innovation competition for Drive Electric, an insurance product launched in Luxembourg at the start of 2021 that is specifically tailored to electric vehicles and making the transition to this new type of transport easier for customers. Customers benefit from the insurance solution's guarantees, which were developed specifically for electric and chargeable hybrid cars—e.g., for the battery, charging cable and breakdown assistance. Beyond the insurance, Drive Electric provides customers help with the installation of home charging stations and also gives customers a card that allows them to use 180,000 charging stations across Europe.

Source: The Baloise Group website; Efma/Accenture Awards website

Executive Viewpoint: How to Achieve True Digital Transformation in Insurance

By Greg Murphy

Over the last several years, businesses across all industries have been busy implementing digital strategies and fundamentally changing how they operate and deliver value to customers. Yet, digital transformation is relatively new to insurance.

With many carriers experimenting with technology to improve processes and generate new revenue streams, it is important that we first define what digital transformation truly means.

The Myth of Digital Transformation

Many traditional insurers have begun the process of "digital transformation" by implementing legacy processes with recent technology. While this "new" technology may offer added functionality, the processes are often rooted in legacy thinking. No longer can we say we are "digitally transformative" if all we do is scan in forms or slap on a digital signature. In this process, insurance products are created and then expectantly pushed to the customer, with fingers crossed. There is little transformation.

Executive Summary:

What does "digital transformation" really mean?

As the insurance industry looks toward digitalization, it is important to understand the myths surrounding digital transformation and how the industry should shape its perspective on a business-first approach. Greg Murphy, Executive Vice President, North America at INSTANDA, explores a unique way of approaching technology adoption in insurance.

With that in mind, what does real transformation look like?

According to consulting firm Deloitte, transformation is focused on achieving new things that were not previously possible while also improving upon old processes. How do we achieve transformation of legacy thinking while also implementing modern technologies?

Think Business First, Technology to Follow

In larger carriers, digital transformation tends to be complicated. This is largely caused by a reluctance to break away from legacy technology thinking, in which organizations think "technology first." This results in the strategy becoming a technology plan, rather than being geared toward business growth.

Instead, carriers should frame the business problem first and then take a clear leadership role on how to tackle it with technology.

Business leaders should insist that technology does not try to boil the ocean. Similarly, tech leaders should insist that business leaders articulate the specific business challenges currently being faced. By working together to define the process and consider new ways of troubleshooting problems, companies can achieve true digital transformation.

If this past year has taught us anything, it is the fact that consumer expectations have changed. No longer are customers satisfied with waiting days or weeks to receive an insurance quote. Now they want to submit their information and quickly receive a bindable quote in a few minutes. Yet how are companies able to transform the customer experience if they continue to focus on the back office?

Achieving True Business Transformation Through Digital

Once carriers get into the "business-first, technology-after" mindset, the road to true transformation should become clearer. Technology should always have a supporting role in the growth of the insurance organization, rather than dictating the strategy and development of the company. Consulting with IT on technology opportunities will help business leaders to build and implement products that align with business goals and have a clear ROI.

With a change in approach to digital transformation, carriers can use technology in smarter ways to solve business problems and create greater efficiencies. For instance, if carriers want to bring a new product to market, they must first ask themselves several questions: How do we want the consumer experience to feel? How quickly do we want to quote, underwrite and bind a policy? How can the underwriting process be modified to take advantage of newly available data sources to increase speed and accuracy?

To enable this approach, cloud-native solutions can help carriers design platforms for a variety of purposes, with speed and ease. Designed with the customer in mind, these cloud-based platforms are customizable to meet a host of different business objectives. Being innovative on the front end and through the underwriting process enables carriers to sell policies quickly and efficiently. Being able to configure and make changes to the platform with business-focused resources also helps carriers pivot strategies on the fly, such as adding distribution channels or changing the way products look and feel, based on user feedback.

"Carriers should frame the business problem first and then take a clear leadership role on how to tackle it with technology."

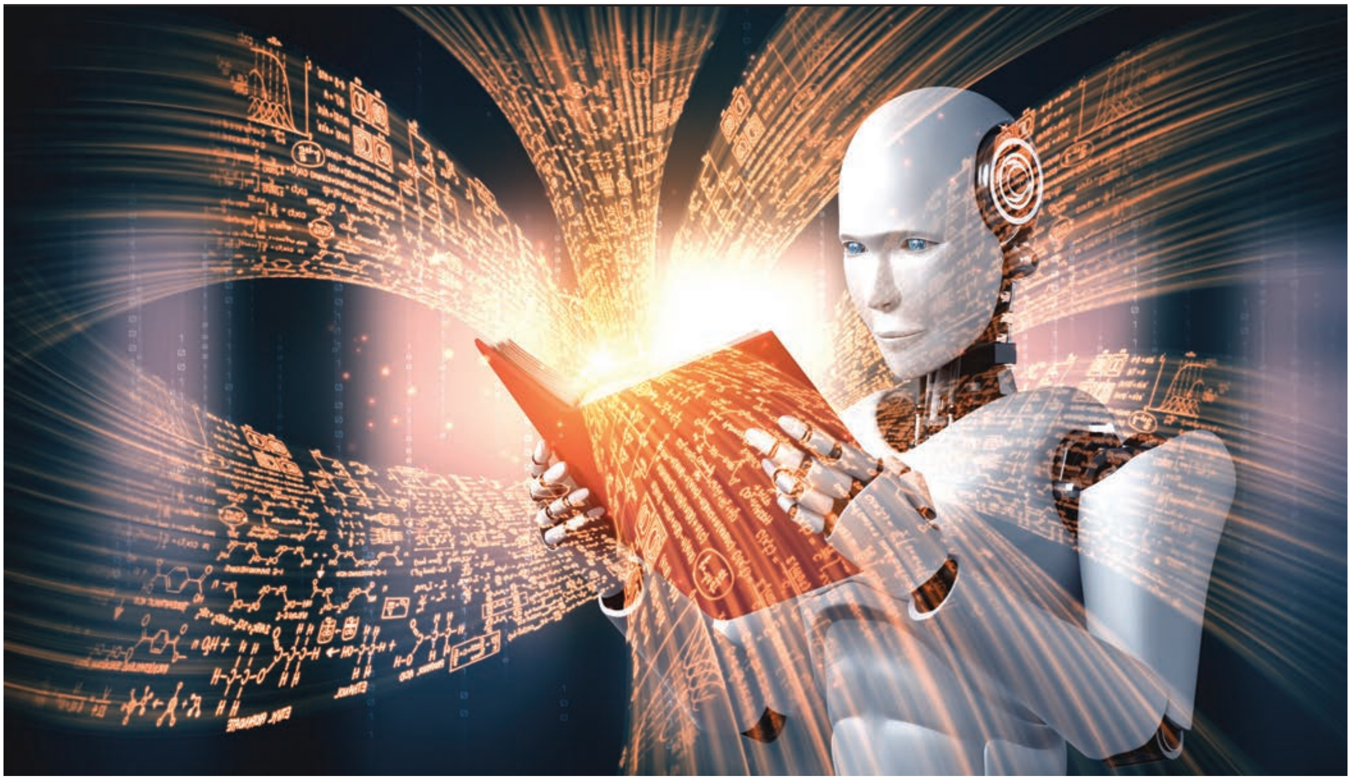
Greg Murphy is the Executive Vice President, North America for INSTANDA. Reach him at greg.murphy@INSTANDA.com.

InsurTechs That Empower Business Transformation

As carriers shift their thinking from technology-first to business-first and then develop products or make changes with their customers in mind, they need to find partners that champion true digital transformation. InsurTechs have become powerful catalysts for sector evolution, empowering traditional carriers to rethink their perspectives.

Through innovative, cloud-native technologies, InsurTechs can help carriers say goodbye to legacy systems holding the business back from innovation. Digital transformation suddenly becomes less daunting and more achievable, with the right tools and fresh thinking at the carrier's fingertips.

As we continue into 2021 and beyond, redefining "digital transformation" to mean "business transformation" is what will make carriers win in the marketplace. Carriers should not be afraid of challenging the status quo. Rather, they should dare to be different and reap the rewards. CM



Intelligent Automation in Loss Reserving: Why Actuaries Need Help From Robot Analysts

Executive Summary:

New technology can help actuaries communicate better and analyze deeper, Willis Towers Watson Director Jamie Mackay suggests. Here, he explains how actuaries can spend less time and resources running queries and inserting rows, and more time performing critical thinking by using automation and extract, transform, load (ETL) tools. He also notes the value of leveraging automation to perform more frequent reserving analyses—something that was much desired to analyze the impact of COVID lockdowns on loss development triangles—and the value of data visualization tools in communicating results to non-actuaries in the C-suite.

By Jamie Mackay

Among the many things that have changed how the actuarial field functions is an underlying movement to automate. By integrating cognitive computing capabilities into their actuarial processes, reserving teams have a new and powerful tool to better equip them to eschew repetitive tasks, like data cleaning, validating and loading, and analysis preparation. Instead, they can focus on the critical work that requires planning, decision-making and vision—a blend of art and science, so to speak.

Automation is not a goal, rather a means to achieving a business objective. It is a tool to make people more productive. This is reflected in a recent Willis Towers Watson reserving survey, which probed chief actuaries and reserving actuaries among insurance companies about their satisfaction with their existing processes and strategic goals. Only 25 percent said they were fully satisfied, and 84 percent said that not having enough time for detailed, value-added analysis was a big concern.

Transition From Manual Work to Adding Value

Two of the more striking areas where satisfaction decreased over the last four years centered on "effective use of available actuarial staff" and "speed/timeliness." In other words, there's a perception the team is working too slowly or doing things that do not add value. This isn't a harsh criticism, rather more reflective of the sheer volume of tasks actuaries are being asked to complete while also having to stake their professional integrity on the results produced.

This has been even more apparent with disrupters like COVID-19. Actuaries are expected to produce hand-painted works of art at the rate of assembly-line paintings, and this aligns more with what we are hearing as to the purpose of using automation. In fact, when probed about the overall objective of investing in automation, respondents who prioritized "adding value" have consistently far outweighed those looking to "save money" or "reduce team size" across several years of surveys.

As insurers seek to rely more heavily on data analytics, how can they best deploy these "robot reserving analysts" where they can add the most value to the company and the C-suite, and what does this "added value" actually look like?

This is where an "optimization" goal surfaces: In a field where data and granularity are growing at enormous rates, how do we focus the actuary's attention where it matters the most and when it matters the most? How do we leverage technology to provide the actuary with the information to apply their art, deploy their judgment and develop their opinion?

Better and Deeper Analysis

The first rather mundane but crucial part of leveraging automation is identifying the critical path of data and information through a reserving process. How do we get the information loaded into the tools used for analysis and the results that feed back into the downstream data repositories? This really is automation in its simplest form: getting things organized and done expeditiously.

Before we can add value, the core routine needs to be taken care of quickly with ease and confidence. This is where use of automation and extract, transform, load (ETL) tools are critical in communicating information and preparing working files so actuaries spend less resources running queries and inserting rows and instead spend more time performing critical thinking.

But today's actuaries aren't just tasked with leveraging more data from claims or new techniques. Actuaries are under increasing pressure in an environment where claims experience is rapidly changing to prepare more regular analysis and provide more updates, not just quarterly but perhaps monthly or weekly—or even on-demand. Automation is key to making analysis efficiently re-runnable. If teams can perform analysis quicker, then it could become cost-effective to do it more regularly.

This past year has demonstrated the value in regular—and deeper—insights more than ever, especially in short-tailed lines like personal auto. With the COVID-19 pandemic causing dramatic and unprecedented changes in driver behavior, a quarter is a long time between analyses. Leveraging automation to take more regular cuts of the data and

"Actuaries are expected to produce hand-painted works of art at the rate of assembly-line paintings."

Jamie Mackay is a Director with Willis Towers Watson based in San Diego. Mackay has over 18 years' experience in P/C reserving, with a broad area of focus that covers both consulting and technology services. He leads Willis Towers Watson's reserving proposition in the Americas.

efficiently re-apply and update assumptions has been critical in providing insights in a quickly changing environment.

In reserving, we've long seen the value of doing isolated scenario analyses or running thousands of simulations through individual models. But what if we quickly and easily could define multiple sets of alternative assumptions, running each through the entire analysis automatically when the data is made available? Before even starting an analysis, the actuary would be able to identity where their insight and judgment is needed most, which is critical information on Day 1 of a short turnaround time.

More Effective Communication

Reserving teams can be guilty of generating and disseminating enormous amounts of data in often indigestible formats. We've historically had a tendency to produce so much data and information that oftentimes we are unable to see the wood for the sheer volume of trees involved in producing the technical appendices that accompany our reports.

There may be a lot of important analysis that you want to present to your stakeholders, but how effective is it if they can't visualize it? How does the brain analyze numbers?

Will your CEO be able to focus on the message or declutter that message?

When dealing with datasets that may include hundreds of thousands of data points, automation, combined with the interactivity provided by data visualization tools, can be very useful. Using engaging elements like charts, graphs and maps, data visualization tools ensure that reserving teams, and their CEOs, are able to see—rather than read—analytics to help them understand trends, outliers and grasp difficult patterns in data. Intelligently designed data visualization can influence and inform a decision based on the data analyzed. As the amount of data generated increases radically, intelligent data visualization will become more and more critical. And automation is the key to enabling the gathering, organization and clear communication of insights.

Actuaries should perform creative problem-solving, critical thinking and decision-making rather than data wrangling. Automation is crucial in taking the structured information from the core reserving platform and delivering it to the right people at the right time. More and more, intelligent automation is being used by carriers to enhance their reserving function. They are identifying areas that provide the greatest opportunity and ease of entry to enhance processes so that reserving has become a work of art. CM

Pandemic Risk: Finding the Opportunity in Liability

By Adam Grossman and Nita Madhav

Liability insurers frequently use exclusions to help address emerging risks that are viewed as unpredictable, intractable and potentially very large.

It comes as no surprise, then, that the emergence of SARS-CoV-2, the virus causing COVID-19, has led many insurers to add exclusions meant to remove viruses from the scope of their insuring agreements.

Simultaneously, scientific evidence indicates that climate change and other factors will make epidemics and pandemics more frequent, driven both by old threats as well as new pathogens like SARS-CoV-2. With demand for pandemic-related insurance growing and insurance options decreasing, a marketwide problem becomes evident: a coverage gap. This gap represents a financial risk to customers and a lost opportunity to carriers that could potentially write this business.

A COVID-19 liability exclusion might be reasonable due to considerations like adverse selection, but the exclusions that are emerging from COVID-19 on liability are much broader and far more diverse. There are broad pathogen exclusions, for example, which will sweep up foodborne illness. There are exclusions for specific infectious

Executive Summary:

While demand for pandemic-related insurance is growing, broad pathogen exclusions on liability insurance policies are proliferating, creating financial risks for customers and lost opportunities for carriers that could potentially write this business. Noting that liability insurance promotes good behavior and risk management as well, executives of Praedicat and Metabiota suggest that putting together fully probabilistic models of pandemic frequency and severity with exposure and loss development information from liability models reflecting business and industrial footprints can provide a framework for seizing opportunities rather than shying away from them.

diseases, any infectious disease, pandemic exclusions and coronavirus exclusions. In addition to differing in wording and intent, exclusions can even differ at different points in a liability tower.

The result is an opaque and chaotic coverage environment that leads to litigation and coverage gaps rather than coverage certainty and simplicity. A policyholder would be wise to ask which exclusions will apply in what future pandemics or infectious disease outbreaks. An insurer might begin to ask whether pandemic liability is truly insurable.

At Praedicat and Metabiota, we firmly believe that pandemic-related liability risks are insurable. Praedicat's SARS-CoV-2 liability scenarios, which are designed to anticipate low-probability worst-case scenarios, project tail losses comparable to a modest-sized hurricane. Like hurricanes, the risk can be modeled and quantified. Between Praedicat and Metabiota, we've developed the theoretical and modeling foundations required to build a fully probabilistic pandemic liability insurance model by incorporating probabilities from a pandemic model with exposure and loss development from a liability model.

Advances in computational epidemiology now allow for robust probabilistic models that tell us how often epidemics may occur and how they can unfold. These models are disease-specific, capturing distinctive features of each pathogen's epidemiology, such as how it spreads (e.g., through the respiratory route, droplets, sexual transmission, etc.), duration of the infectious period, whether asymptomatic infection is possible, and other factors, including how humans could respond and control measures, such as lockdowns.

For zoonotic pathogens (spread between animals and people) like novel coronaviruses, the first step is "spark modeling," which uses machine learning trained on historical data alongside rich geospatial information on ecological, climatic and demographic factors to estimate how often—and where—a virus jumps from animal to human populations. The model then simulates the spread of disease from person to person and place to place, incorporating drivers of disease transmission (such as commuting and long-range travel), health system attributes and attempts to control disease spread (through travel restrictions, social distancing or vaccines, if available). These simulations can be run at scale, even millions of times, with varying parameter combinations that allow modelers to quantify the frequency and severity of epidemics, from mild, frequent events to rare, utterly catastrophic ones.

These models can be understood and used like conventional natural catastrophe models: to estimate the contours of an event of a given probability and its associated damage alongside what an "average" year would look like. And like nat-cat models, pandemic models are built using an understanding of scientific principles underlying the hazard rather than simply using past experience as the driver of probability. This also enables modelers to account for temporal trends in the frequency and severity of pandemics (or hurricanes, for that matter), bringing insights to the industry in the process.

Unlike most nat-cat models, however, pandemic models must account for human behavior. The damage that pandemics inflict depend on countless individual choices—whether to travel, work from home, wear a facemask and

We also anticipate that the pandemic liability risk could be packaged up in ways that are attractive to the capital markets as they seek to diversify their portfolios.

Coverage could require review of a pandemic preparedness plan from the buyer. Underwriting would thereby encourage good public health practices.

other decisions that vary hugely from community to community.

Pandemic liability also results from human choices at many levels. Given an underlying event from a pandemic model, the contours of potential liability become clear. For instance, viruses like SARS-CoV-2 that spread via aerosol suggest that those who contract the virus at work are at high risk of spreading the virus to their household cohabitants. This situation leads to a risk of wrongful death lawsuits leveled at employers who do not take sufficient precautions for their employees.

The detailed business and industry modeling that underlies a latent liability catastrophe model provides the framework to simulate these effects both at the level of individual companies and portfolios of insurance policies. This detailed modeling approach also yields information to assess the risks to a portfolio given differences in fatality rates and the likelihood of permanent disability among survivors, which may include COVID-19 "long-haulers."

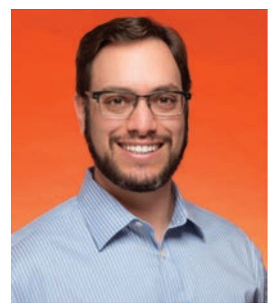
The business and industrial footprint for liability will also vary by characteristics of the virus. For example, a virus that affects a younger population would have a different liability footprint than one, like SARS-CoV-2, that preferentially harms older people. In the former case, nursing home liability would likely not be material, while liability may find its way to sports teams and schools more easily.

Armed with models of pandemic frequency and severity alongside models of how a pandemic can affect commercial liability, we turn to look at the kinds of insurance products that can cover these risks.

Companies concerned about future pandemics would almost certainly benefit from tailored coverage rather than relying on insuring agreements meant to cover liabilities arising from other events. This suggests excluding them on standard policy forms and instead writing pandemic-related liabilities on a named-peril basis. Coverage could be broad to account for the high risk of cross-line casualty clash including D&O, employment, environmental and general liability. Indemnity could be expanded, perhaps on a parametric pandemic-related trigger, to include covering the costs of good proactive public health practices such as sanitization or the hiring of contact tracers by large employers. Furthermore, coverage could require review of a pandemic preparedness plan from the buyer. Underwriting would thereby encourage good public health practices.

One lesson from COVID-19 is that employers and essential industries are critical parts of our public health system during pandemics. Liability insurance helps both promote good behavior and manage risk. It supported employers during COVID-19, and it will need to be available in coming pandemics. As a coverage gap appears to be rapidly emerging, now is an opportune time to develop specialized products that will support business in the next pandemic while managing the accumulation for the insurers that write it. With sufficient uptake of these policies, we also anticipate that the risk could be packaged up in ways that are attractive to the capital markets as they seek to diversify their portfolios.

Providing certainty of coverage for unpredictable but large, quantifiable events is precisely where the insurance industry provides the most value, and there's every reason to provide that value for future pandemics. CM



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Small Insurance M&A Deals Create More Value: McKinsey

By Susanne Sclafane

McKinsey analysts believe insurers focused on large one-off deals undertaken to scale their companies and those who stick to organic growth are both headed down unfruitful paths if outsized shareholder return is their success metric.

In a report published in late March, "A Better Approach to M&A in North American Insurance," five members of McKinsey's Financial Institutions practice, who are consultants and advisers in the insurance space, analyzed 250 life and property/casualty deals totaling more than $200 billion since 2007.

Although 60 percent of the transactions targeted greater scale as a goal, acquirers looking for product diversification and new capabilities did better in terms of excess total shareholder returns, they found.

The report defines excess TSR as the change in acquirer TSR (from 30 days prior to two years after the announcement date) in excess of the Dow Jones U.S. Life Insurance Index or Dow Jones US P/C Insurance Index.

Breaking down returns for the 173 P/C deals included in the analysis, the McKinsey researchers reveal that excess TSRs for acquirers targeting product diversification came in at 8 percent, while excess TSRs for deals focused on scale averaged only 1 percent.

In addition, concentrating the analysis on absolute deal size, they found that excess TSRs for small deals were 3 percent higher than for large deals.

Later in the report, the authors define a large-deal approach as one in which a company makes at least one deal per year and the target's market capitalization is equal to or greater than 30 percent of the acquirer's market capitalization.

The differences by size and by deal strategy were starker for life insurance. McKinsey researchers reviewed 76 life insurance deals during the same period dating back to 2007, finding TSR outperformance for product diversification coming in at 21 percent above industry average returns. And in life insurance, the excess TSR outperformance of small deals over large ones was 7 percent.

But dealmakers do perform better than those who sit on the sidelines, the McKinsey report suggests with support from an analysis of median excess TSRs for dealmakers and non-dealmakers across all industries in the Global 2000 (the top 2,000 companies with market cap size above $2 billion on Dec. 31, 2009 that were still trading as of Dec. 31, 2019). This analysis reveals that Global 2000 median excess TSRs were negative for those companies with organic growth strategies (-0.8 percent) or with selective M&A strategies (-0.2 percent). In contrast, a "programmatic M&A" approach produced a median excess TSR of 2.1 percent.

Programmatic M&A is an approach where a company makes more than two small or midsize deals in a year, with a meaningful target market capitalization acquired (median of 15 percent for all deals taken together).

In the selective approach, a company makes two or fewer deals per year, and the cumulative value of the deals is more than 2 percent of the acquirer's market capitalization.

In the organic approach, a company makes one deal or fewer every three years, and the value of each deal is less than 2 percent of the acquirer's market capitalization.

Demonstrating that outperformance over a 10-year period hinges on having a healthy "programmatic" inorganic strategy, authors Cristian Boldan, Alex D'Amico, Jay Gelb, Steven Kauderer, Kurt Strovink and Zane Williams also analyzed the strategies of companies that fell out of the Global 2000 between Dec. 31, 2009 and Dec. 31, 2019. Forty-six percent of the dropouts had selective deal strategies, and 35 percent relied on organic growth. In contrast, only 4 percent of the dropouts were proponents of the "programmatic approach" the authors recommend.

Analyzing just the "Top 100 survivors" instead—global companies that remained among the Top 100 by market cap across industries over the same 10 years—the researchers found that more than half (53 percent) used a programmatic approach to M&A.

Returning the focus to the insurance industry, the report also reveals that this "programmatic approach" is unpopular among the North American insurance industry's biggest companies. Among the 40 North American insurers (life and P/C) in the Global 2000, 43 percent pursued organic growth strategies and half were selective acquirers. None fell into the "programmatic approach" category, while 8 percent pursued one-off large-scale deals.

Breaking down returns related to 173 P/C deals included in the analysis, the McKinsey researchers revealed that TSRs for acquirers targeting product diversification exceeded insurance industry average returns by 8 percent.

In terms of forecasts, McKinsey researchers anticipate more insurance industry M&A this year, but they predict only modest activity for P/C insurers vs. a restructuring wave on the life side of the business. "We recommend insurers seek bolt-on transactions to expand product offerings and capabilities while valuations remain reasonable," the report says, offering specific advice to P/C insurers.

The report also includes a section outlining four steps for North America insurers to follow as they seek to improve their M&A capabilities. Starting with advice for the development of "M&A blueprints," the report also touches on the need to maintain a roster of potential targets, as well as the value of partnerships, joint ventures and the value of divestures.

McKinsey's analysis of "thousands of deals found that companies active in divesting, not just acquiring, earn 1.5 to 4.7 percent higher TSR than companies focused on acquisitions alone," the report notes. CM

How to Fix Your Remote Onboarding Process

By Sharon Emek

For many organizations, it's been over a year of operating remotely. As employees and managers have worked to overcome the challenges that come with remote work, some faced a challenge they didn't expect: how to onboard employees remotely.

The more common challenges with traditional onboarding, such as lack of understanding of role, time management, cultural adaptation and managing expectations, become more pronounced when a company is still working out how to keep remote operations running smoothly. Also, remote onboarding poses its own set of challenges, such as the loss of physical connection to the company and its employees that many new employees experience.

Overcoming these challenges takes understanding where existing onboarding processes fall short and what changes can be made to improve remote onboarding success.

Traditional Shortcomings

A typical onboarding process should go something like this: Employees are introduced to their managers; they are made to feel welcome; the manager lays out the rules; and there is mentoring and follow-up conversa-

Executive Summary:

Traditional onboarding simply doesn't translate to remote working, according to Sharon Emek, CEO of remote staffing company WAHVE. As a fully virtual company, WAHVE has developed a remote onboarding process that is intended to help employees achieve their performance goals—touching on the key areas of job clarity and expectations, productivity benchmarks, and connection to the company culture. Emek provides detailed advice to ready your firm's onboarding process to operate remotely, as well as steps to avoid, such as onboarding too quickly.

tions to make sure the employee is adapting well to the job and the culture. Traditional onboarding, done right, will include ways to get the new employee connected to and involved with the current staff.

A strong onboarding process matters, too. A study commissioned by Glassdoor in 2015 found that a strong onboarding process can improve new hire retention by 82 percent and productivity by 70 percent.

But how do you do that in a remote setting?

Certainly not by applying the same traditional methods, which may come with their own flaws, and assuming it will suffice. In fact, many traditional processes lack these things. Instead, this is what we find from traditional methods:

• **No real connection to the company culture.** Many companies put their focus on getting the new employee up to speed on the job but fail to connect them to the culture around them. A 2017 Gallup State of the Global Workplace study found that 85 percent of employees are not engaged or are actively disengaged at work. Moreover, a 2019 poll from staffing firm Spherion revealed that just 19 percent of employees felt their companies are putting effort into retaining them.

• **Lack of job clarity and expectations.** Workers don't know how their role fits into the organization's larger goals. Your employees cannot work at optimum productivity levels if they don't know how their contributions help the company achieve their objectives. According to data provided by Effectory, a European provider of employee feedback tools, employees who understand their roles are 83 percent more productive, 84 percent more willing to stay on the job and 75 percent more satisfied with the company leadership.

• **Focus on short-term rather than long-term productivity.** Too many employers view onboarding as getting the employee's information into the company system, enrolling them in benefits and giving them a quick introduction to the company. Without mentoring or a clearly defined process for asking questions, employees could be ovewhelmed quickly.

That's where companies could be making big missteps. Too often, organizations assume all departments have best practices in place for onboarding. Yet without any clear direction from upper management, how can onboarding be consistent across all departments?

A Smarter Remote Onboarding Process

Consistent onboarding applied across the organization increases the likelihood that your new hire will be satisfied and productive. In order to be most effective, onboarding should encompass not only the first few months of employment but also a more long-term employee success plan.

But first, you need to get them on board. As a fully virtual company, we at Work At Home Vintage Experts (WAHVE) have developed a remote onboarding process that is intended to touch on the key areas that help employees achieve their performance goals: job clarity and expectations, productivity benchmarks, and connection to the company culture.

Below are the methods we use—and recommend—for onboarding new remote employees.

1. Defining success.
One of the best ways to help your new hire succeed is by defining what that looks like. What key

performance goals will your employee need to meet in order to be showing progress? How long will it take them to get up to speed?

2. Virtual training.

Since we connect virtually with every potential employee during the interview process, we simply continue that form of connection for a new hire's onboarding. As part of our virtual training, we provide a video series that includes a tour of the company and introductions to all management and team members. That video series includes:

- A welcome message from CEO and executive team.
- An onboarding guide video to set expectations.
- A video outlining a model home office setup.
- A video showing an employee performing the specific job.
- Team welcome messages that put faces to names.
- How-to training videos.

Training should also define what job success looks like for that particular role and spell out key performance goals.

3. Mentorship.

Before training starts, assign your new hire a mentor. The mentor will be there to help with navigating the work environment and passing along knowledge where needed. Mentors will answer questions and help the employee understand work processes. We recommend that mentors check in with new hires on a daily basis.

It's also a good idea to have your new hire shadow someone. While many organizations assign someone in the same department, we recommend that your new hire also shadow employees in other departments. This helps them understand more about how the company operates.

4. Sticking to an engagement schedule.

From the moment your new hire accepts an offer through the first three months of employment, you need to be engaging with them. Regular check-ins with email polls or texts should ask how their first week went and subsequently how things are progressing. Using video conferencing as well can help keep your employee feeling engaged and connected.

5. Reinforcing onboarding messaging.

Onboarding has to be a more active endeavor than simply training an employee on the job role. We at WAHVE establish group activities—group lunches, social gatherings and virtual happy hours all help employees get to know each other and bond.

When possible, we rely heavily on video conferencing for calls and interactions. That deepens the connection between the employee and their peers and managers. And we don't allow avatars. Face-to-face connections are the strongest.

Common Missteps to Avoid

Even with these elements in place, your organization could be making mistakes that are impacting your new hires.

- **Skimping on culture.** Your organization's culture is everything. If it's not healthy, neither are your relationships. Not focusing on creating or even maintaining a strong employee brand or culture means that employees are left to add their own interpretations to everything from how to perform a task adequately to what defines ethical standards. Your culture should be clearly defined and promoted throughout your organization.

Too many employers view onboarding as getting the employee's information into the company system, enrolling them in benefits and giving them a quick introduction to the company.

Sharon Emek, Ph.D., CIC, is founder and CEO of Work At Home Vintage Experts (WAHVE www.wahve.com). WAHVE is an innovative contract talent solution that matches retiring, experienced insurance, accounting and human resource career professionals with a company's talent needs. WAHVE bridges the gap between an employer's need for highly skilled professional talent and seasoned professionals desiring to extend their career working from home. From screening to placement, WAHVE is a comprehensive solution to qualifying, hiring and managing experienced remote talent.

• **Onboarding too quickly.** You need that employee yesterday, and you need someone to get up to speed quickly. Unfortunately, rushing the onboarding process could mean your employee is missing critical information or training that can help make them more productive. Never rush training or expect too much too soon.

• **Not measuring results.** You can't know your new hire is struggling if you're not establishing benchmarks. Likewise, you can't know if your training is inadequate or if your employee is unhappy if you're not checking in regularly. Your organization's overall health and success is directly related to the performance and satisfaction of your employees. Keeping track of how they are doing is easy and can help resolve issues before they become problems.

Better Onboarding, Happier Employees

Whether remote work is temporary or more long term, organizations will continue to face challenges and restructure their operations to meet these challenges. That includes how to bring new hires on board in a way that helps them achieve success and satisfaction on the job.

Adapting your onboarding process to better suit your current remote operations is a start. It's a simple shift in how you deliver training, how you mentor and how you promote your company's culture. Once you build a solid onboarding process that includes those elements, just watch your new employee thrive. CM

IoT Players 'Greasing the Skids' to Boost Growth of Sensor Tech

By Susanne Sclafane

Sensor technology is no longer an *emerging* technology in commercial property/casualty insurance. It has *emerged*—and is rapidly growing, according to executives who bring the Internet of Things technology applications to carriers and their customers.

Still, the issue of figuring out who pays for the technology—carrier or commercial insured—is one hurdle that potential users are still working through, Alex Schwarzkopf, chief executive officer and founder of Pillar Technologies, said during the InsurTech Spring Conference 2021, co-hosted by [InsurTech NY] and [InsurTech Hartford] in early March.

"It's a dance," said Schwarzkopf of Pillar, an InsurTech that collects data from sensors monitoring environmental conditions at construction sites and completed properties. "We're definitely sitting there asking, 'How do we grease the skids?'" he said, going on to explain to panel moderator Charlie Sidoti how he talks through the value of IoT with both sides to smooth the relationships when the payment

Executive Summary:

"2021 is a year where we don't refer to IoT as this emerging technology for insurance. It's just a technology that's a part of insurance," Gordon Hui, an executive of Munich Re's Hartford Steam Boiler, told a virtual audience at a spring InsurTech conference. Hui and other participants in the IoT space discuss the benefits of sensor technology and the hurdles they're overcoming to strategically position their firms to take advantage of explosive growth in the space.

questions are on the table.

Schwarzkopf said there are three different ways his company has gone to market, with varying degrees of success. The least successful involved "just having it pushed down" from a carrier partner to an insured, with carriers telling policyholders they had to install Pillar sensors to monitor conditions like leaks, humidity and temperature changes.

A second model is one "where the carrier is actually fronting the cost entirely," he said, noting that a carrier might pay the entire technology cost as a strategic play or competitive advantage in the market. "In some cases, they're retaining their large strategic accounts because they're actually providing more value-add than just the coverage and the policy. So, it's being used as a business driver," he said.

But the InsurTech founder said the most successful payment model combines the two approaches—and that one is definitely catching on. "It's because what's happening so far as I can see it is that we're aligning those interests on both sides. So, the general contractor or the owner in some cases says, 'Yes, I will pay. I will commit. I will physically put skin in the game, but the carrier needs to match that. We really need to create a partnership.' And it doesn't necessarily have to be [a] premium reduction or credit. We've seen deductible modifications" also, he said. Schwarzkopf gave the example of a water leak loss that would fall within deductibles that are north of $250,000 to $500,000 per occurrence in some cases—amounts "far and beyond what you'd pay for our technology that can mitigate and manage that."

"So, you have to sit there and say, 'Is the juice worth the squeeze? If we have a loss, we're out of pocket this much money, which is sometimes five- or 10X what it's going to cost us to deploy a technology solution,'" he said, explaining the client side of the value equation.

On the carrier side, mitigating the loss to under $200,000 or preventing it completely, "which happens in some cases," means there is no claim hitting the carrier's books. "It literally never happened," which brings incredible value to the carrier, he said during the session which was actually titled "The Value Levers of IoT."

Carriers and policyholders are seeing the value, he asserted. "Not to be overly aggressive with this analogy, but I don't know if you have been following bitcoin and the cryptocurrency market and how that's just been going bananas over the last couple years. If I were to make a one-to-one comparison, I believe that we are just in the beginning stages of the exponential growth curve in IoT," he told the virtual conference attendees. "I used to actually go to jobsite trailers and tell people about sensors. We're talking older folks—older than myself, certainly been around the block. They'd look at me skeptically and [ask], 'Are you serious?'" Now, the response is, "We could use it this, this and this way," he reported.

Schwarzkopf made his remarks after Gordon Hui, VP, IoT Marketing and Product Management at Hartford Steam Boiler, predicted that "2021 is a year where we don't refer to IoT as this emerging technology for insurance."

"It's just a technology that's a part of insurance," said Hui, explaining that Hartford Steam Boiler is a unit of Munich Re that provides IoT solutions to other insurers, risk pools and the like.

"There will always be certain parts of the industry that'll move a little more slowly and will be laggards, but I really believe that this is the year where the companies that are on the front end, and the leading majority, are going to fully adopt—build it into their products and services and move things forward," he said.

Providing his own then-vs.-now description, Hui recalled that as recently as four years ago, he would "literally put down a sensor [and] make water run through it" during his presentations. "Then the little alert went off to prove to people how an IoT solution would work."

"People were so mystified by just the idea of sensor technology and alerts," he said.

"I don't do that anymore," Hui said. "That's four years, and Moore's law is happening. Who knows where it'll be in two years? But that's the world that I see, and I'm very optimistic about it."

Schwarzkopf added, "We're just at the bottom of the curve, [and] people are calling us now instead of doing outreach." Directing his comments to anyone who might be thinking about getting involved or about becoming a part of the IoT ecosystem and making sensors part of their business models, he said: "I'd do it now, to be honest, because you'll reap the most rewards."

"Whoever moves this direction the fastest is going to have the most market share when you get there. You've got to start now to position yourself accordingly on the chessboard in order to take advantage of that exponential growth."

"I would encourage folks to really start to think about how to make this a part of their core business," Schwarzkopf said.

IoT to IoB

From his vantage point dealing with contractors and property owners, Schwarzkopf sees the delivery of sensor and IoT technology with insurance programs "honestly starting to become an expectation." Essentially, they're asking insurers, "What else are you going to do for me?"

"We're actually seeing clients leave longer-term relationships because there's a more attractive deal that contains technology and insights and awareness," he said.

Hui said that the value of IoT technology to HSB's insurance carrier customers, who in turn provide it to policyholders that include restaurants, schools, churches, apartments and condos, and retail stores, materializes in three areas: through loss prevention, general risk management and customer intimacy.

Explaining loss prevention and risk management, he said that beyond improving carrier loss ratios by leveraging remote monitoring and timely notification to prevent damage losses that otherwise could run into the tens, hundreds or even millions of dollars, insurers can enable predictive maintenance for policyholders—helping their clients manage their buildings and equipment more proactively.

Moving on to the last value driver, he noted that insurers often don't even have customer email addresses. And "the only time you're going to talk to them is at renewal if there's not a claim. None of those are really great. So, the idea that you have a digital touchpoint, a different level of engagement, a different lever of value in customer intimacy is huge," he said.

Looking ahead, Hui and Schwarzkopf see IoT technology becoming the focal point of new product and coverage development initiatives.

"Where we're headed is a world where, realistically, not just IoT but emerging technology will ripple from insurance coverage. If you buy a business owners policy, it will come with a technology kit by default. And if you don't take advantage of that technology, you'll be in various ways adversely selected. Your premium might be higher because [underwriters] can't focus as clearly on you. Your deductible might not be as great. Your limit might be lower," Hui said.

In essence, the insurance world is moving away from, 'Hey, you're being judged by an actuarial table.' It's more about, 'Who are you?' The actuarial table won't mean very much because I'll know your exact risk, and insurance can be really more N=1. IoT is really IoB," he said, using the acronym for Internet of Behaviors. "I think that's where it's all headed."

Hui agreed with Schwarzkopf that there are still hurdles being worked out as carriers and startups like five-year-old Pillar strategize their technology business models. "Often when we talk to startups, the startups assume the insurers are going to pay; the insurers [say], 'I don't want to pay for the technology if I don't have to.'

"So, is the policyholder going to pay?" Hui asked.

"There's going to be a lot of work that needs to happen on business models," he said, referring to the model he often sees, where the policyholder has already paid for insurance. "There's a principal-agent problem because why should I as the policyholder install a piece of sensor technology or any type of equipment really. I already paid for insurance. You're going to take my claim. I'm going to pay a small deductible, and you're going to take my claim. So, what's my motivation and incentive to install the hardware?"

Property, Liability, Workers Comp and More: Next Stop Embedded Insurance

While carriers wrestle with these problems, Schwarzkopf sees one group of innovators moving ahead full steam. "In the last year, I've had several startup MGAs reach out to me and say, 'Hey, we actually want to build our insurance products around the assumption of technology as a core driver in loss reduction.' That is a radical shift," he said, recalling the days when proptech and construction tech were unknown and when construction project owners said he was crazy to suggest that sensors would ever be all over their sites. "It is happening. That's the market shift we're seeing," he asserted.

Separately, at last month's CB Insights Tech Market virtual event, "Digitizing P&C Insurance," Mo Tooker, executive vice president and head of middle and large commercial at The Hartford, envisioned the increased use of IoT for commercial liability and workers compensation lines. Reporting that water sensors in buildings are now fairly common, he asked, "How could sensors help you with foot traffic in a real estate risk in the middle-market space? If you can really start to get real-time information, either from a wearable for workers comp or [on] foot traffic for GL, does that lead to this usage-based insurance that we're seeing in many of the ridesharing companies—where [policyholders] are really paying based on other variables than just revenue or payroll?"

"I think that's still on the horizon, [and] I think that's coming quick," Tooker said.

During the CB Insights event, Schwarzkopf of Pillar, Craig Foster, CEO of LeakBot, and Roel Peeters, CEO and co-founder of

Roost, described how each of their companies deliver property risk management services with sensors.

Schwarzkopf described his company's sensor devices to track water leaks, including a non-invasive flow meter that fits onto the top of a pipe, water pucks that can also detect temperature and humidity changes in mechanical, electrical and elevator rooms of project sites and in units of finished multifamily residential properties, as well as a smart pod that tracks eight environmental metrics during project construction.

Pillar's alert system takes data from such devices and passes it to a mobile application, he said, later demonstrating a dashboard that captures the locations of sensors on a floor plan view of a property, with different colors indicating the status of the sensor (online, offline, information or actionable), and allows viewers to drill down into historical data for specific environmental metrics at a given location.

Foster said LeakBot's system was specifically designed for homeowners insurance companies and that his company had "cracked the code on the cost-benefit equation." Specifically, he described a system that is cheap enough for insurance partners to offer free to policyholders, who receive a single sensor unit that clips onto the main water pipe in their homes, which connects to Wi-Fi to detect leaks early—"before they manifest as insurance claims." Policyholders of insurers that partner with LeakBot also receive free repair visits in the event of a leak.

Roost is a "telematics platform exclusively focused on the home and SMB market," Peeters said, also describing a B2B2C business model that means bringing the sensors that detect water leaks and freezing temperatures to customers via relationships with insurance carrier partners. He focused his remarks on the simplicity of his company's solution—a plug-in smart base that is "literally as simple as plugging in a toaster" for the customer to install along with sensors placed throughout the home where leaks can occur.

"The No. 1 question we get in our customer support is, 'How do I download a mobile app?' and not far behind [is], 'What is my Wi-Fi password?'" Peeters said, stressing the need for a system that is simply connected thought a cellular network to Roost's cloud within seconds of a customer opening the box containing the equipment. Adding a few more sensors to windows and doors turns Roost's leak and freeze monitoring system into a theft security system, he said.

Like Schwarzkopf and Hui, Peeters also spoke about the benefits of real-time sensor data taking insurers from being "reactionary indemnification organization[s]" to claims prevention. And he expressed Schwarzkopf's idea about expanded policyholder expectations using the term "Amazonification." Explaining the term he coined, he said that "Amazon is setting a new standard of how we expect our vendors and our partners to operate with our customers," suggesting that IoT can help "a very high-friction insurance industry...become relevant on a day-to-day basis [in] policyholders' lives."

CB Insights Principal Mike Fitzgerald introduced the three demos with an overview of IoT funding levels and with his own observations about Amazon—specifically about the retail giant's [December 2020 announcement about a push it made into the manufacturing]

"We are just in the beginning stages of the exponential growth curve in IoT...Whoever moves this direction the fastest is going to have the most market share when you get there. You've got to start now to position yourself on the chessboard in order to take advantage of that exponential growth."

Alex Schwarzkopf, Pillar Technologies

"2021 is a year where we don't refer to IoT as this emerging technology for insurance. It's just a technology that's a part of insurance."

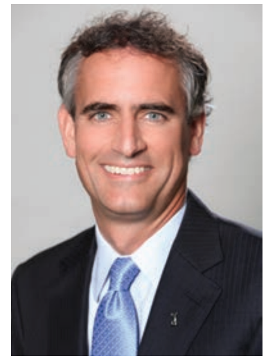
Gordon Hui, Hartford Steam Boiler

sector with a suite of sensor devices coupled with industrial analytics. "Basically, they have a program now where they are going to provide devices, which are part of machines, that link all of those machines together to report out on possible machine failures," he said, highlighting his view that IoT is playing a big role in embedded insurance.

"Embedded insurance means insurance that is part of the product being sold," Fitzgerald said. According to Amazon, the sensors and machine learning services it's rolling out are designed to "help industrial and manufacturing customers embed intelligence in their production processes in order to improve operational efficiency, quality control, security and workplace safety."

"For customers who do not have an existing sensor network, Amazon Monitron offers an end-to-end machine monitoring system comprised of sensors, a gateway and a machine learning service to detect anomalies and predict when industrial equipment will require maintenance… For customers that have existing sensors but don't want to build machine learning models, Amazon Lookout for Equipment provides a way to send their sensor data to AWS to build models for them and return predictions to detect abnormal equipment behavior."

Essentially, Amazon is embedding risk management—"allowing risk management to take place through these sensors and not through a separate product," Fitzgerald said, advising insurers and InsurTechs to be mindful of what other nontraditional competitors are doing in the IoT space. Fitzgerald mined the CB Insights database to search through the investments that the corporate venture capital arms of industrial firms Siemens, ABB and GE are making. Reading from the description of one sample investment—a provider of IoT devices to monitor downtime from data breaches—he underscored the idea that the interest in tools providing embedded risk management services is quickly developing outside the insurance industry. CM



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Mo Tooker, The Hartford

Cyber Underwriting Changes:

Is It Too Little, Too Late?

By Susanne Sclafane

With primary rate changes approaching 50 percent and underwriting questions about network controls becoming more and more detailed, cyber insurers and reinsurers are reacting to an onslaught of ransomware attacks against policyholders and prospects.

But are the actions enough to keep ahead of the bad guys? Did they react too slowly?

Questions about the adequacy of underwriting actions came up more than once at industry conferences in recent weeks. At the Casualty Actuarial Society Seminar on Reinsurance, Brad Gow, global cyber product leader for Sompo International, revealed just how far ahead threat attackers have moved.

"During their reconnaissance phase, they began to rift through the financial files looking for cyber insurance information [to] identify how much in limits was potentially available," he reported as he described an escalation in the frequency and severity of ransomware attacks that once focused on target companies with roughly $200 million and are now zeroing in on businesses with $1 billion or more in revenue. "We saw this happening. That changed the game. That sudden increase in severity along

Executive Summary:
Cyber insurers are responding to a rash of ransomware attacks by going beyond short-term fixes of rate hikes and limit cutbacks, adding underwriting questions about network defenses and talking about requiring security features for insurability in order to assure the long-term viability of the cyber insurance market.

with the unchecked frequencies of these attacks really forced underwriting teams and carriers to respond," he said.

Gow spoke after Alexander Podmore, assistant vice president and cyber underwriter for Swiss Re, serving as moderator of the CAS conference session, reviewed the history of cyber coverage from its beginnings in the late 1990s—when the coverage took the form of extensions on professional lines policies covering Internet security liability, online media liability and errors in data processing—to the standalone policies available today. He reviewed product developments in the 2000 and 2010 decades that saw third-party coverages expand to cover regulatory defense and fines and penalties related to violations of emerging data protection regulations and first-party coverages put in place, emphasizing service offerings for breach notifications and credit monitoring. Later additions to first-party coverages included business interruption and extortion as a consequence of ransomware, as well as costs of data restoration.

"How has the market responded to this ransomware epidemic that we've seen?" Podmore asked Gow in the wake of news about ransom attacks on CNA, Colonial Pipeline and JBS, a meat producer. (Related article, "The Ransomware Epidemic by the Numbers," p. 65)

Slowly, Gow said.

For so long, cyber portfolios were generally profitable, he said, referring to experience throughout much of the history of the coverage from 1997 through 2018. "And you had underwriting teams, many of which had seen nothing but a soft market—and many, many of which were in simply market share mode looking to grow their cyber books as quickly as they could. Then ransomware snuck up on us," he said, noting that Sompo International saw its first multimillion-dollar ransomware event in the second quarter of 2019.

"It certainly surprised us," he said, noting the carriers saw an uptick in ransomware activity through the balance of that year and into the beginning of 2020. "We, like the rest of the market, having seen this as a consistently profitable line, took a wait-and-see attitude" as the activity picked up steam. "It was certainly a concern, and we certainly understood the implications, but nobody was making any moves. No one was restricting coverage or doing anything material other than possibly asking for single-digit rate increases for renewal business."

According to Gow, the game changed midyear last year. "The bad guys began more and more to exfiltrate data along with doing the network encryption." This meant that companies with the ability to restore their own networks from backups could still be threatened by the release of this stolen information. At the same time, threat actors also began going after the larger targets.

Insurance market responses have included changes in risk selection, decreased line sizes, sublimits for ransomware claims and more, Gow and others reported.

"Municipalities and law firms have historically weak network security environments that can be exploited," Gow said, speaking to the risk selection changes.

Speaking at a separate event, S&P Global Ratings 37th Annual Insurance Conference, Turab Hussain, chief risk and actuarial officer for PartnerRe, weighed in on the line size changes. "10 is the new 25," he said. In other words, "Companies that have been historically putting out primaries [primary limits] of $25 million are now talking about $10 [million]," he reported. "Towers can still be built, [but] it's going to require more carriers to build them. The layers are going to be smaller."

At the CAS meeting, Gow said, "In many cases, $10 million limits come down to $5 [million]." If an insured is hit with ransomware, that often "ends up being a limits loss" for the insurer. "So, limits management is a key way for carriers to protect themselves," he said.

Describing the progression of cyber insurance rate hikes, Gow said they began with slight increases toward the end of last year, moving up to approach double digits around the time of 1/1 renewals. "Now, I think we're looking at closer to 30-50 percent," he said, also noting that while some carriers tried to impose sublimits for ransomware events or coinsurance participations by insureds as a condition of coverage, "we don't see that sticking."

Rate Is Not the Only Answer

Annamaria Landaverde, senior vice president and cyber practice Lead for the Reinsurance Division of Munich Re, US, confirmed Gow's description of pricing trends. In early 2020, "we saw the single-digit rate increases and we were thinking, 'Great, we're getting some rate increase.' But what we found was it was just not enough. And as the year progressed, those rates astronomically changed by November and December and at a pace that no one was really expecting."

"We probably ended 2020 somewhere in the 20 percent range...Then we entered 2021. And the big question that everyone had on their minds was, 'Did we get enough rate and is ransomware going to quiet down?' And we saw all of a sudden this new type of event that could potentially lead to some systemic losses," she said, referring to an early March attack in which hackers exploited vulnerabilities in Microsoft's widely used Exchange business email software, and the hacking of U.S. software maker SolarWinds, which compromised nine federal agencies and hundreds of private sector companies late last year.

"All of a sudden, we needed to underwrite to ransomware plus systemic events plus whatever is coming next. And the rate change that we're seeing now is 30 percent plus," she said, reporting, however, that there is some variation in that figure between primary writers and excess writers, in rates for SME vs. large risks, and also among those that write tech E&O vs. standalone cyber.

The rate levels are likely to continue to increase throughout 2021, she believes. "I can't speak to next year yet, but I've been in this market for 17 years, and one thing I've learned is that sometimes this market has a short memory. So, I do think that eventually those rates will level off. We won't see the 30 percent for years and years...But once those rates flatten, underwriting actions [now] being taken [that] focus on the security controls of these organizations need to be front and center of that underwriting process," she stressed. "That can't go away."

"Rate is not the answer—or not the only answer," Gow agreed. "We have seen many cases where three weeks into a $23,000 premium account policy term, we get hit with a ransomware attack and see ourselves with a $2 million loss. An extra 10 or 15 percent of premium does not solve that problem…It all comes down to controls and assisting our insureds to improve their network environments," he said, opining that more rigorous underwriting is the most important change that cyber insurers have made.

"The industry has gotten very serious about underwriting to compensating controls, network security controls. That's really the future. Two years ago, we were not asking detailed questions around the flavor of endpoint protection that's being used or the degree to which RDP [remote desktop protocol] ports are being secured, technologies used for backup. Now we are."

"That's extremely necessary," he added. "Given the importance of the coverage in this ransomware environment, I think that's one area where the insurance industry can really add value in terms of driving baseline insurability or baseline standards for eligibility to purchase cyber insurance."

At a separate session of the CAS Seminar on Reinsurance, Conan Ward, president and general manager of RibiQon Risk and Insurance Services/RubiQon Re, a managing general agency subsidiary of QOMPLX (an intelligent decision platform provider), also stressed the need for deeper underwriting to look inside client networks—and the need for risk management services.

Cyber insurance, Ward said, is "the most challenging line of business the industry has ever faced. The losses themselves are not fortuitous. There's an intelligent agent involved who's actively trying to breach a network that is designed by its nature to have open access, or otherwise be useless." Faced with the challenge, "the industry's focus heretofore has really been on windows and doors, and we need to be looking more inside the networks of our clients—and really taking more of a joint risk management, insurance-driven approach [like] we've done for technical risks in the property sector," he said, noting, for example, the risk-managed approach that insurers take when providing boiler and machinery coverage.

"I don't agree that shortening our limits for ransomware is really the approach. Ransomware is a symptom to a broader problem. The broader problem is networks are fundamentally insecure, and if you don't have detection technology inside that network, you're going to continue to see some of the same issues that you see now," Ward said.

Landaverde also drew parallels to the property market in describing needed cyber insurance underwriting changes, as well as positive trends of bundling pre-breach service offerings with insurance for clients to improve their cybersecurity postures. "When you think about how a sprinkler system is mandatory in order to get homeowners insurance, then we, as a cyber market, need to determine if the minimum requirement for cyber insurance is closed RDPs. Is it multifactor authentication? What are those requirements?"

"We need to analyze the data that we're getting in order to be able to determine what those requirements will be going forward," she said.

Now We're Getting Data. What Do We Do With It?

"We were getting to a point in this market where there was almost zero-question underwriting for pretty sizable risks," said Landaverde. "That type of underwriting needs to go away," she said, also stressing the point

What Is RDP?

According to an explanatory note published by insurance brokerage Woodruff Sawyer, "Remote desktop protocol is a Microsoft Windows interface that allows a user to connect through the internet with another computer or server and all the tools and software installed on it."

A separate blog from identity security company CyberArk says, "Essentially, RDP allows users to control their remote Windows machine as if they were working on it locally…"

More From QOMPLX

- Cyber Turned Inside-Out: Three Years After NotPetya by Conan Ward
- Why Current Cyber Risk Management Techniques Are Inadequate by Jason Crabtree

that as insurers start probing deeper and asking question about RDP ports and about whether insureds have MFA across the breadth of their organizations, they need to do something with it. "Let's take the answers to those questions and tie them to the outcome for each of those individual risks. Were they able to respond to a breach or avoid a breach altogether? Let's try to find those connections."

The fact that the cyber insurance market "doesn't have enough data" to support actuarial pricing has been a frequent lament over the short history of the line—and the newness of the product was one contributing factor, according to Norman Niami, vice president and actuary for the APCIA. In addition, claims trends continually shift in terms of the types of targets being attacked and attack types. "It's literally changing almost every week or every month," he said, going on to list other data challenges.

"Standardization of the data is also a challenge" because of policy variations, especially for larger risks, he continued, adding that carrier-specific data is often inadequate. "As of a couple of years ago, a handful of claims would literally drive the whole experience for a company. You might have thousands of claims, but literally a handful of them drive the whole claims experience." In addition, he noted that some of the larger targets that grab headlines are not insured, making their data unavailable to insurers.

Niami went on to talk about differences of opinion relating to the appropriate exposure basis for cyber coverage. He noted that some say it should vary by industry and the various components of coverage should have different exposure bases ranging from number of end points, number of employees, number of devices and number of customers, while other carriers use revenue across the board or policy limits.

More positive trends moving in the direction of price adequacy have been the development of cyber catastrophe modeling and discussions of public and private working groups to pool anonymized incident data from various stakeholders to feed into models, he said. And such discussions may be on a faster track now, with the most recent ransomware attacks in the U.S. drawing the attention of government officials. "The government has started framing the issues as a matter of national and global security," Niami said, suggesting that the result could be opening access to more data.

Picking up on the theme of government attention, Gow said: "It's kind of humorous to see legislators in Washington holding companies to task for actually paying ransom. [And] it's infuriating that we've got these criminal gangs operating outside of the reach of our law enforcement, and with the tacit approval of the leaders in the nations in which they reside, including Russia…I hear talk of a whole-of-government approach and public-private partnerships… The right noises are being made, but we'll have to see what ultimately comes of it," he said.

Niami suggested a government role in forcing upgrades in the technology infrastructure forward. "The technology is not up to snuff, especially for industrial manufacturing. [And] until the security nature and the infrastructure can improve significantly, it is hard to imagine this is going to turn into a totally different ball game within a few months," he said. "Why do rob-

"Ransomware is a symptom to a broader problem. The broader problem is networks are fundamentally insecure, and if you don't have detection technology inside that network, you're going to continue to see some of the same issues that you see now."
Conan Ward, RibiQon Risk and Insurance Services/RubiQon Re

"The government has started framing the issues as a matter of national and global security."
Norman Niami, APCIA

bers rob a bank? Because that's where the money is."

"In terms of cloud and not very sophisticated security measures, this is where the money is."

Landaverde picked up on that idea, adding her view that going after the robbers in cyberspace might be a fruitless effort. "These hackers are criminals, right? Before there was ransomware, there were denial-of-service attacks. There were data breaches. There were other methods of these criminal hackers monetizing these cyber attacks."

"So, today's trend is ransomware. If we do something to penalize or make examples of some of these hackers and ransomware goes away, then they'll be off to the next way to monetize electronic crime."

She continued: "There needs to be a better way, a different way. Maybe it's looking at the cryptocurrency exchanges. I don't know if going after these individuals is going to help because there are more individuals behind them, and behind them and behind them. [Perhaps] looking at the payment infrastructure and how these individuals are able to do what they do and monetize that is going to ultimately make a difference."

Later in the session, Gow returned to discuss the criminal actors. "It's not these thugs with leather jackets who would be stealing hubcaps or breaking kneecaps if the Internet weren't around. These are data scientists. These are very, very intelligent individuals who are very methodically exploiting weaknesses in corporate computer networks to extract money. It's a business, and once something changes—for example, companies [start] doing a better job of restoring from backups—they'll begin to exfiltrate data and continue to refine their methodology for extracting this money."

"You've got a dynamic where there's a very intelligent set of adversaries on one side. And then on our side, we've got computer networks that continue to get more and more and more complex." CM

(For more cyber talk from midyear conferences, see related article, "Systemic Risk Analysis: Are Insurers Whistling Past the Graveyard?")

"During their reconnaissance phase, [threat actors] began to rift through the financial files looking for cyber insurance information to identify how much in limits was potentially available."
Brad Gow, Sompo International

"10 is the new 25. Companies that have been historically putting out [primary limits] of $25 million are now talking about $10 million."
Turab Hussain, PartnerRe

"We won't see the 30 percent for years and years…But once those rates flatten, underwriting actions being taken [that] focus on the security controls of these organizations need to be front and center of that underwriting process."
Annamaria Landaverde, Munich Re, US

Time for Insurers to Reassess 'Grim' Cyber Insurance Market: AM Best

With the cyber risk hazard environment—ransomware, business interruption and aggregation—worsening significantly, "prospects for the U.S. cyber insurance market are grim," warns a report from AM Best.

According to the global rating agency's analysts, insurers "urgently need to reassess all aspects of their cyber risk, including their appetite, risk controls, modeling, stress testing and pricing, to remain a viable long-term partner dealing with cyber risk."

The reassessment is needed because cyber insurance, which began as a diversifying, secondary line or an endorsement on policies, is now a "primary component of a corporation's risk management and insurance purchasing decisions," notes Best in its report, "Ransomware and Aggregation Issues Call for New Approaches to Cyber Risk."

Cyber rate increases have outpaced those across the broader P/C industry, but the increase in cyber losses outstripped rate hikes, said Sridhar Manyem, director, industry research and analytics.

U.S. P/C Industry: Loss Ratios of the Top 10 Cyber Insurers
(Ranked by 2020 Loss & DCC Ratio)

Premium Rank		2020 Direct Premiums Written	2020 Estimated Combined Ratio	2020 Loss &DCC Ratio	2019 Loss &DCC Ratio	2020 Pts. Better Worse
7	CNA Insurance Cos	119.6	133.5	106.1	56.5	49.6
3	American International Grp	228.4	125.8	100.6	55.7	44.8
2	XL Reinsurance America Grp	293.0	123.0	98.2	68.5	29.7
4	Travelers Grp	206.8	117.2	85.5	34.5	51.0
1	Chubb INA Grp	404.1	84.8	61.0	31.8	29.1
10	BCS Financial Grp	86.6	85.8	59.1	54.9	4.2
8	Fairfax Financial (USA) Grp	108.5	80.7	55.7	54.8	0.9
5	Beazley USA Insurance Grp	177.7	75.1	47.9	30.0	17.9
6	AXIS US Operations	133.6	73.1	46.2	29.3	16.9
9	Hartford Insurance Grp	102.9	59.9	29.4	34.7	(5.3)
Total	U.S. P/C Industry	2,736.6	94.2	67.8	44.8	23.0

Note: DCC = Defense and Cost Containment
Source: AM Best data and research

U.S. P/C Industry-Standalone and Packaged Cyber
Increase/Decrease in Cyber Claims by Type

	2017	2018	2019	2020
Standalone 1st Party	48.5%	56.9%	58.2%	52.8%
Standalone 3rd Party	33.4%	35.9%	90.4%	-29.8%
Packaged 1st Party	110.0%	41.0%	25.4%	20.0%
Packaged 3rd Party	-1.0%	30.6%	20.9%	11.4%
Total 1st Party	81.2%	47.1%	38.8%	35.3%
Total 3rd Party	14.9%	33.5%	59.0%	-15.7%
Total Claims	51.4%	42.4%	45.3%	17.5%

Source: AM Best data and research

Overall, the industry loss and defense cost ratio jumped 23 points to 67.8 in 2020, AM Best reported. AM Best also analyzed changes in the number of first-party cyber claims and third-party claims for each of the last five years, attributing the first-party claims to ransomware. That analysis reveals that in 2020 the first-party ransomware claims (incurred under standalone and package policies combined) jumped 35 percent. On average, first-party claims soared almost 50 percent per year over the years 2016-2020.

Although first-party claims represented the majority of claims in each of the five years, in 2020, first-party claims represented 75 percent of the total, up from just 55 percent in 2016.

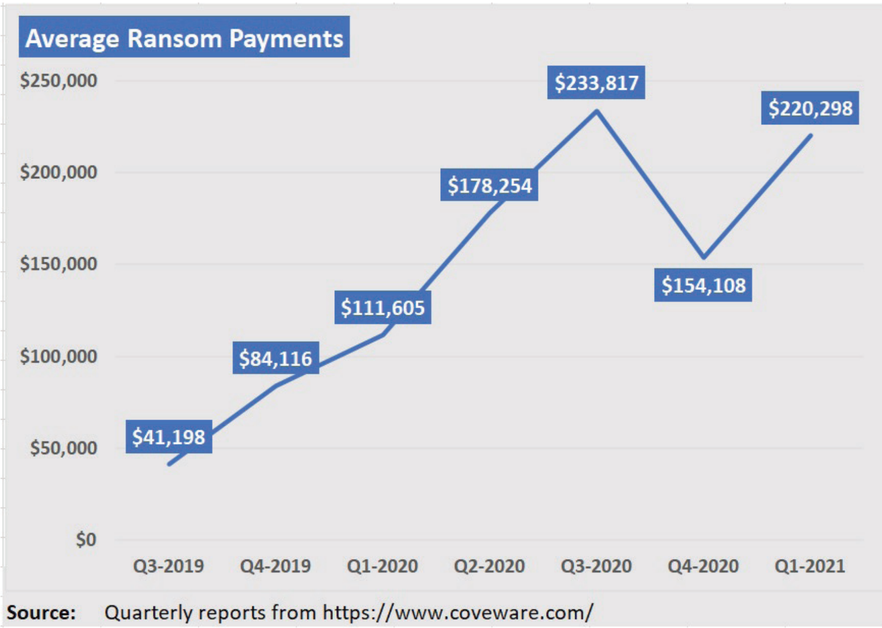
Third-party claims rose roughly 20 percent per year over the same five-year time period but actually fell nearly 16 percent in 2020. CM

The Ransomware Epidemic by the Numbers

During a session of the Casualty Actuarial Society Seminar on Reinsurance in June, Alexander Podmore, AVP and cyber underwriter for Swiss Re, defined a growing problem for cyber insurers—ransomware—and shared some data to underscore just how bad things are getting.

Ransomware is a form of malware that enters an insured's network causing an encryption of data and systems, rendering them unusable until the victim restores their data and systems from backups, and incurs the relevant business interruption costs, or the victim pays a ransom demand to the hacker to provide safe return of the encryption key to restore access to the data and systems.

Citing figures from the latest quarterly report of Coveware,



a firm that helps businesses remediate ransomware, Podmore noted that the average ransom payment in first-quarter 2021 was just shy of $250,000, having risen from "the low hundreds of dollars" in third-quarter 2018. In the space of two years, there has been an exponential increase, he said.

Below are some other figures and highlights from recent Coveware reports.

• After a temporary decline in fourth-quarter 2020, the average ransom payment increased 43 percent to $220,298 in Q1 2021 (from $154,108 in Q4 2020). Compared to the Q1 2020 quarter a year earlier, the Q1 2021 average payment has almost doubled.

• Q1 2021 averages were pulled up by a raft of data exfiltration attacks by one specific group.

• The median payment in Q1 jumped to $78,398 from $49,450, a 58 percent increase.

• Temporary declines in average and median payouts in Q3 2020, according to Coveware, were the result of the fact that while ransomware groups continued to leverage data exfiltration as a tactic, the trust that stolen data would be deleted was eroding. Exfiltrated data continued to be made public despite victims paying ransom.

• In Q4 2020, email phishing overtook RDP compromises as the dominant attack vector for the first quarter since Coveware had been tracking data. In Q1 2021, RDP compromise was predominant again, but the gap between the two types of compromises was smaller than in past years.

• Incident duration expanded slightly in Q1 2021 to an average of 23 days. The downtime measure has been creeping up, with prior reports showing 21 days in Q4 2020, 19 days in Q3 2020.

• In Q4 of 2019, average downtime increased to 16 days from 12 days in Q3 2019. Coveware said the increase in downtime was driven by a higher prevalence of attacks against larger enterprises, who often spend weeks fully remediating and restoring their systems.

• Commenting on the highest level reported in recent quarters, in Q3 2020, Coveware said that "attackers discovered that the same tactics, techniques and procedures that work on a 500-person company can work on a 50,000-person company, and the potential payoff is substantially higher."

• The biggest change over the six quarters ending Q3 2020 was that threat actors had come to "realize that their tactics scale to much larger enterprises without much of an increase in their own operating costs." In other words, "the profit margins are extremely high, and the risk is low," the Q3 2020 report said.

In several of the quarterly reports, Coveware notes that although victims may decide there are valid reasons to pay to prevent the public sharing of stolen data, Coveware's policy is to advise victims of data exfiltration extortion to expect that even if they opt to pay:

• The data will not be credibly deleted. Victims should assume it will be traded to other threat actors, sold or held for a second/future extortion attempt.

• Stolen data custody was held by multiple parties and not secured. Even if the threat actor deletes a volume of data following a payment, other parties that had access to it may have made copies so that they can extort the victim in the future.

• The data may get posted anyway by mistake or on purpose before a victim can even respond to an extortion attempt.

Sources: Quarterly reports from https://www.coveware.com/

Q1 2021: Ransomware Attack Vectors Shift as New Software Vulnerability Exploits Abound

Q4 2020: Ransomware Payments Decline in Q4 2020

Q3 2020: Q3 Ransomware Demands Rise: Maze Sunsets & Ryuk Returns

Q2 2020: Ransomware Attacks Split Between Enterprise & RaaS

Q1 2020: Ransomware Payments Up 33% in Q1 2020

Q4 2019: Ransomware Costs Double in Q4 as Ryuk Sodinokibi Proliferate

(Coveware: Ransomware Recovery First Responders)

‘Katy, Bar the Door’: More Risks Loom for Insurers Post-COVID

By Susanne Sclafane

The soaring price of lumber was one of the hottest topics on the lips of industry executives speaking at midyear conferences, becoming a focus of discussion almost as often as cyber risks and social inflation.

During the 37th Annual Insurance Conference hosted by S&P Global Ratings last week, John Neal, chief executive officer of Lloyd’s of London, led off a discussion on social inflation and then pointed to general economic inflation as one of the second-order impacts of COVID.

“The price of timber is up 40 percent. The price of fittings is up 20 percent. There is a supply chain impact” of COVID and work-from-home behaviors. “Provided we’re alert when we price [insurance], we’re OK,” he said.

Financial analysts generally attribute rising lumber prices to decreasing supply and rising demand, with supply having dropped because of lumber mill shutdowns in the early months of the pandemic, and demand lifting skyward with the rising

Executive Summary:

While a trio of industry CEOs unanimously agreed that social inflation will have a profound near-term impact on their businesses at a recent industry event, discussions about lumber prices and potential power outages caught our attention.

pace of remodeling and rebuilding projects.

Dino Robusto, chair and CEO of CNA, said insurance pricing is keeping up with inflationary trends. "Everyone is focused on it. Everyone is watching it. Everyone would be inclined to capture it within their long-run loss cost trends, exposure change trends, and then let the required price needs emerge," he said, adding that property/casualty insurers have the good fortune of being in a market in which they can raise prices.

So, why all the chatter? What's the problem?

In two words: "demand surge."

Peter Zaffino, president and CEO of AIG, filled in the specifics in response to a question from S&P Senior Director and Panel Moderator Larry Wilkinson about the insurance industry implications of a June 10 U.S. Labor Department report—released on the day of the S&P conference session—revealing that the Consumer Price Index jumped 5 percent for the year, the largest 12-month increase since August 2008.

Noting that lumber prices in the U.S. are catapulting above the figure that Neal referenced from where he's sitting in the UK, Zaffino agreed with Robusto that the CPI news wasn't a surprise to insurers who hone in on economic trends. But there could be more bad news ahead for the industry, he suggested, inviting conference attendees to think about the dynamics of property insurance, in particular.

"What happens a lot of times during cat season is you always worry about the big second event because of demand surge and things that happen after the first event. We're already seeing that one of the effects of the pandemic was people moving into peak zones,...prices being driven up, supply starting to contract and the density being concerning."

"When you look at that and already [are] starting to see the type of demand surge pricing before the event, it's something that we're just going to watch as an industry...If there is something that happens during wind season, or another catastrophe that happens in an area that's dense, it's going to be challenging," he said.

Two days earlier, at the Casualty Actuarial Society Seminar on Reinsurance, Conan Ward, president and general manager of RibiQon Risk and Insurance Services/RubiQon Re, a managing general agency subsidiary of QOMPLX, used different words to describe the same problem.

"We've talked about social inflation for years, and we've been lucky enough to not have to talk about real inflation. [But now], look at the CPI and the jump that's gone on there. If the industry is in for a bad storm season, 'Katy, bar the door' because the supply chain is going to take a while to catch up...Lumber, drywall, pipe, roofing materials, windows—you just can't get this stuff for love or money right now. And those prices are going way up. If you have a Category 3, 4 or 5 in Florida this year, I don't know how people are going to find material to rebuild."

Greg Henrick, CEO of Vantage Group Holdings, said that so far, supply issues have not had an impact on claims costs, referring to his company's experience with Winter Storm Uri. "The feedback we've been getting from a handful of clients is that they're maybe a little bit delayed, but they're able to get work done. However, that's not the same as having a Category 4 plowing through Florida," he agreed. "It certainly seems like the system is wound up for bad news if there is a big event on a supply chain."

Ward noted that the supply chain issue is getting exacerbated by the rebuilding in the Northern states as the weather in those states improves and they come out of COVID. So, the demand on supplies in the North has gone way up, and it's not like the Southern states were able to find what they needed before that. I'm glad that folks out in Texas are getting what they need to rebuild. I would say knowing Florida pretty well, people building new down there are not getting what they need...Prices are up 3X, in some cases even more," Ward reported.

"That may be the answer. They're not rebuilding in Texas; they're repairing," Hendrick said, explaining his company's dissimilar experience.

Social Inflation or Climate Change?

Back at the S&P conference, Wilkinson asked Robusto, Neal and Zaffino—and nearly 1,000 analysts and executives attending the event—to choose an item that they believed would have the most impact on the insurance industry in the next three to five years. More than half of the audience (54 percent of respondents) voted for climate volatility.

The cost of lumber wasn't even one of the choices, which also included social inflation (23 percent), InsurTech (16 percent) and regulation (7 percent).

As the audience votes were being tallied, the executives put in their votes, unanimously picking social inflation. "It might've been obfuscated with the effects of the pandemic and the court dockets, etc. But it [has], by no way, been diminished and is a serious public enemy to the industry," Robusto said, leading off for the trio.

Neal, who focused on the short time frame referred to in the question to reject climate in favor of social inflation as well, expressed the view that "we need to look at climate positively" at another point in the session. "It could be the largest single underwriting and investment opportunity we get to see in our careers," he said.

"It's giving us a real option to design new products and services that are relevant to where governments and policy want to take their vision of the green industrial revolution. It does take us into a broader understanding of systemic risks and creates a huge investment opportunity for us," he said.

The opportunities would be easy to grab onto, however. "Have we got all the skills that we need? No, we haven't. Are governments designing all the policies that give us the help? No, they're not. Are the regulators giving us all the help that they need? No, they're not. So, there's a lot more to do on it, [but] I think, as an industry, we need to be brave and accept that this is one of those times where we've got to pat our heads and rub our tummies at the same time. We need to be able to represent where policy, society, government wants us to go. But equally, we need to be brave and say someone needs to constructively insure transition. You can't walk away from transition..."

"If there's nobody prepared to insure the transition that takes us from a carbon-dependent world to a non-carbon-dependent world, then we'll never get there...As an industry, we've got to be smart and brave and do both," Neal concluded.

Lights Off

At a separate session of the S&P conference featuring a trio of chief risk officers of insurers and

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Conan Ward,
RibiQon Risk and Insurance Services/RubiQon Re

"It might've been obfuscated with the effects of the pandemic and the court dockets, etc. But social inflation has, by no way, been diminished and is a serious public enemy to the industry."

Dino Robusto,
CNA

reinsurers, cyber risks, climate change, economic and social inflation were the topics most discussed when the CROs were asked to name the biggest risks flashing on their emerging risk dashboards.

After executives at multiple conference sessions during the S&P and CAS meetings highlighted systemic risks of a global pandemic and potential cyber catastrophes, Dan Hogan, senior vice president of enterprise risk management for Liberty Mutual, had one more to add to that category. "One of our top emerging risks is a severe power outage," he said. "Power outages themselves can be caused by both human-made and natural events, as we all saw in Texas this year... Regardless of costs, the result is the same: immense human suffering, significant disruptions in economic activity and, depending on the time of year, widespread property damage," Hogan said.

"We take for granted the ability to work remotely and have conferences like this," he continued. "Think about what it would be like without power, without the Internet. It would be quite a challenge," he concluded.

(For more coverage of the S&P and CAS conferences, see related online article: "CEO Viewpoints: Recounting Success and Failure in Dealing With Pandemic Challenge") CM

"We take for granted the ability to work remotely and have conferences like this. Think about what it would be like without power, without the Internet."

Dan Hogan, Liberty Mutual

Systemic Risk: What It Feels Like

By Susanne Sclafane

Tuesday, May 11 started out as an ordinary day for me.

Early in the day, I was following the latest news about the lingering effects of a ransomware attack on the Colonial Energy pipeline, which had happened a few days earlier.

For the last two decades, I have been writing about the concept of systemic risk. In particular, the potential of a cyber catastrophe has been top of mind for cyber underwriters and risk executives I've interviewed. The pipeline problem had me replaying some of the more frightening conversations.

Still, I didn't really understand what it might feel like if a systemwide risk spread through cyberspace.

On a mid-day break, I sifted through my early morning emails to find one titled "The Really, Really Big One: The Likelihood of a 1-in-100-Year Cyber Catastrophe." My Insurance Journal colleague, Elizabeth Blosfield, did a great job summing up the thoughts of experts about how insurers can minimize their potential footprint for systemic events through careful planning, licensing proper tools and proper execution.

And then *Carrier Management* colleague Mark Hollmer queried me and some other colleagues about a potential article investigating InsurTech risk mitigation efforts to curtail ransom attacks.

I started thinking about a deeper fundamental question that insurance industry investor Ian Gutterman and CFC Undewriting's Chief Innovation Officer Graeme Newman debated in LinkedIn posts recently: Is Cyber Risk Insurable?

Well, of course it's insurable. We've been insuring it for years, some specialty insurers are thinking.

"We can't price cyber accurately and, if we can't price it, we can't insure it," argues Gutterman.

Newman, for his part, defers to the early underwriters at Lloyd's, ever willing to cover risks with limited data, and modern inventions to cover losses "discovered and notified" that limit insurers' exposure to uncertain risks.

But then there's that pipeline attack, "which shut down 5,500 miles of pipeline between Texas and New Jersey,...and many insurers are now realizing the significant risks inherent in this line of business," according to AM Best.

"The escalation in ransomware attacks also has forced insurers to re-think globally, as evidenced by the decision of AXA Insurance in France to halt ransomware crime reimbursements," Best's analysts wrote in a May 11 commentary.

I started to bore a family member about the questions of insurability during that mid-day lunch break. Turns out, she wasn't all that bored by the topic. At about 6:30 p.m. she emailed me a link to a CNBC video news item she saw on her smartphone: "Cyber risk problem 'so big it's not insurable,' says Swiss Re CEO."

Well, now, that's odd. The email message with the video link is blank. All the messages in my inbox are blank or nearly blank. A few say, "Hi Susanne" at the top but then nothing.

Had there been a virus in the email?

I ran a full scan on my machine. No problems.

I tried the easy fix: shut down and restart. Emails still blank.

Next step: A Google search on "blank emails in Outlook."

Oh boy. Those fixes look too complicated.

It was time to contact IT—via text chat, not email, since messages I send are now invisible, too.

Shoutout to Jason Chipp of the Wells Media web team! We spent an hour trying quick fixes and then more complex ones, finally deciding to do some more research before the dreaded uninstall and reinstall we scheduled for the next day.

Before shutting down my computer for the evening, I tried one last Google search. Two news items suddenly surfaced that I hadn't noticed earlier: "Microsoft Outlook Hit By Worldwide 'Email Visibility Issues'" in an Australian technology publication, and "Microsoft Outlook Bug Prevents Viewing or Creating Email Worldwide" in a publication called BleepingComputer.

The second one, introduced me to @MSFT365Status on

Twitter where "The official @Microsoft account for updates on certain @Microsoft365 service incidents" officially confirms the news that an update released during the day introduced bugs that prevented users from creating or viewing mail.

Users from Spain to North Carolina and from Ohio to Costa Rica had plenty of frustration to share in Twitter comments and reports on DownDetector.com. Among them were this comment and reply.

Wish I saw this before I spent the last 40 mins doing everything in Gods name to the damn program.

Exactly - maybe MS could have sent out a notice by email. Hahahahahaha

For me and Jason, it was a minor headache and an hour of lost productivity. But now that I think of it, that "Hahahahahaha" Tweet isn't all that funny. Suppose this wasn't a minor interruption in the virtual world caused by a technology glitch but a worldwide cyber attack across critical infrastructure and information systems. And what if all our emails and Tweets went blank at the same time.

"Only a tiny minority of cyber risk is actually insured. And I would actually argue that the problem is so big, it's not insurable...There are events that can happen at the same time everywhere that are much more worrying than what you saw now," Swiss Re CEO Christian Mumenthaler said on the video clip when I finally was able to view it.

Is cyber risk insurable? I'm starting to have my doubts too. CM