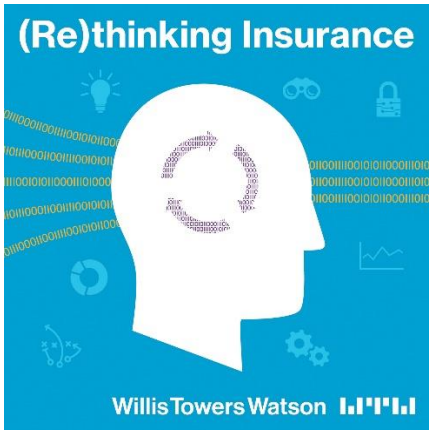

Episode 7: How automation is reshaping capital modeling

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SCOTT GIBSON: Instead of thinking about how are we going to do these things on either our shorter time frame or with less resources, maybe we can get more work, more productivity, better productivity out of our current teams and push things forward.

SPEAKER: You're listening to (Re)thinking Insurance, a podcast series from WTW where we discuss the issues facing P&C, life, and composite insurers around the globe, as well as exploring the latest tools, techniques, and innovations that will help you rethink insurance.

PETERROYEK: Hello. And welcome to another episode of (Re)thinking Insurance, the WTW podcast. I am your host, Peter Royek. And today, we're privileged and honored to have two of my Willis Towers Watson colleagues with me today where we're going to be discussing capital modeling and automation.

We have Charles Carwin. Charlie leads the P&C Capital Modeling Practice for the Americas for WTW. He has 20 years of insurance and actuarial experience and has worked with clients across the world to develop their capital models and evaluate risk. Charlie, thanks for being here today.

CHARLES CARWIN: Thanks, Peter. Looking forward to the discussion.

Also today, Scott Gibson Scott is WTW's Americas Lead for Business Process Excellence focusing on process design and automation. He has over 15 years of actuarial experience holding responsibility across the insurer value chain. Scott, thank you as well for being here today.

SCOTT GIBSON: Hi, everyone. Looking forward to it.

PETERROYEK: Charlie and Scott, you're really coming to this solution from two different areas of concentration from two different angles, you might say. Scott concentrates, as you've heard, a lot on automation. So Scott, could you describe what that entails in general and how it led specifically to you getting involved in this solution with Charlie?

SCOTT GIBSON: Capital modeling is an interesting space for automation. The capital modeling process itself is so focused on these very robust and complex models, but to go ahead and update those models takes quite a number of steps. I was looking at over and I think to update just a small portion of the model might have as many as 17 discrete steps from getting new information from

various departments, pushing that information into the various modeling formats, checking it over, updating, you're going through a lot of steps.

Out of all of those, the actual human portion of it, as I'd say, might be three out of 17 steps. And the rest of them could very easily be done in a mechanical fashion by a machine. So there's a lot of opportunity to gain efficiencies in your capital modeling processes.

And along the way, certainly to add in some governance and some audit controls into that to make sure that you're not accidentally putting garbage into the model that's going to take some time to process through and give you some unclean results. There's a lot of areas of opportunity for automation and capital modeling.

PETERROYEK: Thank you. So Charlie, tell our audience about the specific products and services that come out of this collaboration with Scott. What existed beforehand and what it looks like currently.

CHARLES CARWIN: It's really two products working together. It's our unified system working together with our Igloo system. So it unifies the automation piece. And Igloo is our capital modeling piece.

And I think one of the interesting things to note is that while it may be technically possible years ago, it wouldn't have made a whole lot of sense, let's say, even a decade ago, because the capital modeling industry in general was still finding its feet. Things were changing. People are trying to understand how exactly to go ahead and determine what premium risk should look like, what reserved risk should look like, what kind of relationships these things should have together.

And so I think there's a lot of flexibility that was necessary during that time to try to mold processes and change things to make sure that they had the right reflection at risk. But the capital modeling industry in general is pretty mature these days. And I think any mature process lends itself more to automation.

So as Scott alluded to, there's just different things that perhaps somebody doesn't necessarily need to be involved. Moving data from one session to the next, making sure 2 plus 2 equals 4, doing a lot of validation checks and so on. We clearly need actuarial input at a number of steps where there are decisions to be made. There's some sort of input, whether correlations make sense, whether things are producing reasonable results and so on.

So we definitely do not eliminate the human element from capital modeling in total, but we really try to focus most of that time on areas where they can add value, not necessarily do some of the, for lack of a better word, boring-type work, just the kind of reconciliation work.

I think what that just enables capital modeling teams to do in general is focus on both a prioritization exercise, which is going to be highly subjective and could take a lot of expert opinions, and focus on the business side where they're actually extracting value from the capital model to provide value to their partners throughout the organization.

So as far as the single product it's still two products working together, but I think that's the nice thing about automation in general, is that you want an automation system that does work well with capital modelling, it does work with reserving pricing. You want to have universal frameworks and have everything talk together, at least in an ideal world.

PETERROYEK: Well thank you both. Going back to something you had mentioned, Scott, it's governance. It's a very important part of this process. How does that really fit in to what we're doing at WTW?

SCOTT GIBSON: So a lot of these processes at most companies are going to be done by passing Excel spreadsheets back and forth via email. Any time you're tossing around unsecured Excel spreadsheets, not only do you have risk that someone's going to update it incorrectly, you've got risk that they're going to add a row that doesn't get captured by a downstream process. You've got the possibility that people are going to copy and paste data or override a formula.

I mean, the list can go on and on when it comes to a tool like Excel, which is incredibly flexible, but every once in a while, that flexibility can lend it to being used in places where it's really not the right tool for the job. And that's actually one of the unique things about Unify in the process automation space, is it has a governance structure and an audit structure built directly into it. So it comes right out of box with those capabilities. And not only that, but you can't bypass it. So you can't get around that governance framework.

So as you move your process from an Excel-based one, and even if you want to maintain Excel as a tool within that process, because the user base is familiar with it and it's easy to work with, once you move that into a tool like Unify, you start to add the governance around it, and you make sure that the right cells were updated. As Charlie mentioned, you can do some data validation on that to make sure they're within reasonable ranges, that your 2 plus 2's still equal 4. Not the complex judgment side that you're going to want an actuary to review.

Not only are you moving these Excel sheets into a governance framework, but the process of making the reach-out to handling those files, to collecting those files, you now have turned that over to a robot as well. So again, from a governance standpoint, you can move things along a little bit faster.

Maybe make the robot the bad guy in this so you're not worried about the users. Hey, I don't want to reach out again. It's already been a day or two. So all of those things put together, you're going to have a much more controlled process, a much more robust process, and then some efficiencies along with it.

PETERROYEK: Well yeah. I mean, the governance is obviously a very key aspect of this. And to know that the client using this system doesn't have to worry about that and knows there won't be those mistakes made allows them more time for the analysis. So Charlie, capital modeling has really always been the domain of large insurers or reinsurers with a robust actuarial staff and modeling capabilities. Is that still true in your opinion, Charlie?

CHARLES CARWIN: I think in general, that's correct from a historical standpoint where capital modeling-- so you need a fairly large team to support. There are also-- the larger you get, the more the regulatory pressure comes in to have your own view of risk. So we're really talking about internal capital models, something that somebody has built themselves, not necessarily regulatory rating agency capital models.

I think the benefit that the big guys get from the smaller ones-- it's pretty interesting, actually, especially from an automation standpoint. So the big ones who have been doing capital modeling for a number of years, they're really looking for efficiency, for governance, they're looking to button up the process to make sure that different aspects of it are robust, that they're getting a lot of value out of it, and we can kind of expand on that, too, on different ways they can get more value out of it if they include automation.

A different way of looking at it for the smaller companies and where automation can come into play, so we see something a little bit different for the smaller companies. And when I say small, I'm talking about perhaps the model lines, the companies that don't necessarily have actuarial staff. That don't have capital modeling staff almost certainly.

But they do have a need for capital modeling. So perhaps they need to allocate capital to different groups or to different member companies or so on. So some of those things that we see where automation comes into play is that we'll work with those clients to develop a capital model, and then that will just sit within us. And what they can do through automation is change different assumptions, maybe premium volume is going to be asset mixtures and so on.

They can change different assumptions, and then through the power of automation, it changes the capital model directly, produces output for them. And so what they're left with is the impact of these what-if-type scenarios from changing assumptions of the capital model, but without necessarily having to be trained on the capital model or interact with the capital model. So instead, they interact with some medium that they're familiar with, such as an Excel spreadsheet.

So the result is that we have companies without capital modeling staff, without necessarily a full-time actuarial staff being able to change different values within the capital model that they're comfortable with, s being able to see the impact on their capital position and communicate that to their stakeholders, but we've lowered the barrier to entry to something they're very familiar with.

So that's a very different value that I think automation can bring to the capital modeling process than the large companies, but I think they both have pretty interesting uses.

PETERROYEK: Well, it's interesting. It levels the playing field in terms of who can do capital modeling. And as you said, you can interact with the model as much as or as little as you would like and change the assumptions you're comfortable changing. So I think this would be an excellent tool-- or set of tools for a company, really, of any size.

CHARLES CARWIN: Even the larger guys-- so large companies, they've had capital modeling teams embedded for a number of years. But automation allows them to expand the capital model beyond perhaps just the team that is used to working with this. So I think the best example perhaps is reinsurance team.

So they're looking to see some business, they reinsurance team somewhere. And quite often the interaction between the capital modeling team and the reinsurance team, that the reinsurance team would like to know what is the impact of capital if there is a change of structure. With the power of automation, there's no reason-- I mean, we're starting to see some companies implement this. There's no reason you couldn't have the reinsurance team have some sort of access to something that feeds into the capital model.

So perhaps if you imagine an interface or a spreadsheet that allows them to see the reinsurance structure, when something has changed within that reinsurance structure, the automation system detects something's changed. It goes and it runs a test version of the capital model-- not the main version, obviously, but something to the side and says, all right, well with these new reinsurance parameters, here's what the new capital looks like.

And now the reinsurance team has the impact to capital of a change reinsurance structure, and they've been able to avoid the middleman of the capital modeling team. So now once they find a structure they like, it allows them to go ahead and go to the next step and maybe talk with the

capital modeling team or just have a discussion with someone else saying, OK, these are the impacts that we're seeing on this, and we'd like to go ahead and pursue this further.

So what we've done is we've removed-- automation has removed the need for certain groups to communicate in certain ways where there could be a more efficient way to get that work done and then have the communication actually be a bit more effective.

PETERROYEK: In a sense, a company could at least model the way to maximize the value of getting out of a reinsurance program. Through scenario testing and changing a parameter here or there into what the structure of the proposed reinsurance program would be. So certainly a very valuable tool and something that appears to be done relatively easy.

CHARLES CARWIN: Yeah. It does. I mean, reinsurance, I think, is probably the easier example and probably the one that I think a lot of companies will use going forward. But there's other examples-- assets-- any sort of assumption that feeds into the capital model, there's no reason necessarily that other groups can't also have what-if scenario type analysis available to that.

The important thing is that it doesn't interrupt the main capital flow, s again, that's what automation allows us to do. It allows us to go ahead and make what-if-type scenarios without impacting the main driver as long as everything is set up properly. So I think it's a pretty exciting time where you're really going to see more socialization in the capital model.

In this case, the socialization is coming through different groups having probably just feeling like they have more control over what goes in there instead of just more of a Black box that goes to the capital modeling group. Instead, it will be something where they'll feel more hands-on. Hopefully owning assumptions a bit more, in which case now the capital model is just adding more and more value with the more constituents that are buying into it.

SCOTT GIBSON: That's a really interesting area for automation in general. Everyone always thinks automation is simply an efficiency play. We're going to be able to do this faster or maybe we're even going to reduce headcount. We're going to gain some sort of expense savings or time savings, and I think that's a lack of innovation in the automation space.

So instead of thinking about how are we going to do these things on either a shorter time frame or with less resources, maybe we can get more work, more productivity, better productivity out of our current teams and push things forward. So what Charlie just described really as kind of democratizing the capital modeling.

So instead of having this capital modeling team as the gatekeepers of this very complex, very important process for insurers, and isn't finding ways to allow the business to draw more value out of that without going through potentially a lengthy process or a lengthy back-and forth in terms of who's going to be able to do this from a resourcing standpoint. And those are the really interesting ideas that automation and innovation can lend to not just capital modeling, but, I mean, other areas of the insurance value chain as well.

But it's adding increased value into a process by allowing the parts of it that have the most friction to be done more easily and orchestrating some of those things for the company.

PETERROYEK: Two products here. We're talking about Igloo and Unify. And we are talking a lot about capital modeling, but in the Unify process, what does that bring to the table that may or may not have been an aspect of capital modeling as done prior to the introduction or the marrying of the two processes?

SCOTT GIBSON: What Unify brings to the table is allowing for the movement of data, the validation of data, the transformation of data in a mechanical automated fashion. So you're going to gain speed there. You're going to reduce the chances of errors. At the same time, Unify can manage the outreach to individuals.

So it can request data when that data comes from an individual. It can also collect or control review steps. So it can ask for a review. So certainly one of the places that the human the capital modelers in particular are going to add the most value is making sure that the parameterization that's going into the model is reasonable from a judgment perspective.

And that is going to go beyond just saying, hey, is it between x and y-values? It's going to say based on the baseline assumptions that we're dealing with, and the other parameters of the model and how the model is constructed itself, what is reasonable for pushing through this? So it can ask for that review, record that review, and then you've got that governance around it. So you know who performed it, what their response was. If they had to make any changes or edits, you're also going to get tracking on those file versions.

So you would know what initial parameterization was set potentially from the business users. And then if it was edited or adjusted by the capital modeling team, you would have those-- a record of that adjustment. And it can control that entire process.

And then even the output. So once the capital model is run, what happens to the output at the end of it? You can push that into various reporting frameworks, disseminate it, so forth. So along with Unify, you've got an end-to-end process that's orchestrated. And again, it's kind of reducing some of the friction, the human time element that isn't necessarily adding value, it just had to be done throughout.

CHARLES CARWIN: Going back to what Scott said earlier, allowing somebody else to be the bad guy. And I think when I first heard that, that really hit home for me, because in the capital process, especially in some of the larger organizations, a fair amount of time is spent there asking for data, waiting for data to come in, data is late, have to ask again, maybe escalate processes and so on. Not something that anybody that I know of when all team truly wants to do. That's not the interesting work that they've signed up for.

The nice part to automation is you can make it the bad guy to a certain degree where you say, hey, this data has to be in here. You have to store a file in this particular location by this date at this time. If you don't, then there will start to be emails that are automatically generated. And very few people, I think, get mad at an email that's automated. They may say, this is annoying. I may not like this, but it will also remind them that I need to get this particular file into this location.

And when the next email comes, because they still haven't sent it, again, there's nobody to be angry at-- it's allowing them to say, OK, I have this process that I need to go ahead and follow. And so it made the robot the bad guy to a certain degree, which I thought was an interesting, kind of a benefit of the automation.

The other point I kind of wanted to expand as we discussed reinsurance, being able to be input by different teams and so on, and how that really functionally work. Because as somebody who has a lot of experience of capital modeling, I don't really understand how the robots come into play. And so maybe I can just kind of describe quickly how I see the process working.

If we have things set up-- so we have automation set up with the capital modeling. The reinsurance team may have, for lack of-- just for ease of description, an Excel spreadsheet that shows the current programs in there. And now maybe it wants to add a quarter share, a different reinsurance program.

So the process the team would go through would be to change the spreadsheet in some particular way, to add a quarter share onto it, and they would store the spreadsheet into a particular directory. Now what the robots do, then, is they detect that something has changed. They're smart-- well, we've programmed them to be smart enough to realize what has changed and how it's changed.

And what it does, it says, OK, I see the reinsurance has changed. Let me go ahead and create a copy to the capital model. Let me put this new reinsurance program in. We're going to run it. It's going to say, get the results, and it's going to store those results in another directory. So from the user standpoint, they know that they have to store something in a particular format in a particular location, and they know that once things are complete, they will get reporting back on the backend.

So from that reinsurance team's perspective, it's pretty seamless, it's pretty easy. Obviously there's some work that needs to go into it, but when I start saying the story of how reinsurance teams can control aspects of the capital model, it sounds a little scary and it doesn't make a lot of sense. So hopefully that example, the actual steps the reinsurance team would go through helps clarify that.

PETERROYEK: For me as a relative layperson to capital modeling and the automation aspect of capital modeling that we're discussing today, it seems reassuring that while you have a lot of leeway in terms of what parameters you want to change and how much you want to interact with the models, there's also some lockdown areas, specifically the governance that you don't want to touch or that you shouldn't touch. s Or the robotic aspects you were just discussing, Charlie.

The bad guy, that the emails will be sent out. You want that stuff locked down, because it then-- it makes you want to interact and provide things, but they're already set up by the robot, so I think it's a great idea and a good aspect of this that there's certain things that are locked down. Not blackbox in the sense that you don't know what's going on inside, but that really can't be touched because they really shouldn't if you want really a full analysis and get from the model what you really want to get out of it.

CHARLES CARWIN: Yeah. I think it's been the goal of capital modeling from start to socialize the capital model, and I think this just takes an extra step in that process. So I think it's pretty exciting seeing where capital modeling and automation are going. So they're definitely moving hand-in-hand, and it's an interesting time to be involved.

SCOTT GIBSON: One of the challenges as we're redesigning processes and applying automation to them from my perspective is always the end users that are going to be affected by it and how they accept or reject that type of change, what value they find in it can be very different than what the business value we're trying to extract is.

So if you can give that kind of capital modeling team perspective, you just had-- a big key for them has been trying to socialize it more broadly. So what are the benefits to that capital modeling team for moving into a more automated process? Because I think that's going to be really interesting know from my perspective looking at the process.

Well, I think the benefits are one, their time can be more focused on arguably the more interesting tasks. I see capital modeling teams decrease in size compared to where they were. The last decade or so, capital modeling teams have been fairly large. I think the size of the teams are going smaller for a couple of reasons. One, because more folks are using more out-of-the-box-type solutions,

similar to [INAUDIBLE], to throw an acronym out there. But some are out of the box solutions where a lot of the difficult questions have already been answered and now it's a parameterization exercise.

So the capital modeling teams are decreasing in size and I think increasing effectiveness. And so any time automation can come in and help move that metric in the right direction of making sure it's more effective, I think it's a win. I mean, socialization is just important because capital models, at end of the day, are the internal view of risk.

So the more groups that buy into it, the more groups that feel like their voices heard when they go through the parameterization process or what-if-types there, I think the better. It's tackling things on multiple fronts. Efficiency, socialization, removing the work that people don't necessarily want to spend their time doing.

PETERROYEK: That is the result of automation. Now Scott, I'm sure we're going to have you back on future episodes of this podcast, because Unify appears to be a very versatile tool that really can be used across different propositions. Any brief overview you can give us on-- in case someone's just tuning in to this podcast because of capital modeling, Unify as a tool that is pretty versatile. Can you give us a few minute explanation kind of things that Unify can do?

SCOTT GIBSON: I always get myself into trouble when I talk about automation software. A lot of it comes down to what type of programming you apply to it. And once you're talking programming a computer code, the options are pretty extensive. But what Unify is really good at-- and first of all, Unify is Willis Towers Watson's enterprise-wide systems automation and governance tool. So it combines robotic process automation with data validation, data cleansing, as well as governance and audit.

So at the end of any workflow that you construct within Unify, you're going to have a full audit report that tracks all of the steps. Maybe who did what steps, if there's a human involved. Again, talking about the capital modeling type of process, it can say this user reviewed this file and they've made new changes, or if they did make changes, here's the new version, and you'll have it version controlled within the software as well.

But where Unify is best this is in these backend processes that are heavily data-dependent. Moving data from one place to another, cleansing it, transforming it to be more appropriate, doing it in a governed way. And then allowing for those human interaction elements where judgment does need to be applied and embedding them into that same kind of governance framework as well.

So you have a full end-to-end solution that's going from the very beginning, whether it's your core systems and whether you have multiple legacy systems, it's going to be able to pull from multiple systems of any kind and push that data throughout the process, adjusting it, controlling it, finally, getting to final report out or results.

So wherever there's a regulatory requirement like-- or so maybe in the capital world or maybe SOX-compliant in the finance world, having those type of controls in place and knowing how the data moved throughout the process is going to be critical.

PETERROYEK: As Charlie alluded to very early on in the podcast, if we had had this conversation, this podcast 10 years ago, it would have been very different to what we were discussing right now. Or five years ago. And if we were to have a similar podcast again in five years, talking about automation and capital modeling may look very different from what it does now.

It's always changing. It's a living, breathing process, obviously, and it's going to keep evolving and evolving with advances in technology and changes in the market. Either one of you see where-- what this might look like two, three, or five years from now? Where are the areas where you believe the technology or the knowledge is going?

CHARLES CARWIN: I think we're kind of there now. One of the reasons why this wouldn't necessarily work for capital modeling automation in the past was the lack of the access to the cloud. So a lot of the things that I'm discussing, especially for the larger company models, if they're going to be doing lots of what-if-type scenarios, have other groups have access to make copies of the model to put reinsurance analysis or so on, a lot of that's going to be enabled by having cloud processing and having things that can be instant scalable.

I think we're kind of in the early stages of true cloud and automation integration. So even in five years, we're probably still in the process of implementing that. And then past that, who knows? The whole insurance landscape is changing so fast. But I think these particular processes are probably what the next five to 10 years you're going to be focused on. More refinement, more extraction of value. How can we do more with less, faster? And so I think we're at the early stages of it right now, but companies are definitely embracing it, which is fantastic to see.

PETERROYEK: I think we're all looking forward to what the future holds, and in the present, utilizing such tools to really get the maximum out of what we can do in operating our companies and reviewing our results and doing our planning.

That's all we have time for today. I just want to say thank you to Charles Carwin and Scott Gibson for their time this afternoon. A very exciting process and the marrying of two different tools to automate an every-changing capital modeling process. Charlie, thank you very much for your time.

CHARLES CARWIN: Thanks, Peter. I enjoyed it.

PETERROYEK: And Scott, thank you as well for your time.

SCOTT GIBSON: Thank you, Peter. Happy to be here.

PETERROYEK: We're happy to have both of you. And we will see you next time on (Re)thinking Insurance. So long, everyone.

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