



UW ACTSCI CLUB

Winter 2018 Newsletter, March Edition

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Interview with Carlo Lahura, ACAS

*Carlo Lahura, ACAS, is an Actuarial Consultant in the P&C practice of Ernst & Young and a UW alumnus. He graduated in 2017 with distinction as Faculty of Mathematics Valedictorian with a 3.8 GPA and having completed **SEVEN** actuarial exams. Prior to convocation, he earned his 2 years of co-op experience in both Life/Health and P&C industries, across Ernst & Young, Sun Life, and Manulife.*

He was also incredibly active during his time at UW, serving five Presidencies across ActSci Club, ASNA, Math Orientation, and the Student Leadership Program. He currently serves as Chairman on the Board of Directors for ASNA. On his LinkedIn, he has written several articles, including one on how he managed to pass those seven CAS exams on the first attempt (a remarkable feat). I had the great opportunity to reach out and talk with him about his accomplishments. Here's what he had to say.



Carlo Lahura, you've got one impressive resume. You are certainly a famous figure among UW actuarial students and looked up to all the time. Everyone wants to know – to what do you attribute your success?

Thanks for the kind words! There are at least a dozen different principles I could bring up but, if I had to pick one, it would be the following:

When I was the Convention Chair for the ASNA 2016 Niagara Falls convention, I had a rocky start with my team. My upper year mentors at the time, all successful students who I looked up to myself, all urged the President to remove me as Chair because they deemed me as not good enough. The President chose to give me a second chance and kept me on. I worked extremely hard to prove them wrong and, 8 months later, exceeded all expectations when we delivered what, according to employers, was the best planned and executed convention they've ever seen us do.

Lesson? No one, even successful people, can possibly know what you're capable of. You can't choose what people say about you. But you can choose whether you listen to them and give up, or start fighting back to redefine yourself into a more relentless person who won't stop until they've accomplished the impossible.

Quite simply: I don't care anymore what anyone else thinks of what I'm capable of, I aim high, and when life knocks me down, I get back up and try 5 times harder. I don't give up when it gets tough - I hold on tight and ride out the pain.

Why did you choose to pursue a career as an actuary, specifically in the P&C industry?

I had internships in both P&C and life and my largest realization was the lack of gratification that I was searching for.

The best experiences in my life have revolved around seeing the results of my hard work. In life insurance, the products are so long-term that I wouldn't be able to know for decades if I priced/reserved/managed the risk correctly or not. It's the opposite in P&C as the risks are significantly more short-term.

As well, I find P&C to be more dynamic and interesting to me for numerous reasons, including: ever-changing risks (driverless cars, cyber insurance, space insurance, climate change), un-fixed severity of risk, and additional management considerations associated with the frequent renewal-nature of P&C (e.g. "soft" and "hard" pricing markets, adverse selection).

You're said to be very passionate about motivating and inspiring young actuaries. What instigated this passion?

I believe one of the greatest feelings we can experience in life is knowing that you've made a positive impact on another person's life. That you helped them reach a better place than where they were before, and the gratitude they express you for it.

As well, the majority of people want to be leaders - we all want to be successful in our careers. Not many young actuaries are aware that one of the most crucial traits of leaders is that you have to be able to inspire and motivate your team. This is what pushes your team to give it 110% and work for you not because they have to, but because they WANT to.

One of the best ways to inspire your team is to take care of them and empower them with the right tools to succeed. The more you do this, the more they want to work for you, and the more your team will shine to senior management!

What are some of the challenges that actuaries will face in the wake of future developments?

From my talks with top actuarial leaders from other universities and full-time senior management, I believe the biggest challenges for young actuaries are how to communicate your work and how to lead a team like a leader and not a boss. Waterloo actuarial alumni are generally not as communicative as some of the other powerhouse universities I've seen, and I believe leadership in general cannot be effectively learned outside of hands-on experience. The earlier actuarial students tackle both of these items in university through extracurricular involvement, the much larger career headstart they'll have over their future coworkers.

As for the profession as a whole, I'm not going to go into detail as there are numerous articles on these topics, but the following are definitely items to look out for: effect of climate change on catastrophes, ever-increasing lifespans, artificial intelligence, driverless cars, changing regulatory landscape, and, the most frightening one (in my opinion), insurtech.

Yes, the actuarial profession, like any others, has its own challenges. The world is in a transition phase right now onto artificial intelligence, and although I strongly believe that actuaries will still have a relative abundance of jobs, some jobs, like the MAJORITY (if not all) of professions, are bound to become automated with artificial intelligence once it gets smart enough.

What were some memorable moments for you from your years at UW?

The two top ones definitely have to be:

1. Delivering my Valedictorian speech to 2000+ people at convocation and getting significant praise for it from literally everyone I ran into after, even countless families and classmates I haven't met before.
2. Successfully planning and executing Math Orientation 2016's Waterloo Park Day as a Math FOC, including overall management of 30 executive volunteers and 100+ leaders. That entire week was so much fun!!

Clearly, my most memorable experiences are all extracurricular-related. I hardly went to parties/social gatherings in university because they didn't interest me and I have absolutely zero regrets. Back in high school I did the opposite - socialized A LOT (I was well-known across 3 high schools) and next-to-no extracurriculars.

I find those social experiences meaningless compared to my extracurricular experiences which had me have an impact on the lives of literally thousands of students, helped me meet and create a close friend group with other highly ambitious people, as well as significantly kickstart my actuarial career.

Ultimately, I had more fun with extracurriculars than I did socializing 😊!

Knowing what you know now, what advice would you give to your university freshman self?

Easy - three things!

1. Find a mentor who genuinely cares about you and wants to see you succeed. Just because someone has been successful, doesn't mean they care about you and that they'll be a good mentor.
2. Don't you dare ever listen to what other people have to say about you. Who are they to tell you what you can or can't do? Your limits are only at what you think they are, not what other people think they are.
3. My current favorite quote: "To be in the top 1%, you have to do what the other 99% won't do."

If you are interested in motivational content, feel free to connect with me on LinkedIn (Carlo Lahura - I have numerous of in-depth articles in my profile bio with my own secrets to university success), as well as my Instagram account @actuarial.motivation 😊.

SOA Student Outreach Day – Recap

Saturday March 3

The SOA Student Outreach Day was a complete success! Attendees listened to a presentation given by Mike Lombardi, President of the SOA. Many students also asked questions during the panel discussion with several SOA representatives.

The main event was followed by a short mingling session, where students had the chance to chat with the representatives over some delicious catering from University Club. Afterwards, students, SOA representatives, and Actsci Club executives mingled while engaging in several different activities and casino-style games, including Actsci Jeopardy, Poker, Blackjack, and Nim.

Overall, members gained a deeper insight into the actuarial profession, obtained firsthand information and advice from industry experts, and connected with SOA representatives! This event was the first of its kind to ever be offered to Actsci Club members, and the first time the President of the SOA made an exclusive trip down to UW. As such, it was an historic day for Actsci Club!

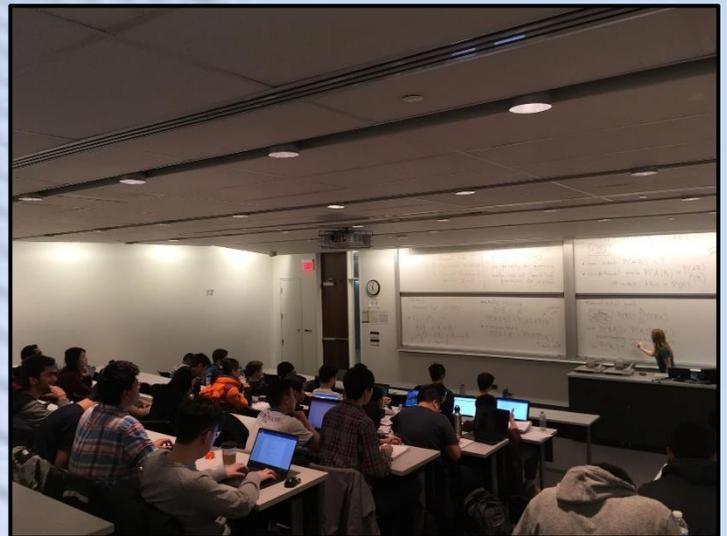


Recap of Past Events

P Exam Tutorials

Wednesday March 7, Wednesday March 14

Members came out to attend two different P Exam Tutorial sessions, facilitated by two of our very own renowned professors, Diana Skrzydlo and Surya Banerjee. The tutorials provided a very helpful overview of the material and covered several exam-style practice questions.



Desjardins Trivia Night

Thursday March 22

Representatives from Desjardins came out to UW to host the Desjardins Trivia Night – an evening of fun, competitive trivia with categories ranging from P&C basics to Animal Biology! The winning team also earned Starbucks gift cards!



Recap of Past Events

Student Panel

Tuesday March 27

Members attended a student panel discussion consisting of experienced third and fourth-year Actsci students. The panelists gave valuable advice and discussed their individual experiences with actuarial exams, insurance vs. consulting co-op jobs, contemporary issues, and the future of the Life/Health and P&C industries. It was a very informative panel and made even more enjoyable with some delicious sushi burritos!



EOT Event: Wings Night *(cohosted with FARMSA and Stats Club)*

Wednesday March 28

The term ended off with the traditional termly EOT Wings Night – a social gathering of Actsci Club, FARMSA, and Stats Club members. Students mingled and socialized over some finger-licking chicken wings, nacho chips, and vegetable platters from Morty's Pub. It was the perfect way to end off another successful term!

Impact of Computer Technology on the Insurance Industry

By Tim Huang

Introduction

Today, we live in the computer age where computer technology is prominent in many different industries and professions. In particular, the insurance industry has experienced several changes from the rapid advancement of computer technology. Professionals within the insurance industry, such as underwriters, use computers to collect and process data from customers. Other professionals, such as actuaries, use advanced models and algorithms to determine personalized price estimates based on customer information and risks associated with each customer. The use of computer technology has brought about many ways that benefit the insurance industry by improving processes and delivering better customer service. However, computer technology introduces many disadvantages to the insurance industry as well due to a strong reliance of the technology and the accessibility of confidential customer information.

Benefits

Some of the benefits that computers provide insurance companies include making risk assessments, attracting and retaining customers, reviewing claims, and using telematics.

Making Risk Assessments

The insurance industry takes advantage of computer technology to make risk assessments. The risk associated for each customer ultimately affects the price charged towards the customer. What makes insurance products unique compared to other products is that the same insurance product have different costs for different customers. For instance, a life insurance sold to a smoker with cancer would be more expensive than the same life insurance sold to a young, healthy, non-smoking individual. This is because when individuals have a higher risk of making the claim sooner (such as the smoker compared to the non-smoker), premiums collected is expected to be less and the time for premiums to grow with investment to pay claims is expected to be shorter as well. Computers are used to analyze data from customers to determine the associated risk. Different kinds of data are analyzed for the

different types of insurance products offered. For instance, medical history would not be as important to price a car insurance product compared to a life insurance product. Different insurance products are required to analyze different types of risk as well. For car insurance, where such insurance products tend to expire within a short time frame, the risks determined include the expected number of claims within the period and the expected dollar amount each claim could be worth. For life insurance products that do not expire, the risk determined would be the expected timing of the claim. Without computers, humans would not have the computational power to classify the risk (i.e. determine different sets of probabilities) for every combination of relevant risk factors. Computer programs that uses advanced risk assessment algorithms can expand the scope of risk factors analyzed, classify the risk with a higher degree of accuracy, and further incorporate insurance features geared towards the customer needs that require more complex risk assessment techniques.

Attracting and Retaining Customers

Another method that computers are used to benefit the insurance industry is its use to attract and retain customers. In the modern day, customers prefer to use their mobile devices to incorporate as many functionalities as possible right within their fingertips. For instance, customers want the convenience and ability to file claims through mobile apps. With car insurance, tradition methods of making claims include getting the car to a repair shop and waiting for a claim adjuster to make damage assessments. Currently, some insurance companies provide a more convenient claim reporting process by using mobile devices to allow customers to sign in to a video chat with insurance representatives and using the phone's camera to capture the damage of the car. Other companies even make it easier by simply accepting photos guided by their application. An example of a company that does this is Allstate, and they are averaging a quick turnaround time of 4 hours from receiving the photos and sending an estimate of the insurance claim. Another way that insurance companies attract customers is by providing

sufficient information online regarding the insurance features of different products to help customers make informed buying decisions. This makes it convenient for customers to gather information through their mobile devices any time they want. This saves the customers the trouble of calling a representative to determine which insurance product best suits their needs. Calling a representative is inconvenient because one must figure out who to call, find the best available time to make the call, and take mental or written notes of the information gathered from the call.

Reviewing Claims

In addition to attracting customers by allowing them to use computerized devices to make claims, the insurance company also uses computers to help them with the process of reviewing claims. The reason claims must be reviewed is because claim amounts may vary based on the nature of the claim event. Even life insurance can vary in claim amounts since some insurance products provide different death benefits depending on the cause of death (i.e. death by natural causes vs accidental death). Also, some people may make fraudulent claims to get extra funds from the insurance provider, so a review process is necessary to confirm that the reported claim is legitimate. Computers are used to efficiently retrieve several documents from several different sources for the review process. Examiners use document sharing software to analyze the insurance company's investigation reports, autopsy reports, and records from the policyholder's profile to finalize claim decisions.

Telematics

Telematics are wireless communication technology that transmits data from customers back to an organization. Several insurance organizations have taken advantage of this technology particular in the car insurance industry. These companies provide telematics to be included in the customer's car to provide the company with data on driving behaviour in exchange for discounts on insurance products. These telematics record the driving patterns of the customer such as driving speed, acceleration, and how aggressively the customer is braking. The experience data helps the insurance companies make more accurate risk assessments in the future. Telematics can also help reduce accidents

because insurance companies may offer a higher percentage of premium discounts for better driving behaviour from customers.

Drawbacks

Some of the drawbacks for computer technology in the insurance industry includes training requirements, overdependence of black-box calculations from computer software, more customer cooperation required, and customer privacy.

Training Requirements

By incorporating computer technology into an insurance organization, employees are required to have more knowledge in computer science. Many experienced insurance-related professions, such as actuaries, do not have the background experience to adapt to the new computer-based work environment. To properly make risk assessments and model future financial components of insurance products using computers, programming is becoming a required skill among insurance professionals. However, it is very rare to find university graduates that have the background knowledge in both actuarial science and computer science. Insurance companies must provide most of the computer-related training and have the expertise with strong background in actuarial science and computer science to provide the training. This is hard to do which makes it difficult for the insurance industry to keep up with the more innovative computer technology available today.

Computer Software Dependency

Traditionally, before insurance modelling software existed, actuaries must use their understanding of actuarial formulas to convert assumptions into pricing and valuation results. Today, modelling software is used to take in assumptions and product features to calculate all the necessary outputs. However, if a mistake is made while inputting the assumption or product feature, it is important to determine whether the output is reasonable. The software acts as a "black box" that produces results without having any transparency towards how the results were determined. This can be very dangerous since it makes it very difficult to review the results. To reduce the chance of error, insurance companies

may spot check a small sample of the results for individual policyholders by calculating the results manually. However, it is often very difficult to select a sample that is representative of all the policyholders to validate the results, and such a sample set can be very large by itself. Additionally, it is very easy to fall into the trap of assuming that the computer program is doing everything correctly when there are bugs that exist in the software.

Customer Cooperation

Although insurance companies can provide computer solutions to make the user experience better for their customers, many of these solutions involve more cooperation from the customers to set up the technology or software for convenience in the future. Also, customers would also need to learn how to use the technology. As previously mentioned, mobile applications can be used to send information regarding damages from car accidents to insurance companies immediately after the accident has occurred. However, the customers may not send the appropriate information, or the information provided may not be sufficient. This causes more trouble for the company to accurately estimate the damage cost or reach out to the customer to cooperate for further details.

Customer Privacy

For each of the listed benefits of how insurance companies use computer technology, there is one common theme among these benefits. That is, they are all associated with collecting or using personal data from the customer. With all the confidential information that insurance companies are able to access using computers, this increases the concerns for privacy. Employees with malicious intentions can take the opportunity of using computers to access personal information that can be sold to other companies. Not only would this hurt the policyholders for revealing information about them to other organizations without permission, but the insurance organizations would suffer as well if the information is leaked to their competitors.

Recommendations

One major area of computer technology that the insurance industry needs to explore more of is artificial intelligence (AI). AI is a fast-growing field of

study that has the potential revolutionize the entire insurance industry and enhance customer experiences. Insurance companies should incorporate AI in their business strategies for marketing, underwriting, claims processing, and customer assistance. Most insurance companies have not incorporated these business strategies today, and with the recent advancements in AI, it is recommended that they start incorporating these strategies for the future.

AI in Marketing and Underwriting

Traditionally, insurance companies simply cold called individual customers at random to get a marketing advantage in the competitive insurance market. However, today's customers expect more personalized marketing efforts. With the use of AI, insurance companies can gather data from customers to offer only relevant insurance products that would interest certain individuals. For instance, life insurance companies that offer products with spousal benefits can collect data to predict newlyweds that would be interested in getting life insurance for financial stability.

For underwriting, there are almost no other products available that require an application process as invasive as life insurance. A life insurance medical exam is taken where a medical professional comes to the potential customer's home to gather data on the individual's personal medical history, family's medical history, contact information of recently visited doctors, and lifestyle habits. Also, the medical professional will take a sample of the individual's urine and/or blood. All this information is collected to make risk assessments or deny the individual of insurance if they are too risky to be insured. However, the use of AI can automate the underwriting process without the tedious application process that customers must endure. Bots could be used to scan a customer's social profile to gather information and find trends or patterns that can affect premium payments. This can also uncover any important hidden secrets that policyholders would not reveal in the traditional application process. Additionally, this can help with marketing efforts by reaching out to individuals who have a low chance of making a recent claim based on their social profile while offering a lower premium rate lower than competitors. High risk individuals classified by more efficient algorithms

could be recommended to competitors instead to negatively affect their business.

AI in Claims Processing

After a claim event has occurred, it often takes a while for insurance companies to process the claim before the customer receives the claim benefit. For certain types of insurance, the claim information is passed down to several employees for review, and the process can be slowed down if certain employees are on vacation. With the use of AI, this process can be more efficient by automating different tasks such as capturing damage, auditing claims, and communicating with customers. AI can also be used to capture any fraudulent reported claims by identifying any discrepancies in the patterns in data. Fraudulent claims may include suicides for life insurance or destroying property on purpose to collect benefits from property insurance.

AI for Customer Services

With the advancement of chatbots in the field of AI, the insurance industry may eventually be able to use chat bots to automate their customer services such as answering basic questions, resolving claims, and recommending insurance products. AI can also be combined with the use of telematics for car

insurance companies. By using telematics, AI can use GPS patterns to predict road and traffic conditions, which can also be used to help customers avoid accidents. This is beneficial to insurance companies as they can reduce the total claims paid out by reducing the number of accidents.

Conclusion

The insurance industry has come a long way with its growing use of computer technology. Professionals in the insurance industry have benefitted from making better risk assessments, attracting and retaining customers, reviewing claims, and using telematics. Some of the disadvantages from the use of computer technology include training requirements, over-reliance of computer software, increased customer cooperation, and customer privacy. However, if insurance organizations are aware of these drawbacks and take measures to prevent them, the benefits received from the use of computer technology can definitely outweigh the disadvantages. For the future, it is recommended that the insurance industry takes advantage of the advancement in AI to further enhance several business processes. Thus, from using AI technology, traditional insurance practices can be transformed to change customer experiences that resonate with the modern policyholder's expectations.

CONTACT US

This is the final issue for the Winter 2018 Newsletter. On behalf of the Executive Team, thank you to all our members for coming out to our events and helping make this term a success! It was an absolute pleasure serving you. We hope you will continue to join us for the events of later terms – there's a lot to be excited about for the future of ActSci Club! Best of luck with all your future endeavors and on your journey towards achieving actuarial greatness! Remember to reach out to us and stay in touch! 😊



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