



Leveraging Data to Properly Assess Risk and Reward

How AXA XL leverages natural language processing for better risk assessment.



“We think of it as everyone’s responsibility in the organization to be more data-driven. After all, every single one of us is probably touching data in some way, regardless of your role.”

RACHEL ALT-SIMMONS, HEAD OF BUSINESS ARCHITECTURE AND DESIGN AT AXA XL

It can be challenging getting a data program off the ground, but without one, your business may not be able to draw meaningful insights from your data. AXA XL is a large commercial and specialty insurance company that needs to appropriately assess complex ventures.

Upskilling global, distributed teams in text recognition

AXA XL employs 13,000 people around the world who work on distributed teams, which means many of their teams don't actually work with most of their team members since they work with different clients. Virtual collaboration is important across global locations, and as an insurance company, their data needs are highly reliant on paper documents and PDFs.

“Our business runs on paper. We sell legal documents—that's what an insurance policy is. We intake paper and we generate paper.

For example, you get a submission from a client that contains tons and tons of files and information. You may get that information in a PDF, in Word documents, in Excel files, and probably every variation thereof. There's no standardization in how that document comes in, so there's not one standard PDF or one standard file. It's all different for every single client.”

RACHEL ALT-SIMMONS, AXA XL

Because so much of AXA XL's data is stored in PDFs and data entry is manual, not all the individual data elements are captured. Information is not consistent from submission to submission. AXA XL employees have to take information that's submitted and re-key it as best as they can into their systems. This results in a lot of information that's lost or not easily retrievable. To address these issues, AXA XL needs to use natural language processing to grab documents and easily scrape information out of them.



Start with personas for purpose-driven learning

We advise our business customers to consider who the relevant personas or roles are when building out their data programs. Each persona has a different relationship with data. Two of AXA XL's primary data personas are Actuaries and Data Scientists.

“There’s always been an interesting divide in many [insurance] organizations around the difference between an actuarial background and what I would call more of a pure data science or analytics background. In our organization, we’re bringing those two things together.

We’re actually teaching actuaries some of those more statistical machine-learning techniques that they can apply in their actuarial processes. It’s not an “us versus them” anymore. It’s “how do we bring these capabilities together,” which is pretty exciting.”

RACHEL ALT-SIMMONS, AXA XL

Data Scientist

- Collect, understand, analyze, integrate and explore data
- Work with other departments (IT and business) to measure impact and ensure results
- Provide in-depth technical expertise and insight to guide data strategy and address business challenges
- Manage knowledge through appropriate documentation and events

Actuary

- Derive expected loss ratios for individual programs
- Present and substantiate actuarial results to program managers/underwriters
- Improve models and fine-tune assumptions and methodologies
- Make recommendations to use technology as efficiently as possible and reduce pricing turn-around time



Targeted learning paths for AXA XL's primary personas

AXA XL used DataCamp to create custom tracks so that their primary personas could achieve the baseline skills they needed. Learning journeys for their actuaries and data scientists include several of our courses on [natural language processing](#). For early-career actuaries, we recommend [R courses to pass the Predictive Analytics Exam](#). And they also make use of our content that supports design thinking, like our [Data Literacy Track](#).

“Design thinking is [about] creating a solution, whatever it is: technical, data, [or] model. How do you do that in a way that's relevant for the customer? Then, how do you communicate the results effectively?”

Making better decisions on how much risk to assume

AXA XL requires their actuaries to be able to translate data into meaningful terms so that decision makers like underwriters, who evaluate insurance risk, can put a company's risk assessment into context and draw useful conclusions, like how much risk to assume. The actuaries' learning journey must include the ability to contextualize data and translate their implications to a broader audience.

AXA XL is able to measure the success of their data program by ensuring that their data is properly fed into decision making processes and by monitoring the resulting impact on profits.