AI&ML During The COVID Economy

A Research Report

BACKGROUND

In June of 2020, dotData attended the Virtual InsuranceAI event hosted by Reuters. As part of our event sponsorship, we were fortunate to be able to host a one hour workshop with some of the top insurers in the world during which we discussed the state of the Insurance market as it related to Artificial Intelligence, Machine Learning and Predictive Analytics. This report is a summary of our findings, as well as some recommendations that we provided to our attendees to help address some of the concerns raised during our workshop. The format for our workshop included a presentation by dotData on specific use-cases for AI and ML in the world of Insurance as well as break out sessions during which we discussed the challenges facing our attendees. This is a summary of those findings.

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RESEARCH REPORT

COVID-19 has changed everything. How have AI and Machine Learning been impacted in the world of insurance? What are insurers worried about? What are the top priorities?

KEY TAKEAWAYS:

- Nearly 90% of respondents are either changing AI/ML use-cases, or seeing a slow down in project development.

- Almost 40% of insurers are looking to use automation as a way to accelerate slowing projects.

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COVID-19 & THE IMPACT ON THE WORLD

Before we dive into the details of our event, it's important to set the stage for the conversation. COVID-19 has obviously had a tremendous impact on the World. The most critical part is the human tragedy of the hundreds of thousands of lives lost, but the subsequent impact of COVID-19 on the global economy has also been severe. Insurers especially have had to worry about not only the health impact of the global pandemic, but also the economic one. Whether it's covering financial losses for canceled events, managing a growing healthcare crisis, or forecasting customer churn due to economic hardships, the Insurance industry is under a great deal of pressure in 2020 and for the foreseeable future. These new pressures are making it harder for larger insurers to keep pace, and even more difficult for mid-sized and smaller insurers to adopt AI/ML technologies because of the long development timelines and traditionally high investment requirements. Given this situation, we started by asking a couple of key questions of our audience:

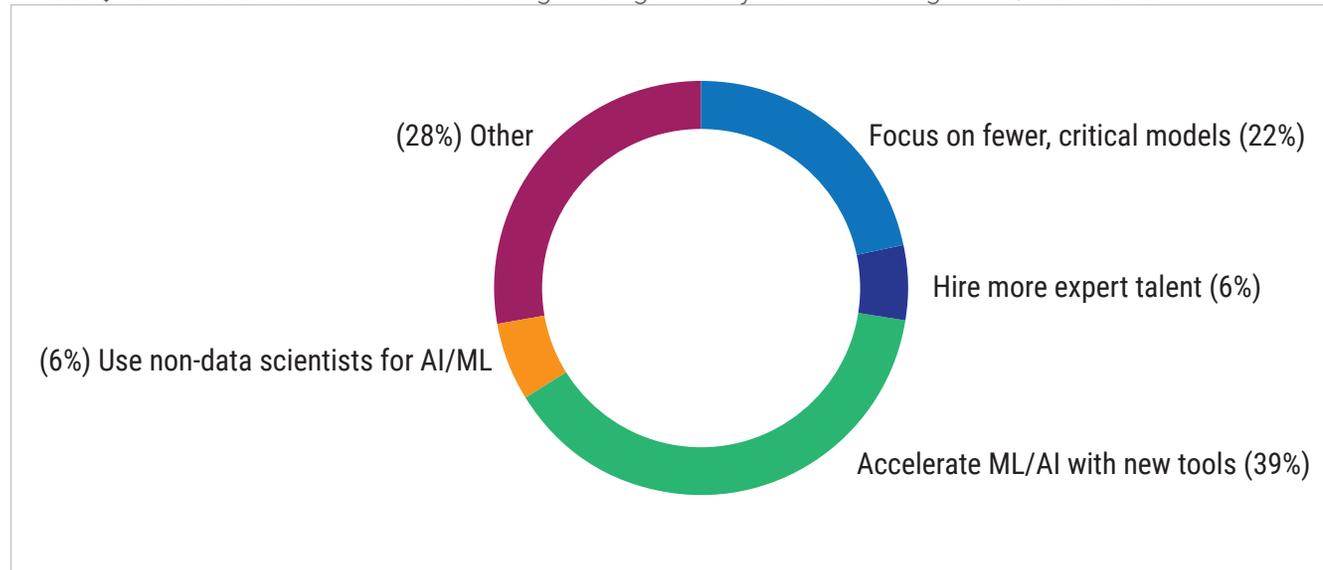**POLL QUESTION 1**: How have the events of the past few months impacted your investment in AI?
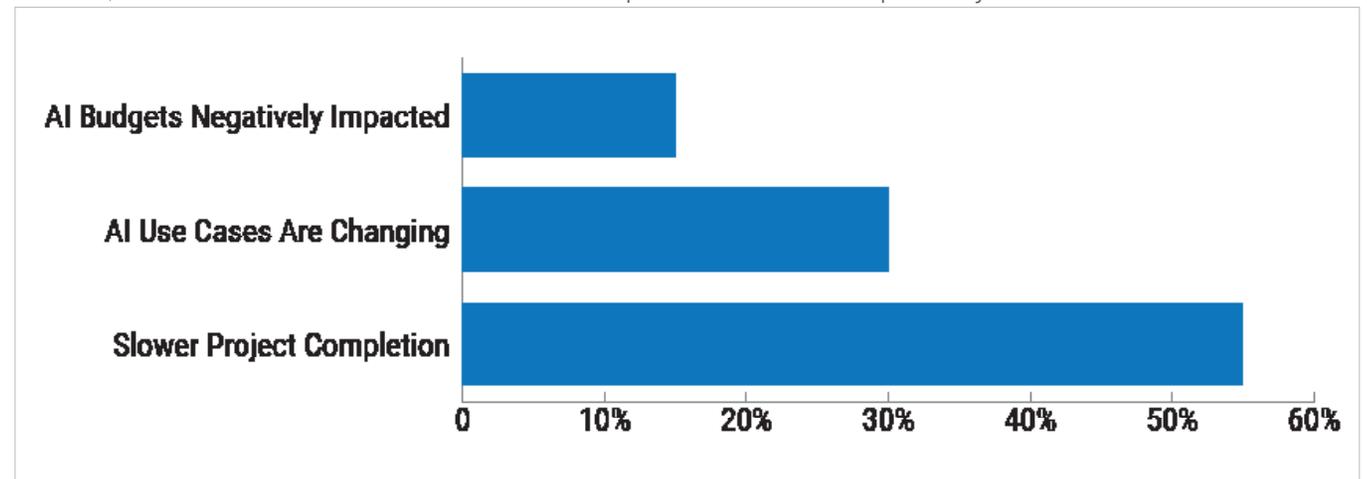
The first poll question shows a clear impact on AI/ML in the insurance industry with nearly 90% of AI/ML projects either re-focusing on new, more critical use-cases or slowing in development time. This trend is also reflective of other industries we have polled in recent months.

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POLL QUESTION 2: Which of the following strategies are you considering for AI/ML in 2020?

(28%) Other

Focus on fewer, critical models (22%)

Hire more expert talent (6%)

(6%) Use non-data scientists for AI/ML

Accelerate ML/AI with new tools (39%)

The second poll question measured how insurance companies were planning on adapting to the new realities of AI/ML development in the current climate. Nearly 40% are exploring investment in tools to accelerate development, while nearly 50% are either focusing on developing fewer models, or are still evaluating their options (other).

DIVING DEEPER

During our breakout sessions we divided the audience into groups and asked four core questions of each group - to then compare the audience feedback. Each participant was asked to comment on these basic questions:

- How has COVID-19 Changed Your Predictive Analytics Priorities (if at all)?
- What are some of the most important use-cases for your industry in this climate?
- What challenges do you strive to overcome? Technical or business?
- What are your top priorities in the next 12 to 18 months for predictive analytics?

KEY TAKEAWAYS:

- Gaining speed & agility is a key goal. Companies want to move away from "temporary" fixes but old technologies are hampering development times.

- Legacy systems & external data are creating possibilities for new use-cases, but also slowing development times.

- Traditional use-cases like churn prediction, fraud management and forecasting are even more important now - but new data sources make developing them complicated.

Below we have highlighted some of the themes that arose during the discussions and that we found were common amongst all the groups participating.

GREATER NEED FOR DETAIL, SPEED & AGILITY

One of the biggest themes across all groups was related to data - specifically, the need for greater detail in developing models that provided more guidance to executives. Attendees mentioned "temporary" fixes like aggregating data to gain insights and the need for leveraging data that would not be normally present in traditional actuarial models. Across all the groups the consensus was that during challenging times like these, speed and agility were keys to success, but that achieving these with traditional AI and Machine Learning development methodologies was problematic and resource intensive.

LEGACY SYSTEMS & EXTERNAL DATA TO DRIVE NEW USE-CASES

Another common theme was the need to integrate external data sources into existing as well as new models, along with the problematic integration from legacy systems - some event mentioned systems built on COBOL - a language prevalent in the 1970s. While centralizing data and building relevant data warehouses was not considered a challenge, integrating and using legacy data was. Similarly, our audience felt a greater need during these times to integrate data from external systems - be it government sourced data or data from sources like weather patterns - to help build predictive models. Once again, the issue of speed and agility was a key concern as attendees discussed the problem of having to test and iterate on new models in dramatically shorter timelines than would be normally expected.

OLD USE-CASES, NEW PROBLEMS

When discussing use-cases, our audience members felt that COVID-19 had introduced new data requirements and new data sets that made creating efficient models more complicated

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and time-consuming. In addition, the sentiment was that traditional use-cases are even more critical during these times. Whether it's predicting possible fraud events or managing customer churn, insurers need to manage risk and AI and Machine Learning powered predictive analytics are an ideal way of achieving these goals. Continuing on an already established theme, speed of execution and delivering models on a timely basis were key concerns for our audience, given the slow and iterative data science process that underlies the development of AI and ML models needed for predictive analytics.

SOFTWARE, STAFF, EXPANSION OF USE CASES

With regards to the question about how our attendees were planning on mitigating the new realities imposed by the changing world in Insurance, most looked to software and automation as possible ways to address their core issues - especially around speed and the need to accelerate iterative processes as companies test and deploy new predictive use-cases. Larger companies were also considering staff augmentation as well as tools, but mid-sized and smaller insurers expressed concerns about pressures on profitability if they could not find ways to adapt new use-cases quickly through automation.

DOTDATA'S TAKE AND RECOMMENDATIONS

The common theme of a need for speed and agility is not surprising. During troubled times companies in all industries must continuously reevaluate what's working and test out new models. The challenges that most insurers face, however, are directly related to how AI and Machine Learning models are typically built. Long, slow development processes are often hamstrung mainly by the feature engineering part of the process - where subject matter experts and data experts collaborate with data scientists to hypothesize, create and test new "features" that will then be used in ML models. Also not surprising is the increased desire to augment

KEY TAKEAWAYS:

- Software and staff augmentation are keys everyone agreed would help - but adding new staff is not easy - especially for mid-sized companies.

- Feature engineering is time consuming, slow and difficult to perform with traditional tools. Automation is the key to accelerating use-cases

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in-house data with new data sources, whether the data lives in legacy systems or in external data sources. The overall common theme during our workshop seemed to be "do more with less, and faster." Of course, achieving this new agility and speed with ML and AI is not easily done. At dotData we've had a lot of experience working with insurers and have had to address similar challenges in the past, here are top five recommendations for adapting to the new post-COVID-19 reality:

UNDERSTAND YOUR DATA

Data is at the heart of success and failure of AI/ML projects. The more data you have, the more likely you are to succeed. Equally important, however, is that you have in-depth knowledge of your data - where it resides, what each column means and why it matters to the business. Having well designed data dictionaries and planning out your data gathering and consolidation plan carefully might take some time, but will result in better models and faster time to results.

PLAN FOR SPEED AND AGILITY FROM THE VERY START

Speed and agility must be baked into your process from the very start. Evaluate all your tools - what parts of the data science process are most time consuming? Where do your developers get stuck? If creating and iterating features for Machine Learning is a bottleneck, consider investing in AutoML 2.0 tools that can automatically create and evaluate features for you -but make sure you evaluate tools carefully, lots of companies promise automated feature engineering, but few can deliver on true, end-to-end automation. Regardless of your tool-set, however, being able to create and test hypotheses quickly and efficiently is critical to success.

INVOLVE LINE OF BUSINESS USERS EARLY

Equally important in your drive for success is to involve your line of business users early and to keep them in the loop. Before you being any project, that means having a clear and

precise understanding of their business goals and how they will measure success or failure of any predictive analytics project. During project development it means having tools that can create clear, easy to understand feature blueprints that provide what are known as "white box" explanations of how your models work. Nothing will sink your project faster than a business user not trusting your model.

DEVELOP, TEST, RINSE, REPEAT

At the heart of any fast and agile model is the ability to make assumptions, test those assumptions and go back to make changes. That means setting up your organization and having the tools that can accelerate and automate as much of your processes as possible. Look for ways to eliminate or minimize the amount of manual "heavy lifting" needed with tools like AutoML 2.0 tools and focus instead on building and evaluating models

ABOUT DOTDATA

dotData Pioneered AutoML 2.0 to help business intelligence professionals add AI/ML models to their BI stacks quickly and easily. Fortune 500 organizations around the world use dotData to accelerate their ML and AI development to drive higher business value. dotData's automated data science platform accelerates ROI and lowers the total cost of ownership by automating the entire data science process that is at the heart of AI/ML. dotData ingests raw business data and uses an AI-based engine to automatically discover meaningful patterns and build ML-ready feature tables from relational, transactional, temporal, geo-locational, and text data. dotData's automated platform discovers patterns, optimizes ML models and makes it easy to deploy predictive algorithms without impacting operational data.

dotData has been recognized as a leader by Forrester in the 2019 New Wave for AutoML platforms. dotData has also been recognized as the "best machine learning platform" for 2019

by the AI breakthrough awards, was named an "emerging vendor to watch" by CRN in the big data space and was named to CB Insights' Top 100 AI Startups in 2020. For more information, visit www.dotdata.com, and join the conversation on Twitter and LinkedIn.

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