The FINDER Project

'Enabling next generation customer insights & interactions in Insurance through explainable AI'

Highlights from the session held at Atos's Inclusive Digital Innovation in Financial Services & Insurance Event Week (15th to the 18th March 2021)

Thought Leadership **Atos**
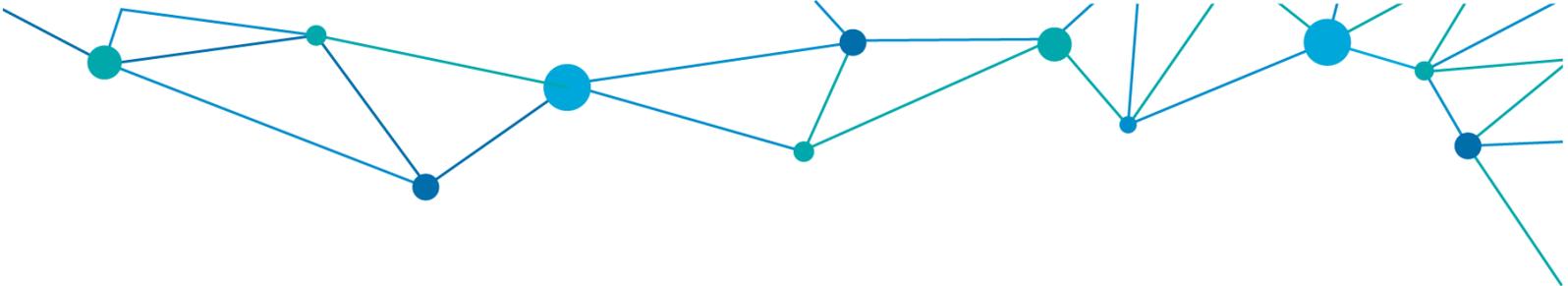
Overview - What did the session cover?
Atos Scaler startup DreamQuark's Customer Interaction platform, Brain, allows insurers and wealth managers to serve their customers with targeted insights and personalized propositions. Relationship managers, advisors and agents can use Brain's predictions to provide better advice to their clients. DreamQuark offers an end-to-end platform that can be deployed rapidly, in a matter of days, to create immediate value.

All of the predictions made by Brain are accompanied by an explanation of the individual decision. This is essential both for the validation of Artificial Intelligence (AI) models by regulators, and for their business efficiency, by helping agents make best use of the predictions. In this session, Jeremie Abiteboul, Chief Technology Advisor at DreamQuark, explored 'explainable' AI and what it could mean for insurers.

Who was on the panel?
Atos Group Industry Director and Member of the Scientific Community, Franck Coisnon, introduced Jeremie Abiteboul and his presentation on explainable AI.

Enabling next generation customer insights and interactions in Insurance through explainable AI
In Jeremie's view, AI will become critical for insurers as they seek to understand, serve and provide the right services to customers through data. The ability to collect more data, service more customers and tailor those services places AI at the center of the insurance experience.

As Jeremie explained, there were many ways in which AI could (and already is) enhancing the customer experience:

- Customer identity verification
  Citibank has launched voice biometrics that analyze unique characteristics in a person's vocal pattern and cross-checks these against a pre-recorded voice print to verify their identity faster
- AI-powered cross-sell/up-sell
  Aviva's AI-powered recommendation engine called "ADA" ranks by probability the products customers are most likely to buy
- Virtual advisor for agents
  Allianz's virtual advisor provides insurance agents with data and advice on product performance and client profiles
- Personalized customer insights
  BNP Paribas has launched an AI mobile app that provides customers with personalized insights and advice to help them better manage their money
- Automated data review
  JPMorgan Chase has introduced an ML-powered chatbot designed to analyze legal documents and extract important data points and clauses to reduce manual effort
- ML-assisted claims processing
  Berkshire Hathaway uses AI-powered data driven insights in its claims process to improve customer experience

Yet, Jeremie also highlighted how AI can be slow, confusing and costly. He said that more than 50% of AI projects never make it into production. That is where DreamQuark comes in. Its customer interaction
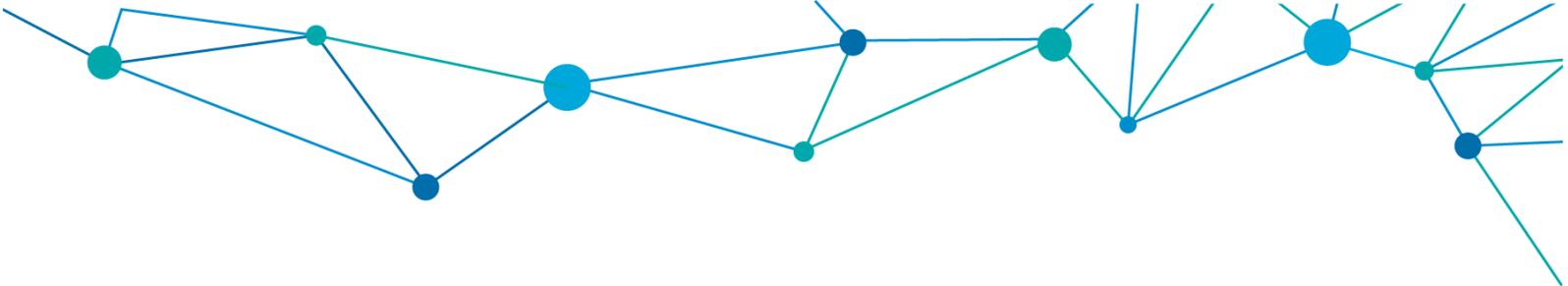
platform, Brain, empowers insurers and wealth managers to make hyper-personalized insights simply and quickly.

He explained that this was not just an idea but something that was already in production. And instead of replacing agents, it was helping them with insights that were understandable. This is where the notion of 'explainable' AI comes in, he said.

Use cases for AI may be unclear but Brain helps insurers and wealth managers to attract and retain clients. While many data projects eat up time and budget, Brain simplifies and automates the creation and maintenance of insights. And while AI is not typically advisor-friendly, Brain's explainable AI makes hyper-personalized insights clear for advisors and easier to act upon.

This form of 'instant intelligence' allows insurers to make simple, smart predictions by turning data into user-friendly insights in a few clicks to guide the 'next best action'. It also provides the reasons behind every recommendation and Brain can be integrated into existing platforms as well as operating as a standalone application.

What are the top use cases for explainable AI?
Jeremie pointed to three particular examples of how explainable AI can support insurers:

1. Cross-sell and up-sell – by predicting which clients will respond best to these opportunities
2. Targeted recommendations – by identifying the clients that are likely to take an interest in a new product and why
3. Churn prevention – by quickly discovering who is likely to leave and why

How does explainable AI work?
Jeremie outlined how Brain helps insurers go from data to insights using explainable AI in three ways:

1. Prepare the data – getting the data ready for modelling and reusing the data to make an infinite number of predictions
2. Predict behavior – deciding what to predict and training customer analysts to create and monitor the models
3. Present insights – empowering advisors to grow and retain their clients by acting on the insights presented

He highlighted the example of churn management for one of DreamQuark's customers. The insurer was seeing an increasing number of customers leaving and they wanted to retain their most profitable clients. The churn rate was as high as 5% in some populations. With explainable AI, the insurer was able to create targeted churn management campaigns. It could reach around 50% of high churn risk customers with just a 10% sample and create churn propensity scores. Importantly, the explainable AI would show the factors that influenced the customers to leave. The model was built in just a few weeks and resulted in a 40% reduction in churn and an up-sell to 17% of customers that were called off the back of the campaign.

Why explainable AI?
The explainable part is about being able to understand the factors that influence customers, Jeremie explained. It enables insurers to build models quickly and see benefits quickly too.
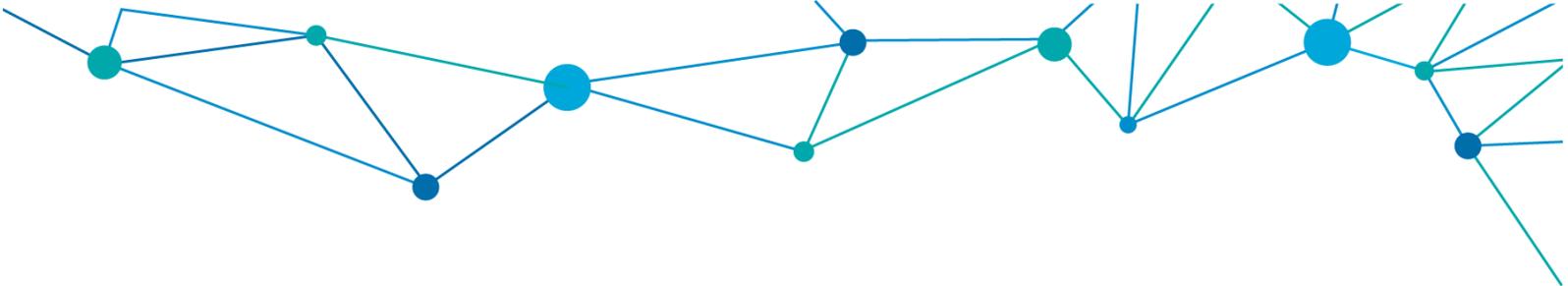
It also relates to the drive towards 'trustworthy' or 'ethical' AI. And this is in line with the European Commission High-Level Expert Group's identification of seven key pillars of trustworthy AI. These pillars may very well find their way into forthcoming regulation affecting the insurance market and demonstrate the maturity already of this approach.

On a global level, the explanation is about a number of other elements too. Model accuracy is not the only metric, Jeremie said. Before going into production, business owners will rely on explainability to:

- Have confidence in the AI
- Validate business relevance of the model
- Check for variables that should not be used
- Discover insights into their data
- Use it for regulatory reporting

At a local level, explainability is about individual decisions coming with a clear rationale, which makes the decisions actionable too. It is also crucial that explainability is focused on the end users – whether they be the advisors at present or the customers in the future.

In drawing his presentation to a close, Jeremie explained that DreamQuark and Atos were working on further work that covers ethical issues, guiding principles for AI and concrete applications for ethical and trustworthy AI.

The key takeaways, he said, were that explainable AI could improve the customer experience and drive immediate benefits for insurers. The regulation for applying AI in insurance is already forthcoming and will demand explainability. Any transparency in AI models makes them operational, rather than simply ideas. And there is a growing importance placed on trustworthy and explainable AI in general that make it imperative for insurers exploring AI use cases.

Panel discussion
To end the session, Franck Coisnon re-joined Jeremie Abiteboul to answer questions on explainable AI.

*Q1. When speaking to customers, how important is this topic?*
It's really changing at the moment. We have been working on it for 4-5 years. At first it didn't ring too many bells for insurers. But when we could put the models in place then they could 'see' the benefits. It has become clear that the regulation is coming. So that is also making it very important for insurers.

Q2. Is customer trust key to adoption of AI?
This is definitely key to adoption but I would say customers only really understand this afterwards.

Q3. What is your view on the level of maturity in the insurance sector in terms of AI?
It depends on the actors. Some have great tooling and teams and have been successfully delivering AI for a while. Others are still struggling with digitalization and it is too early for them. Most are in between. They have data and have done experiments that were successful. Now they want to get AI into production.
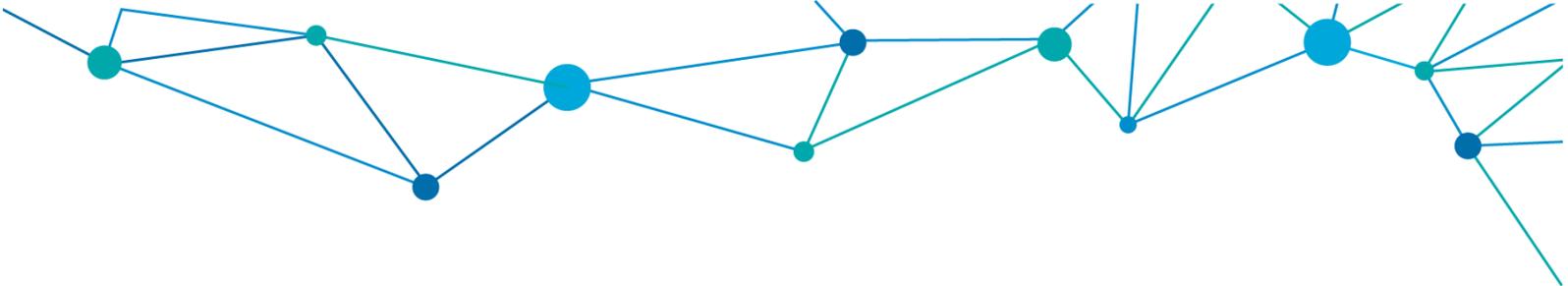
Q4. How to move forward with AI – just pick the right use case to deliver ROI or is the reality different and insurers must think more strategically?

Yes, strategically. But making sure you have the right use cases is critical first step. AI for AI's sake isn't the right approach. AI – well, explainable AI – has to be at the heart of a strategy to work.

Q5. When you are talking of regulation, how do you incorporate it in your own data security?

EU rules and the GDPR in particular are challenges. From the AI point of view, more data means better predictions. But regulation means there are restrictions on data. At DreamQuark, we are careful about data security. Like minimizing personal data if you don't need it. There is a technical aspect too when deploying your platform to focus on security in either the public or private cloud. We also have developed a tool for data obfuscation to scramble data before it goes into the cloud. Because making AI operational and efficient means going to the cloud.

Franck highlighted customers asking about the risk of data 'leaving the organization'. *So, this raises the question of what to do in the algorithm. The technical possibilities to hide the data can solve these fears or risks. But the culture is important too. The customer has to be confident that when they put data in the public cloud it is no worse than the private cloud if there is an attack. Confidence is key and this will take some time.*

Q6. Are there use cases DreamQuark is looking into that facilitate new business models (by being a new business model themselves like Insurance-as-a-Service or Open Insurance)?

That's not what DreamQuark does. We want to integrate into existing processes. Our feeling is this is where explainable AI works better. We are not directly doing this, but we are helping providers to develop new models themselves. For example, sustainable investment in banking with ESG data. So, helping banks target the right customers for this through hyper-personalized recommendations of these products to existing customers. It's not a new business model but it is helping banks go in a different direction.

Q7. In terms of maturity, what is the key success factor for integrating AI within insurers?

The business case. Addressing the business points influencing growth (for example, churn or up-sell). And having the right people involved. Like the business owners. If it is happening in an AI innovation team it may not drive value. The second factor is the data. This needs to be available for scoring. The third factor is often forgotten but it's about being able to go into production. Many AI models will fail if they are built by data scientists and no one is using them by integrating them into a process. This discussion needs to happen early. Speed and industrialization are important.

Q8. Will DreamQuark develop a better solution on the data collection for insurers?

Not now. But it is an interesting point. It is not always true that insurers have the right data or can collect or centralize it.

Franck highlighted how Atos has seen this too. *Some clients have Big Data lakes but have no clue about the use case. But the truth is there is a need to focus on the middle – the data management that is key across departments and systems. Afterwards, we can connect the data layer to the AI platform. That's our role – to work on the integration.*
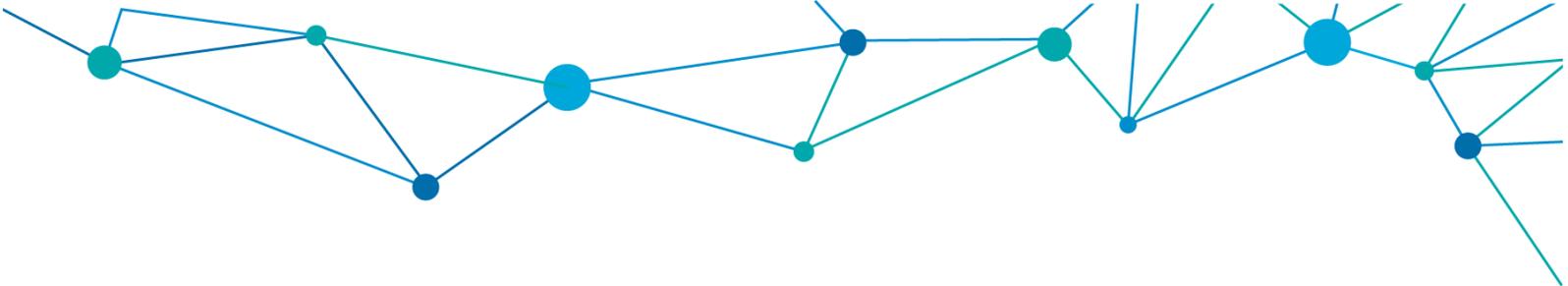
Q9. How does AI take down the barriers for collaboration between incumbents and newcomers?
It's a good question. One thing I can say (although it may disappear in the coming years), is that the neo banks are starting with modern tech and good data collection and they are maybe more data-centric. They might have an advantage for now.

Q10. Mitigating bias in AI is extremely important but how can an AI company do this? Who polices the police?
You can never be sure. The Google/Timnit Gebru example is the same. Same with Apple Card. Despite exactly the same profile, the AI gave a man credit but not a woman. What we try to do – and there is ongoing research – is to make sure the people building the AI can correct it afterwards. They check it, for example, for gender bias. They score it and then correct it if necessary. You can't check for everything, otherwise it's not working. But you can provide the tools to check. It's difficult to tell what's coming from the data and what's coming from the model too. The good thing is the regulator is looking at this and, as a minimum, all players will have to follow its rules.

Q11. What do you expect will be the influence of GAIA-X to DreamQuark as a specialist AI provider?
We are involved in the GAIA-X AI workstream and it is too early to tell what will come out of the project. But I am hoping it will set some standards. In this field, there are people doing different things and sharing needs to improve. If you are building something in financial services and insurance, this is what you should do, be transparent and present this to the customer – both in terms of the software providers like us and in terms of the banks and insurers too.

About the Event
This session took place as part of Atos's 'Inclusive Digital Innovation in Financial Services & Insurance Event Week' (15th to the 18th March 2021). This is part of Atos and Radboud University's joint initiative FINDER (https://thefinderproject.eu/), funded by the European Commission.

The COVID-19 pandemic has been a catalyst for digital adoption across various aspects of our private and professional life. In the financial services and insurance industry, processes are increasingly tackled by leveraging data, machine-learning, and FinTechs/InsurTechs. Atos joined forces with practitioners, academics, and policy-makers to discuss how to yield benefits from these developments by re-positioning banks in the ecosystem, using Artificial Intelligence in insurance, mitigating risks in new venture collaborations and exploring the opportunities of the European GAIA-X project.