

The Potentials and Pitfalls of Applying AI in the Financial Industry

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Andreas Burner, CIO of SmartStream Technologies, has over 20 years of experience in building financial service solutions for top international banks. His mission is to establish a culture of innovation within SmartStream. TFT's Charley Brooke Barnett spoke to Andreas about the SmartStream Innovation Lab and his team's work with Artificial Intelligence.

Charley: To what extent can AI influence the banking sector?



Andreas Burner, CIO of SmartStream Technologies

Andreas: That's a really good question. My AI expertise comes originally from my research on medical images, where we've successfully used AI and machine learning for quite some time now. In the banking sector, it's quite new to use machine learning and AI, but it's a great place to apply it.

The reason why it is so great for banks is if you look at how much data is processed and stored it's absolutely enormous. By law, banks must keep all data for audit purposes for many years. In that data there is a lot of knowledge, not only the application data but also the counterparties data. Furthermore there are recorded user actions, for example, what is considered to be a regular situation or what is an exception and requires a manual intervention. Also there is data for how a user specifically reacted to a certain exception. And that's great when applying AI to the banking sector as machine learning needs lots of data and it is stored and ready to use because of these audit

requirements.

Charley: What are the main risks of AI adoption and how can these be lessened?

Andreas: There are two main risks, I think. Firstly, many big corporates try to apply AI and machine learning on data that is distributed throughout their organisation. Their goal is to consolidate their data and make sense of it. The hope is to better understand the clients and products and then be able to fine tune their offerings. What we see at the moment is that many AI projects are failing, however, it's not so much AI or machine learning that causes the problems. Lots of big projects fail as it's really tough in big corporates to get the data in good quality to one place. I think what we see in the news about machine learning or AI projects failing is based on that. It's really hard to get the data consolidated and reconciled.

In SmartStream, we have a different and very focused approach. Our goal is to incorporate AI technology very specifically into our products. By doing so, the AI technology we have developed is extracting knowledge from our own application and making sense of data that we already know and possess. There is no need to consolidate data from different locations and therefore it's a much leaner approach that's easier to manage. Our current AI projects work great and the big benefit is that we can offer our clients a good business case by just upgrading their applications to the latest version.

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The second risk is that there are many developers that want to go into AI and machine learning technology, but they do not have much experience. There are lots of quick start courses to learn AI, however, mastering AI requires years and it is tough for companies to find skilled people that know where to apply what AI technology. Applying the wrong technology can be very harmful. In SmartStream we feel very lucky that in our Innovation Lab we have highly skilled and experienced people to work on this subject.

Also, there is this ongoing discussion about interpretability, as many AI methods are like a black box. They will give results but they do not provide reasoning and why they came up with that response. In banking, that's dangerous. You can't just have AIs making decisions without explanation. Developers need to be extra careful in applying the right technology to the right problem. There is a high demand of good developers and the market of competent and skilled people is very small.

Charley: Do your clients embrace or resist AI?

Andreas: Interestingly, that's a bit like the cloud discussions in the beginning, where banks argued that they will not use cloud applications because their data is then outside of their control. In the meanwhile, that has changed and almost every bank is using cloud infrastructure because it is now understood that it is making things easier, better and faster. Also SmartStream's cloud offering is being used more now than ever before. It proves that if there is a business case and if the technology is used in the right way, it will find acceptance.

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At the moment it's the same with AI and machine learning. A few years ago, everyone argued that we cannot let AI make decisions in the financial industry, it might be too risky. Since then data scientists have proven that applying AI in the right way causes no danger. We are at a point now where banks understand AI has a huge business potential. It typically allows quicker response times than ever before, can predict data, can increase the quality and gives a better understanding of workflows, data, and customers. Banks are profit oriented and they are continuously looking for potential business cases, and there are a lot when applying AI. We see plenty of interest in our innovation projects and if we can give our customers the confidence that we apply AI and machine learning in the right way and showcase how it is useful for them, then they will adopt our innovations.

Charley: What tangible benefits will AI bring to your clients?

Andreas: SmartStream has a very nice and lean approach for delivering innovations to our customers. Currently, more than 2,000 financial institutions are using our software products and the main question we have been asking ourselves is how can we bring the benefits of AI to all of our customers? The strategy we chose is to prototype our innovations with a small number of clients and if these projects are successful, we integrate the newly developed technology into our existing products so that a wide range of clients can benefit from it. By now we have done several AI prototypes that performed very well, and the projects have been very successful. We are working right now to incorporate these technologies into our products. Later this year SmartStream will release new versions of several products and our clients can simply upgrade their installations and then can use machine learning and AI technology out of the box. For our reconciliation solutions, for example, this means that our clients will see a boost of their matching rates as the integrated AI is continuously optimising the matching logic to compute better results.

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Charley: What are SmartStream investing in right now?

Andreas: Our biggest investment at the moment is SmartStream's Innovation Lab in Vienna where our researchers have the freedom to rethink how our products can be used in daily business and then try to inject modern technology at the right points. Using clever technology in the background has severe consequences for the whole design of an application. For example, a user interface for an AI powered application has to be designed in a smart way that it hides the underlying complexity from the user and only shows useful information. During the last year SmartStream has been working on AI, machine learning and blockchain and its related technologies. We are now at the stage where we see that our ideas are working and we get very positive feedback from our customers who have been developing and testing our prototypes.

At the moment we're busily integrating the successful prototypes into our standard products and later this year we'll be announcing the new product features and releasing this fantastic technology so that all our customers can benefit from it.