

AI, Big Data, Digitisation, Blockchain: The fintech that will dominate 2018

By Cliff Moyce | 10 January 2018

Global technology consultancy DataArt expects to see a handful of financial technology (fintech) trends that emerged in 2017 to strengthen significantly in 2018. In particular, the growth of Artificial Intelligence (AI) in the industry will be exponential for three main reasons; hugely increased opportunities for improved customer centricity; ability to ease the regularity reporting burden through AI enabled 'RegTech'; and massively improved cyber-security and data protection. DataArt also expects to see the same growth in blockchain as firms wake up to the huge cost savings and security benefits from distributed ledger technology, and performance problems associated with original Blockchain technology start to be solved. Here are DataArt's technology predictions in full:

Artificial Intelligence (AI) will be the industry game changer, but it will not come without problems as the current industry wide skills gap turns into a 'war for talent'. We are seeing that war already in one of the biggest users of AI: cyber-security. Information Systems Audit and Control Association (ISACA) predicts two million hard to fill vacancies in this one area of AI alone by 2019. AI skills that will be most sought will include adaptive software development; speech and face recognition; artificial neural networks; pattern recognition; deep learning; and Big Data. Early adopters will have an advantage in getting talent onboard before the biggest demands hit in mid 2018; but, even they will need to work hard to keep people as the slower moving 'big brands' try to lure people away. Expect to see 'double your salary' type offers appearing by summer 2018. By the summer we should also see an end to scare-mongering about the threat to jobs from AI as the truth is revealed and it is seen to be a huge driver of technology, operations, and hi-tech engineering jobs. If technology led to wholesale job losses then we should all be unemployed as a result of steam engines, electricity, machine automation, computers, the internet etc. Remember: AI largely does not do the work that the people do; it does the work that people *cannot* do. If not that stark, then it does current work far better – in the same way that spreadsheets were an improvement over desktop calculators etc. So why will next year be the year of AI? AI techniques such as pattern recognition, machine learning (ML), and fuzzy logic are already at the core of cybersecurity tools. What will change for

cybersecurity will be the complexity and power of AI applications being developed to keep financial and personal data safe. Remember, the bad guys have access to the same technologies, so that arms race will also go exponential in 2018. What will also happen is that the current low-level use of machine learning for financial data parsing will sky-rocket, particularly in terms of parsing unstructured data such as company news and news on the customers of companies (the next big area for improved investment and risk management). AI will continue to drive the regtech revolution, thus helping firms to better-handle the burden of regulatory reporting. Part of the regulatory benefits of AI will come from its ability to help in **Avoiding the Next Crash**, as AI starts to be used increasingly to understand the risk of contagion in financial markets. With AI, we have at last the opportunity to model and understand global inter-firm and inter-market risk in a way that was not feasible previously. Regulatory reporting will soon be seen as old hat and ineffective in the battle to protect global economies, with AI as the way forward. AI will not only play a huge role in understanding and mitigating inter-firm risk, it will also play an increasing role in some aspects of **Operational Risk Management (ORM)**. ORM covers IT infrastructure and operations; cybersecurity; data protection; regulatory compliance; fraud; Anti Money Laundering (AML), Counter Terrorist Financing (CTF), and sanctions compliance; conduct risk; outsourcing; geopolitical issues; and, physical attack. Machine learning, fuzzy logic and pattern recognition are already playing a big role in the first seven items on this list, and their role will grow. ORM failures will increasingly cause more executives to lose their jobs as it takes on greater importance in the eyes of customers and regulators, and this will help drive the search for better (AI based) solutions to help model risk across the enterprise.

In order for AI and ML technologies to work at maximum efficiency, firms need unrestricted access to large amounts of customer and market data. This will further drive a big trend of the last ten years: **Big Data**. New AI frameworks will be able to store, consume and use enormous amounts of data in a way that could only be conjectured five years ago. Thus, the volume, diversity and quality of data sources will play a big part in the success of AI solutions and business models. Cross-domain exchange of data will become the norm, and we will see strong growth in solutions focused on aggregating and exchanging user data. Hence, we will see even more importance given to **Data Security, Data Regulation and Data Breach Prevention**. Finding the right balance between giving AI solutions all the data they need, and protecting that data will become increasingly important and increasingly complex. Regulators will need to accelerate their understanding of the implications arising from using AI based data solutions. For firms in all industries (not just financial services and capital markets) multi-layered data systems will be essential to protect data. In these systems, user data are stored in separated data protection layers e.g some data are held in an open form; some are held in an aggregated or masked state; while the most sensitive data are stored in a highly protected

mode. Though protecting data might seem like a straightforward mechanical process, new complexities will arise from AI data manipulation e.g at what point of extrapolation and manipulation does my data stop being my data? How easy will it be for other AI solutions to reverse-engineer heavily analysed and manipulated data back to source? Could reconstituting anonymised and encrypted data back to original data simply become a rather easy probability based problem for other AI solutions to crack?

Another strong trend in 2018 will be the importance of **Digitisation** in achieving best possible **User Experience (UX)**. With most people using high quality digital apps on their phones, tablets and PC's in all areas of their lives (personal and professional) on a daily basis, financial services and capital markets can no longer get away with anything less. 1990's style web-based online banking etc needs to be ditched ASAP if customers are to be retained. If Uber can tell us all where the car is, who is driving it, how long it will take to arrive etc, people are right to expect to have the same level of visibility into their insurance claim. From 2018, people will expect as standard, omni-channel, consumer-centric solutions with absolute transparency of process and price. Nothing else will do. One last prediction: in 2018, we could see a huge breakthrough in the performance problems that have constrained the growth of **Blockchain**. Those problems will be addressed by combining blockchain with other new technologies, such as Internet of Things (IoT) and Big Data. In 2018, we will also increasingly see blockchain as solution to cybersecurity and personal data protection through new confidential solutions based on zero-knowledge proofs, ring signatures, and new principles of data organisations.

In summary, financial services and capital markets are about to go through a fintech driven revolution last seen with the adoption of computer and internet based automation from the 1980's thru the 1990's. Artificial Intelligence will be at the forefront of that revolution, but blockchain, IoT, and new data models – combined with vastly increased expectations of digitalisation from customers – will also play a big role.

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