Finextra

Data volume: Turning a data problem into a business opportunity

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15 years ago, innovation had stalled. Banks were licking their compliance wounds, hedge funds came into existence because of arbitrage around capital adequacy and risk, and innovators became frustrated at the lack of creativity around customer servicing.

The post-financial crisis fintech evolution provided customers with what they required at the time. However, today, while it could be argued that banks are not innovating to the extent that they could be, they remain the catalyst for digital transformation and ultimately, the guardians of data.

Banks cannot innovate independently; to obtain successful outcomes, financial institutions must innovate in association and in partnership with fintech firms.

What is a bank's biggest technology issue today?

According to Vincent Kilcoyne, EVP head of product management at SmartStream, the problem is actually a technology and an operational challenge.

"In order for a bank or any organisation to test ideas, they need to be able to gain access to data and technology to build analytical models to test their hypotheses," Kilcoyne highlights. Fintech firms, on the other hand, do not have this difficulty because they were founded on this premise and are constantly testing ideas.

Banks do not and cannot operate with a fail fast mentality. When a bank wants to test a new idea, they must procure access to:

- Data,
- Technology, and
- Cloud environments.

Are banks already using reliable data?

A 2020 Statista survey revealed that data creation globally was likely to grow to more than 180 zettabytes by 2025. However, the financial services industry remains information poor.

Virginie O'Shea, founder of Firebrand Research, posits that "data reliability is at the core of any risk management, business decision making, regulatory compliance or client support function - without it, your firm faces the reputational risk of providing inaccurate information and making the wrong decisions."

While banks are aware they have a data problem, they do not have the greatest level of internal innovation to resolve it due to the constraints around procuring technologies and the skillset required. However, the wealth isn't in the data.

Kilcoyne adds: "most banks think that they need to be able to look at the data to tell what to do next. In some cases, banks need the data to tell them where the problems are. However, all these problems require substantial quantities of elastic compute, hardware, and vast quantities of data."

He continues to say that "if banks set out with a detailed understanding of the forensic origins of the data and how it came into existence, banks could then improve the quality of that data. Banks can find the correct data to augment and enhance what they've got to avoid false positives or false negatives.

"It's a multi-disciplinary challenge that with access to technology, cloud can address with its agility, scalability, and speed."

What can be done to overcome the data challenge?

For banks, the sheer amount of data is starting to become a substantial challenge, not only in terms of the volume, but also in terms of the quality. Banks are now asking: how do I make sure that data is mobilised and usable? Can this problem truly be turned into an opportunity?

Speaking to Finextra on this topic, John Kain, head of worldwide financial services business development at AWS, believes that it can indeed become a fruitful opportunity.

"We're seeing many of our customers leverage the cloud to build scalable and flexible data lakes as part of their data strategy to ingest, store, and analyse all types of data – structured, semi-structured, and unstructured – at speed and scale. They are enabling data analysts and data scientists with the ability to access the data in real-time, experiment with new ideas, make better decisions, and drive new innovations."

Using US mortgage loan company Fannie Mae as an example, Kain adds that this firm leverages data from multiple sources, both internal and external, to better understand the credit worthiness of borrowers, property values, home price dynamics, and macro-economic trends for millions of loans.

“Fannie Mae also incorporates alternative data sources such as rent payments (which are not traditionally included as part of your credit history) to provide a more accurate credit assessment of borrowers, and ultimately provide more equitable lending and access to credit for historically underserved populations.” This is just one example of many, where financial institutions have leveraged big data to drive innovation within the industry.

Doubling down on the availability, of lack thereof, of quality data prevalent in the banking industry, Kain also says that while banks are using reliable data, “as data changes and the data sources they leverage continue to grow, it is an ongoing challenge.

“Managing security, access control, and audit trails across all of the data stores in your organisation is complex, time consuming, and error-prone.” Cloud providers like AWS can provide their customers with the governance capability to manage access to all their data across their data lake and purpose-built data stores from a single place.

Banks must no longer silo data and become data driven organisations.

How to become a data driven organisation

- Break down data siloes
- Have the right governance
- Leverage analytics tools to obtain insights at a faster rate
- Integrate so data can move seamlessly

A good example of a data driven organisation would be UK based bank OakNorth, that leverages AWS to rapidly spin up resources needed to train and test new models, which has translated into faster innovation that benefits its customers.

OakNorth uses big data and machine learning to collaborate with banks and lenders outside of the UK, enabling them to unlock the potential in customised loans to medium-sized businesses, Kain explains.

He goes on to say that analytics leaders at banks are also tapping into the expanding ecosystem of data products as building blocks for insights. Data providers such as Bloomberg are leveraging the cloud network to deliver real-time market data to their customers’ cloud environments. In addition to this, banks like BBVA, are consuming the Bloomberg B-Pipe data directly into their cloud environment to enhance their risk management capabilities and expand the range of services they can offer to their clients.

O'Shea adds that "in terms of data challenges, there are certainly many business cases to be made for investment in technology to help firms tackle data governance and data management problems they may be facing. Budgets are most easily built around revenue generating opportunities such as new data services or improved client stickiness. However, firms have also gone the regulatory budget route to address data issues in the past."

Where does technology play a part?

According to O'Shea: "You can't address problems with technology alone I'm afraid. There needs to be a focus from the business and commitment to data governance and the introduction of data stewards to ensure data remains fit for purpose over time. Technology tools can help but they can't address firm culture.

"Technology can help firms identify data quality issues and manage their data sets more actively to ensure they remain consistent, accurate and complete enough for their various uses across the business."

Technology must be used to create value. Every technology-led firm must now practice an agile methodology, leaving the burdens of waterfall methodology behind. With developers increasingly only working on internet applications under financial and competitive pressure to bring new features to market at a faster rate, the ability to manage constant change must be prioritised.

Further, collaboration over documentation and self-organisation rather than rigid management practices is key. Kilcoyne believes that organisations that have embraced agile methodology will move forward successfully.

"Bank and non-bank enterprises will increasingly realise that the combination of expertise will not only be useful for operations, but also for data and analytical techniques. This is what is required to drive relevant improvements and relevant outcomes.

"The ability to deploy and spool up elastic environments to onboard the vast quantities of data – structured, semi-structured and unstructured – is important. You've got to be able to bring all of those together to give you a fully holistic view of your data and run complex and forensic level analysis to understand the DNA of the organisation painlessly."

Kilcoyne explains that the only way to do this efficiently is through the adoption of non-structured data storage techniques, but the fundamental driver here must be a high-quality outcome, without sticker shock.

"You cannot have a massive cost associated with innovation. The cost of the innovation cannot be higher than the actual benefit derived from the outcome," Kilcoyne stated.

What role must machine learning play in innovating the back office?

While the cloud offers financial services companies the ability to aggregate vast volumes of data and implement advanced analytics to drive actionable insights, machine learning technologies can be utilised to gain deeper insights into customer banking needs and delivered personalised experiences.

Using Itaú Unibanco as an example, Kain explores how the bank is using machine learning to identify patterns in an individual customer's banking habits and then use that information to help the bank's customer service chatbots to proactively offer assistance and deliver faster and more precise answers to the customer's questions.

Kain says: "Firms can thrive with modern data analytics, and, in a way, automation is a form of liberty, since shifting manual tasks to automation enables organisations to offload undifferentiated heavy lifting to AWS and focus on their core business and customers."

For O'Shea, "it is still relatively early days for AI and ML in post-trade - some firms have been experimenting with it but they are often hesitant to adopt it. No firm wants a black box approach, so as-long-as it is well-understood by the business and used for appropriate tasks such as pattern recognition to improve workflow or reduce errors, it works well."

Kilcoyne states that the volume of unstructured data will continue to grow for the industry, however this doesn't necessarily need to be a problem for firms if it's managed correctly.

He concludes: "SmartStream is already making significant progress in our Innovations Lab and the results have been very encouraging. With the deep analysis of real industry data our team of data scientists' have been developing a range of AI and machine learning business cases. The introduction of these new technologies in our solutions forms the backbone of our strategy, with the aim of introducing even greater scalability and cost savings for our customers."