

Evolution of Data at the Buy-Side

Evolving technologies are now making fundamental changes to the way firms acquire and use data – to seek better investment opportunities and also to trade more effectively. But how?

Here, we briefly explain how industry participants – both consumers and data vendors – are responding to these technologies to change the way they do business – and ask the question: Is it worth it?

Changing Technologies

If you look at how some of the innovators at the Buy-Side are re-organising themselves you will see an increased focus on data. Resources are being dedicated to acquiring new data types to get better insights and potentially the edge to get better return on investment. To understand how firms are changing the types of data they use and the way they use it, we need to dig deeper into the technologies that can process it because this is the principal enabler for this transformation.

Machine Learning & AI

Machine Learning (ML) and Artificial Intelligence (AI) have both been referred to as the next technology that will transform the financial services sector. Unlike the advent of blockchain where its utility was originally less clear beyond cryptocurrencies, AI and ML had some very clear business benefits right from the outset. Given that the financial markets are principally data driven and Machine Learning programmes have the ability to process huge amounts of that data – structured or unstructured - this should be the perfect technology to seek out the patterns we look for to make decisions, detect events or spot opportunities in the markets.

Clearly this can bring value to a fund manager by making investment recommendations or help a compliance department spot inappropriate trading or suspicious money transfers – but only with the right training and programming.

That is where the Data Scientists, Quants and Data Analysts come in – many from other industries which have already adopted these technologies to analyse huge data sets - to predict retail buying behaviour for example.

Before starting on any ML/AI programming, there is often a significant effort in setting up data - as well as access to the right infrastructure too: networks, storage, compute power and the raw analytical tools to conduct the analysis. In the past setting these environments up have required huge amounts of effort and financial resources to acquire the right hardware.

But this is where other technology developments are making a difference – in the cloud.

Cloud Platforms

Public cloud providers like Amazon Web Services, Google Cloud Platform and Microsoft Azure are transforming the way that infrastructure resources can be utilised. Access to global networks with gigabit bandwidth, millions of compute cores and Exabytes of storage (1,000,000+ Giga bytes) on demand and available in minutes means that firms have near limitless resources to process workflows or analyse data. There is no hardware to buy and rack up, no network cables to patch, no operating system to install – its all done through configuration and scripts.

This means that building and deploying even the standard financial applications – Market Data Systems, Order Management Systems, Execution Management Systems and Risk Management Systems – are infinitely easier. And because these resources are available on demand – once their utility is finished – infrastructure is just released back to the provider – making these now cheap resources even more cost effective.

It doesn't stop there: the cloud providers have gone further to ensure that all of these resources are seamlessly accessible to legacy analytical tools and modern AI/ML capabilities alike - allowing the industry to build powerful analytical applications they need, in the analytical languages they want, with almost unlimited power.

What does this mean? Almost any data type and any amount of data is now open to computer interpretation. For example: satellite imagery interpretation, once the sole domain of military intelligence and their supercomputers, now becomes available

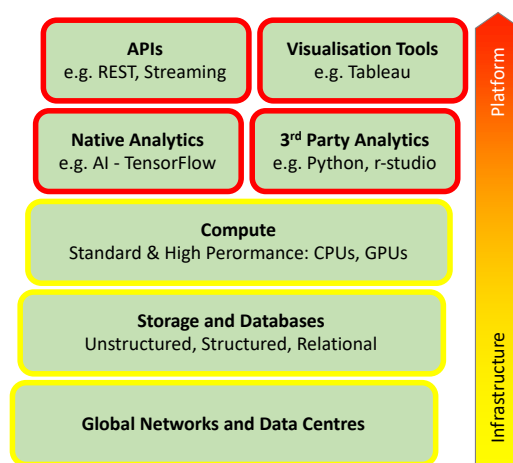


Figure 1: Increasing value of Cloud Providers

to anyone who wants it – check out Google Clouds ML Approach to Understanding Satellite Imagery - <https://www.youtube.com/watch?v=5PNnPagENxQ>

Rise of the Independent Desktop Container

Alongside the improvement of analytic capabilities, another key development for the industry has been the growth in use of desktop container technologies from firms like OpenFin and ChartiIQ (with Finsemble). Rather than accepting what Bloomberg or Refinitiv choose to offer in their desktop terminal, these desktop applications effectively come empty with no data or application components; they allow firms to independently chose what components to put in the container.



Figure 2: Flexible desktops with OpenFin
Image Credit: OpenFin

It might be market data, news, charting and an Execution Management System, all from different vendors but all brought together into the same user interface and all interacting with each other.

This clearly has benefits for the user from both a business and commercial perspective - as choices can be made on what is needed rather than what is bundled in a vendor terminal.

These container applications also look after user management and security, so represent a realistic alternative to the incumbent desktop vendors and offer the opportunity to integrate external applications with internal ones too.

So is this really a mainstream technology? OpenFin tell us they already have over 1,200 apps deployed to over 1,500 banks and buy-side customers in over 60 countries. The numbers speak for themselves.

Market Response

With all this analytical capability – the AI/ML capability combined with limitless resources, suddenly the scope of relevant data becomes much wider. It's not just Market Data, News and Company Reports – its near real-time foot-fall reports at shopping centres, the number of cars in car-parks outside retail outlets in satellite imagery, it's the live broadcast feed from the Bank of England, the twitter accounts of market analysts.. The list goes on.

Suddenly all sorts of new data has become relevant; alternative data, as it's known, is becoming the norm.

Vendor Response

With a market for alternative data, niche players and global platforms alike are recognising that data that has been collected as part of their own course of business (outside the financial sector), now has a new value for the financial sector too. Providers of satellite imagery, surveillance feeds, social media, shipping data, storage capacity planning data are now looking for ways to sell that it through a number of channels:

- **Direct:** Direct approach to the buy-side/sell-side
- **Data Market Places:** On-line data malls (e.g. open Factset™: <https://open.factset.com/en-us>)

Added to that - these data providers are no longer constrained by the traditional methods for distributing data – they too can use the cloud, and its power, to distribute data directly to the consumer.

With more and more data packages from these new vendors and more versatile technologies to bring data back together at the consumer end (buy-side or sell-side) – this is starting to make the incumbent data vendors think about repackaging data sets so users can pick and choose what they need in the terminal or through data feeds.

Take a look at the recent announcement from FactSet for example:

<https://www.factset.com/news/2019/11/12/factset28r29launchesworkstationonopenfin>

What does this mean for the Buy-Side

Ultimately this means more flexibility for the Buy-Side and innovators – whether long-only investors or quant driven hedge funds – are now actively investigating how they can take advantage of these new data sets, commercial models and technologies. Some already achieving some levels of success..

Investment Decisions

MiFID II caused a significant amount of upheaval in the research data space: the sell-side were no longer able to bundle data costs with their execution costs. So the Buy-Side needed to explicitly pay for the data – either out of their own pocket or explicitly charge back to the fund they manage (an option which has been unpopular).

So these potential technical and commercial changes, allowing firms to help themselves to more data and draw their own conclusions certainly seem attractive.

Some firms are already putting aside seven figure budgets to use alternative data, with dedicated teams assessing the usefulness of each relevant data type in conjunction with Portfolio Managers.

How successful has this been? For some firms this has proved useful and provided some positive returns, although, some are already complaining that this space is already getting crowded: **Quants Sound Alarm as Everyone Chases Same Alternative Data (Bloomberg – 28 June 2020)** - <https://finance.yahoo.com/news/quants-sound-warning-everyone-chases-080219143.html>

There is also a danger that, with all of these small data packages out there, that the sum of the parts end up being more expensive than the old bundled packages. The value of the data may end up being worth it but the overall cost should certainly be considered carefully.

As far as success stories for the use of AI and Machine Learning to deliver entire investment strategies – these are starting to become more numerous as more and more hedge funds leverage cloud technologies to quickly build the infrastructure they need to succeed. However, nobody talks about the failures – and given the recent events due to the Covid-19 Pandemic – it will be interesting to see how effective these Machine Learning models have been in recent months.

Dealing

Changes for the Trading Desks are a little more nuanced. Certainly, competition for the desktop real estate is starting to hot up with some realistic alternatives to the ever present Bloomberg terminal by using the desktop containers like OpenFin to access data sets from other vendors.

New EMS vendors are looking to challenge space on the desktop by leveraging cloud infrastructure to not only deliver the trading capability but also all the necessary market data as well. Watch Theta Trading Technologies – a good example of a market challenging platform for multi-asset execution with 3rd party datasets built in.

But with so much focus on Best Execution and the need to explain an execution strategy for each order if challenges, it may be some time before execution is handed over to Artificial Intelligence or Machine Learning even with Explainable AI (e.g. <https://cloud.google.com/explainable-ai>).

Conclusions

With so much movement on the data and technology front, it is understandable, for many of those who haven't ventured into this new changing world, that there isn't a clear picture of where to start on this journey. There are clearly success stories out there - but these industry developments may not benefit every firm today or even in the future.

A strong business case must be built based on benefit analysis and the cost/risk of change. Understanding how to navigate the technology and commercial options out there, so that they meet the need of a buy-side business and its investment strategies, will need close collaboration between Market Data, IT and Business Managers and potentially with some outside help to at least catalyse the discussion.