Best Execution

## The best of both worlds : Lynn Strongin Dodds.

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AI and machine learning are gaining traction, but the human element should not be underestimated. Lynn Strongin Dodds reports.

Artificial intelligence (AI) and machine learning have generated a great deal of buzz over the past few years and market participants have held their collective breath waiting for their potential to be filled. It was never going to be an overnight revolution, but the pandemic has lit a fire under institutions who were reluctant to take the plunge. Compressed margins and intense competition are forcing them to look to technologies that not only create greater efficiencies but also sharpen their edges.

"It is always difficult to drive change, but AI is one of today's hottest subjects since it has transformed most industries in recent years, including the asset management industry," says Stefan Tittel, CEO of Quantumrock, "The pandemic made people realise that they needed to do something now. As with many things, these trends were already happening, but the pandemic was an accelerator."

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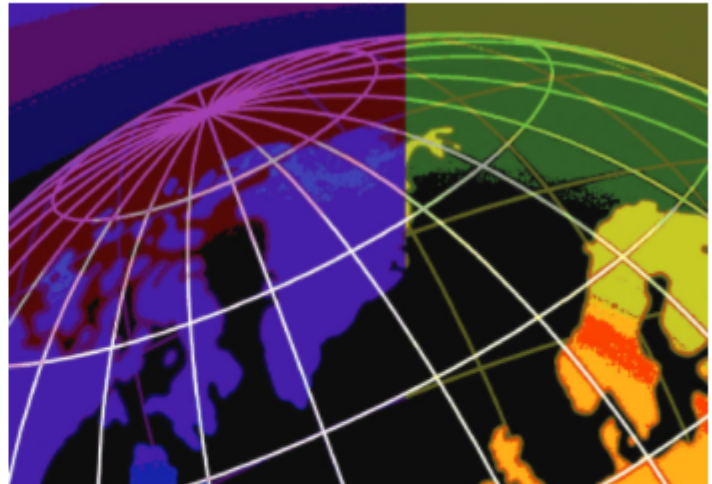
One of the main reasons is that the wholesale shift to working remotely exposed the operational cracks in the infrastructure backbone. Many firms were unable to cope with the volatility and spiking volumes that plagued stock markets last spring. These issues are in Refinitiv's recent Artificial Machine Learning Report which conducted 423 telephone interviews at sell and buyside firms across the globe with over $1 billion in revenues.

It showed 72% of firms' models were negatively impacted by Covid-19 while 12% declared their models obsolete. The key issues were the inability to quickly adapt and to include new data sets in models as circumstances changed. The survey also found that the buyside is lagging behind their sellside counterparts. Out of the 120 asset managers polled, 28% had used ML and AI in multiple areas, describing it as core to their business while 58% said they had only deployed it in pockets.

By contrast, 44% of 281 sellside firms canvassed said they had employed ML and AI in multiple areas while 41% put it to use in specific circumstances. Overall, the main target areas were risk, compliance and trade execution, compared to the buyside.

Increasing spend

The pace of investment is likely to pick up according to a separate study from Broadridge. Canvassing 1000 financial service participants in the C-suite, it showed that spending on AI, blockchain, and cloud technologies will rise by 33% in the next two years. Drilling down, on average, firms will increase next-gen technology spend from 11.8% to 15.7% of IT expenditure by 2023, with leaders or those who have been at the forefront planning to expand by almost 20%.

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"What we found in our study was that certain firms had invested significantly in next-gen technologies and this translated into greater effectiveness in driving business performance," says Michael Tae, chief transformation officer at Broadridge. "Additionally, with respect to AI, we saw 56% of respondents expecting to increase their spend over the next two years and that is significant. As a result of the pandemic, firms will focus their energies on projects where they believe they can generate a return on investment."

For example, as the financial services industry moves to a more hybrid model, Tae believes that sell side firms could use robotic process automation, which is a bucket of AI to automate manual functions. "There is an opportunity to align working from home with making the middle and back office processes more streamlined, efficient and cost effective," he adds.

Although firms need a blueprint to identify areas where the technology would have the most impact, there are barriers slowing adoption, most notably the quality of the data. These technologies may be wired to make better use of the massive amounts of data circulating in the financial services ecosystem but sourcing consistent and accurate data internally and externally has been a difficult task since there are no commonly accepted and widely adopted standards of data definitions and governance in institutions.

A recent Deloitte study of AI adopters highlighted the key stumbling blocks of data management as preparing and cleaning data, integrating data from diverse sources, training AI models, and ensuring data governance. This is particularly true for unstructured data such as text, images or certain types of alternative data, although as the Refinitiv report notes, AI/ML technology advancements have enabled data scientists to drive more business value from these types of data sources.

The report shows that the use of unstructured data has risen, with 17% of firms employing it, up from just 2% in 2018. "Unstructured data has been a promising area for a while, but we have seen the market change because of the technology and techniques," says Geoff Horrell, head of Refinitiv Labs in London. "This has improved unstructured data's ability to provide greater accuracy and new signals. However, asset managers will need to use both datasets to sharpen their investment decision making process."

Sarah Carver, head of digital at Delta Capita, also notes that the recent rise of Natural Language programming (NLP) has allowed unstructured data to be incorporated within ML/AI. "This has greatly increased the use cases for this technology, being applied in a variety of solutions, ranging from Know Your Client (KYC) and on-boarding processes to Alpha-Generation and portfolio risk analysis," she adds.

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Carver adds that a third set – alternative data assets – is also on the rise. "These are non-traditional in the sense that they come from non-traditional sources, such as satellite photography or weather sensors," she says. "Data experts can incorporate relevant alternative data assets into their models to both increase accuracy and generalisation of their models."

The human touch

Having the right technology of course requires human input. "While AI and ML can provide better insights and optimise processes, you still need a human to integrate, contextualise and find the actionable insights," says Andreas Burner, Chief Innovation Officer of SmartStream Technologies. "AI is still not as good as a human in anticipating things, so you need a combination of both people and technology."

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However, the people do need to have the right technical skills and experience which is why financial service firms are scrambling to hire data scientists. Their role has been elevated from developing and implementing AI/ML models at the request of the business, to influencing the technology and data strategies required to achieve business objectives, according to the Refinitiv study.

The challenge is that data scientists are in short supply but even if a firm finds the right qualified person, he or she does not always have the requisite track record. As Marina Goche, CEO of alternative data provider Sentifi, says, "To detect reliable investment signals, machine learning models need to be trained over time and that training is performed by a human. Models cannot be built overnight to find reliable signals that can be consistently applied across the investment decision making process without that training."

The other issue, according to Carver, is to recruit people with not only the necessary data science skills, but also deep knowledge of financial services. "These individuals are currently extremely rare and the reason for this is two-fold," she adds. "Firstly, that it takes a few years to train a data scientist to the necessary standard, and secondly, it also takes significant time to build the required industry knowledge, which only comes from working within the financial services environment.