

# CTA *Intelligence*

Issue 28 July 2015

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# MACHINE LEARNING REBOOT

IS IT THE FUTURE FOR QUANT  
INVESTMENT STRATEGIES?

# Choosing the right tool for the job

Stuart Farr, president of Deltix, discusses the evolution of pre- and post-trade algorithms and how increasing demand for pre-trade algo analysis is driving the market



**Stuart Farr**  
Deltix

**CTA Intelligence (CTA):** The increased use of execution algorithms in futures trading is a well-documented trend. Have the considerations changed for CTAs in the “buy vs build” debate?

**Stuart Farr (SF):** There has been fairly little innovation in the algos being offered by commercial vendors and the wider sell-side, for the simple reason that there are limited ways you can innovate an execution algorithm. Very often choosing an algo is more to do with cost and convenience as opposed to scrutinising which variation is most appropriate.

There seem to be plenty of execution algos out there offered by vendors and the sell-side such as Twaps and Vwaps and percentage-volume algos, which really make up the core of the execution side of things; and they're cheap as well. If you use a vendor, which offers execution algos, and you don't have a specific one in mind you wish to use, then you will very likely use the generic one on offer with no real issues.

**CTA:** So the “buy vs build” debate has been settled? In-house algo building is unnecessary as cheap and competitive execution algos are readily available on the market.

**SF:** Exactly, but this is only true for execution algos. Signal generation or alpha generation algos clearly must be done in-house as they require specific business knowledge and skill, as well as being the intellectual property of the CTA. People are rightly focusing their time and resources on these types of

specialised algos and leaving the execution side to third-party offerings.

**CTA:** In terms of measuring or quantifying the effectiveness of execution algos, what buy-side demand are you seeing for pre- and post-trade analysis?

**SF:** On the post-trade side, there are now some excellent tools available for post-trade analysis and comparing cost or slippage. Similar to execution algos, we are essentially at a point of market saturation as there is not much left to do regarding features innovation for post-trade analytic software.

For pre-trade analysis on the other hand there is some very interesting work going on by vendors, which is driven by evolving demands on their customers. Rather than performing analysis after the event, some traders are now making a decision pre-trade by looking closely at what is the most appropriate algo and what is the most appropriate configuration of that algo for a specific purpose.

That might be executing trades from a rolling strategy for example, executing a trading signal or simply building a position. The focus has shifted from analysing your trades for cost purposes after the fact to comparing what you could have done with different algos and next time pre-emptively making an algo selection based on that understanding.

**CTA:** Can you outline some of the typical applications of this kind of analysis, and how it feeds into developing successful execution strategies?

**SF:** If you've executed your strategy for real then your data will obviously be much more meaningful and provide a much better benchmark with which to analyse. This analysis is only really useful if your behaviour changes due to something you have learned and this can only happen if you have something relevant to compare your data to.

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The changes you make might be as little as using the same algo configured differently but that can make a significant difference to issues like slippage.

**CTA:** How expensive is it to create and run these simulations? Is cost or time a significant hurdle for smaller traders?

**SF:** It doesn't cost a lot of money but the initial set-up can be time consuming. The key is recording market data on the infrastructure with which you trade. This is essential for two reasons. Firstly, if you have to go to an exchange to buy historical market data it's very expensive and physically very large. Secondly, even if you overcome these financial and logistical issues, it's ultimately not your data recorded on your infrastructure.

Therefore all of the latencies and idiosyncrasies from the vendor's recording system will be present, which are not relevant to your own system. By far the most accurate and cheapest method to create effective analysis is to record the data stream that you trade with.

**CTA:** What sort of time scale is optimal for data analysis?

**SF:** For execution research a few months should be fine; for alpha research on the other hand we're taking several years' worth. Three months is good, obviously more is better but three months is a good start. Given that this is a relatively short timeframe it's extraordinary that so many people don't record their own data. It really is a waste, like burning off natural gas at oil wells.

**CTA:** Why aren't more people investing time in creating their own data to analyse?

**SF:** I think it comes down the fact that if you have a trading infrastructure that works well, you wouldn't naturally look to change it. People don't realise that although their system might work satisfactorily there are potentially huge benefits from taking the time to include a recording feature in your infrastructure to

start the process. It's a software issue which puts some people off but the technology exists now which is relatively straightforward and non-intrusive.

There are a number of traders who have really gotten behind this concept and now have massive archives of data to use but others either aren't bothered by the potential improvements or don't fully understand what data analysis can do and the money that can be saved or made.

The appetite for pre-trade data for algo execution selection has been growing recently but there is still a need for education around cost saving and execution improvement through judicious choice of algorithms.

**CTA:** How are brokers responding to the changes in the marketplace that have seen an increasing adoption DMA and execution algos? What are they doing to differentiate their services?

**SF:** There are two schools of thought on this. On the one hand some brokers have proven to be very innovative and are producing all the tools we've discussed. Some are currently looking into a new form of very advanced pre-trade analytics which will be very interesting for some of their customers.

On the other side there are brokers who are still using modified equity algos from their partners in the equity division as a supposedly cheap route to market which we at Deltix really don't consider appropriate.

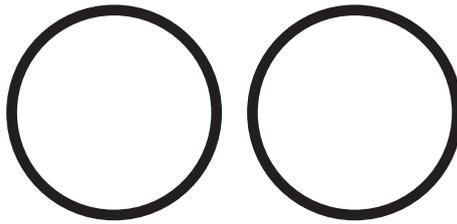
**CTA:** As we see brokers split between the more innovative, forward facing providers and those slower on the uptake, would you consider the market to be in a transitional phase at the moment?

**SF:** There have been some significant corporate transitions in the market in the past 12 months, as some people step away from the market and others step up to the gap left behind. We are in a transition phase but it's not just about analytics it's about people deciding if they will even stay in the space or not. **CTA**



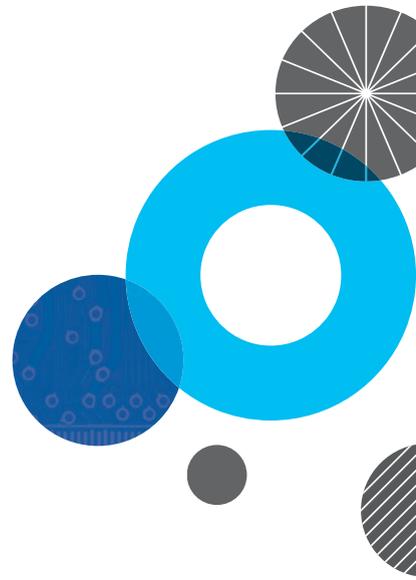
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4



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