How can FX benefit from a new wave of innovation with Algo Wheels?

Alistair Cree, Product Manager at FlexTrade, tackles ten questions we have asked him about Algo Wheels.

Alistair Cree

What is an Algo Wheel and what are they designed to do?

Algo Wheels are tools for standardizing, automating and experimenting with trading workflows. They selectively randomize some decisions within the process so that unbiased data can be gathered on how the different choices affect overall trading performance. While they're often just applied to broker/counterparty selection, this is far from the only (or most impactful) application.

How are Algo Wheels typically implemented and what processes are involved in the way they work?

Algo wheels are typically implemented as part of the execution management system (EMS), which gives traders maximum transparency into the wheel's operation, as well as the smoothest integration with the rest of the trading workflow. Orders are automatically or manually routed to the wheel, which then systematically determines some or all of the broker/algo/parameter combinations on the outbound order. This determination typically involves the randomization of some of these choices (e.g. send to Broker A 40% of the time, and broker B 60% of the time).

What types of FX trading firms are now showing interest in these toolsets?

Algo wheels are primarily used to support equity trading currently, and increasingly the firms that have successful deployments in their equity operations are looking to extend them to FX. Of these, the firms that already have well-developed electronic execution capabilities in FX are typically those best placed to benefit from adding an algo wheel.

What lessons can FX learn from the way Algo Wheels are being deployed in other asset classes?

Most performance metrics in finance are extremely noisy and difficult to analyze. This means that a large number of orders often need to be traded through wheels before they can be reliably reweighted to realize performance improvements. This is as true in FX as any other asset class.

For instance, in equity trading there are two practices commonly employed to help with this problem that can also be applied to FX:
- Use a post-trade cost model to remove noise from the performance statistics.
- Use a technique called "stratified sampling" to help ensure that all options receive orders of roughly equal difficulty. Having good pre-trade measures of order difficulty is essential to doing this well.

What are some of the common pitfalls associated with using Algo Wheels and how can these be avoided?

The most common problem is being tempted to reweight the wheel based on an insufficiently large

sample of orders. Careful analysis can help with this, as can being disciplined around the reweighting procedure. It's also a good idea to make sure that someone with a strong quantitative background, whether internal or on the vendor-side, consults on the design of the wheel and the reweighting decisions.

In what ways might the adoption of algo wheels lead to increased specialization on the FX trading desk?

Trading desks are increasingly hiring quant traders or in-house trading analysts to boost the quantitative skills available on the desk. Algo wheels are a great tool for these 'trading quants' as they give them better data to work with, as well as effective tools for implementing changes to the trading workflow based on the results of their analysis.

What are the relative merits of buy versus build with respect to Algo Wheels?

Building their own wheel can provide firms with a tool tailored to their specific trading and investment process, but it's important not to underestimate the size of the financial commitment involved. Capable software engineers and quants are expensive hires. For most firms, purchasing a wheel from a vendor will provide them with a superior set of capabilities at a much lower price point and on a much shorter timescale. A good rule of thumb

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would be that unless a firm already has built its own EMS and TCA systems, it probably does not have the expertise in-house to build a high-quality wheel process by itself.

What factors are important and should influence a trading firms choice of suitable vendor?

A strong track record in automating complex processes, a business model that is unconflicted with the goals of the wheel process, and transparency regarding the specifics of how their wheel works (vendor wheels can differ in substantial respects). We also feel that it's a significant advantage for the vendor to have expertise (and products) in both the trading workflow and TCA spaces. The requirements of good analysis should be the main driver of how wheel products are designed and the best way to understand these requirements is to have experience conducting these analyses yourself.

What work is being done to further develop the current generation of Algo Wheels and what impact could this have on the way they are used in FX trading?

Wheels are increasingly being applied to more sophisticated and more diverse trading workflows. This is particularly significant for FX given its complex market structure and the range of different execution methods available. Another advancing frontier is the greater use of advanced quantitative techniques, particularly predictive analytics and reinforcement learning. Finally, we're seeing sell-side firms begin to adapt their trading operations to the new competitive dynamics introduced by the wide adoption of algo wheels.

Why are we likely to see Algo Wheels or some form of this technology become a standard tool of most FX trading desks in the future?

Electronic trading in FX has already advanced significantly in the last few years. Widespread algo wheel adoption is simply another step in that process. Algo wheels are the rare example of a technology that can reduce the workload on the trading desk while simultaneously improving performance – that's a compelling selling point.