

Manager Trading Practices in Today's Evolving Electronic Markets

What does this mean for asset owner oversight?

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Introduction

As recently as the early-2020s, the use of computer-driven algorithmic trading strategies, commonly known as 'algos,' was viewed as simply one of many tools at the disposal of buy-side trading desks. Earlier generations of algos operated on a fairly straightforward basis, with limited trading options. As such, buy-side traders tended to utilize them on vanilla-type "low touch" trades that did not require a lot of attention. At that time, roughly 20% of all trades executed by managers were done via electronic algos.

However, as the technology associated with trade allocation and routing evolved, the use of sophisticated algos has exploded. Today, algo trading accounts for more than 65% of all trading. Not surprisingly, the structure and nature of manager trading processes has also changed dramatically.

Today, trading best practices leverage technology to intelligently establish systematic protocols that determine, on an automated basis, which trades should be handled electronically, as well as how and where to trade. This not only frees up limited human resources to trade the more difficult transactions manually, but also helps overcome adverse human behavioral practices (such as hanging onto losers too long or trading too quickly as prices come towards you).

While the value of such electronic trading tools may seem obvious, successful integration is not a trivial task. Managers require a deep understanding of the capabilities (and limitations) of this technology and the ability/resources to harness these tools in a meaningful way. Our analysis has also shown that when done well, use of these tools can result in upwards of 4 to 20+ bp in trading cost-savings (depending on the client's process and trade volume) relative to managers who don't employ these tactics¹. Equally intriguing, this same technology can facilitate the deployment of several asset owner-oriented initiatives (such as MWBE and commission recapture programs) across the global electronic marketplace without risking best execution.

This article provides a summary of the evolving electronic trading landscape and explores the implications of this environment for asset owners. More specifically, when conducting due diligence, what should asset owners be looking for? And for asset owners who care, how might these new technological capabilities enable managers to better achieve asset owner goals for commission recapture, and/or promoting the use of minority/women-owned broker-dealers?

Electronic Trading Today – Next Generation Tools and Practices

Automation is ubiquitous throughout the financial sector, and particularly in the trading of securities. Automated trading begins with software that applies pre-programmed algorithmic rules commonly called algos.

¹ Based on proprietary analysis conducted by Abel Noser on the trading of over 20 million parent orders (involving billions of child orders), going back as far as ten years.

Essentially, algos perform a variety of critical trading functions (pursuant to previously agreed upon parameters and protocols) at a speed impossible to replicate manually. Conceptually, algos apply customized rules-based qualitative and quantitative factors to each order in an effort to mimic the behaviors/priorities of the manager's human traders.

To this end, algos decide how parent orders should be broken up into child orders of various sizes and the prices at which those child orders should be executed. Additional tactical trading considerations are then assigned to each respective child order (while still working within the previously established size and speed parameters). These considerations might include, for example, whether an order should be executed in the open/close auctions, the posting logic (e.g., limit or market order) if the order is traded in the open market, whether dark pools should be accessed, and should block liquidity be sought.

The child orders are then fed into the manager's Smart Order Router (SOR) for distribution to execution venues. SORs are themselves sophisticated algos that employ real-time data from the various trading venues in order to decide which venues the manager's child orders should be sent for execution (and in what sequence).

Mechanically, it is highly unusual for an entire order to be completely filled (executed) on a single venue. Rather, each venue more commonly can fill just a fraction of the overall order. The primary function of the SOR is to therefore determine the optimal sequence of venues an order should be routed to (with each venue filling a small portion at the best price then available) until the entire order is completed. In way of context, a typical parent order may be routed to over 15 venues before it's fully executed (albeit in the span of just a few seconds).

It is worth noting that managers often utilize a variety of algos, accessed predominantly through the use of several broker-dealers (with each broker-dealer providing their own algos), but increasingly through the use of software called 'algo wheels.' The different algos provide the manager with options as to what tactics they wish to use on each respective order to achieve best execution.² Thoughtful managers continuously compare the execution performance of those algos to explore ways of fine-tuning their use and choices.

In contrast to the manner in which managers are beginning to access multiple algos through the use of algo wheels, managers almost always utilize only one SOR per algo (i.e., the broker-dealer providing the manager with an algo also has an SOR attached to the algo). In this regard, only a relative handful of firms (typically the large investment banks) have the resources to build quality SORs. Consequently, the majority of firms (whether on the buy-side or sell-side) that utilize SOR's are actually using the SORs built and maintained by that handful of investment banks.

Importantly, the exact sequence of execution venues routed to by the SOR is largely based on the respective priorities of the firms that build the SORs. No surprise, the first venue these SORs typically route trades to is that firm's own proprietary venue. The shares not filled on that firm's own venue are then sequentially routed to other venues based on generic market-wide statistics (and/or the SOR builder's overall firm relationships).

As one might assume, the evolution of algos and SORs is a never-ending industry-wide effort, and the newer generations of these tools can provide significantly better executions than previous versions. This facilitates the adoption of very customized trading capabilities which reflect the manager's specific needs and requirements.

² Examples of various algos a manager might use include algos designed to minimize implementation shortfall, track VWAP, trade at different participation-weighted speeds, route to dark vs. lit venues.

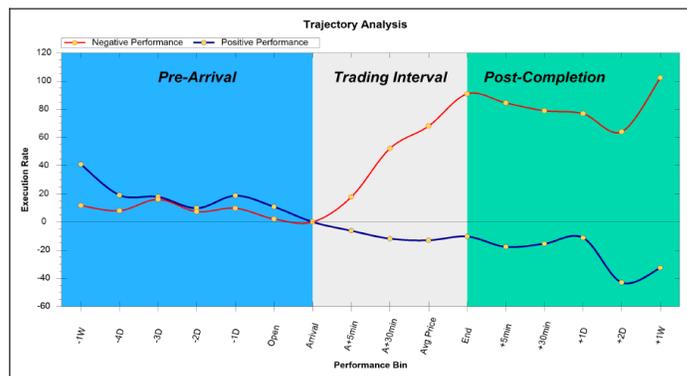
Next Generation Practice Features & Functionality

Today, ever more sophisticated electronic tools are available that build on prior algo and SOR capabilities by systematically fine-tuning their functionality. A few independent providers have developed what, in effect, are ‘SOR Managers/Wheels.’ These new applications can be broker-neutral and essentially act as trade distribution tools on the buy-side trading desk, intelligently managing the size, type, price, routing, and timing of the client’s child orders based on pre-determined rules and existing market conditions.

With these next-generation tools, the goal is to quantitatively identify each orders’ optimal trading strategy based on the managers’ specific trading needs, and continuously reassess and calibrate that strategy on an ongoing basis. To this end, some of the key characteristics seen in the applications can include:

- Software that dynamically integrates the manager’s historical trading patterns with sophisticated transaction cost analytics to generate customizable algorithmic execution solutions. This necessarily takes into account the manager’s own specific trading patterns and preferred electronic trading strategies (e.g., VWAP, TWAP, PWP etc.). More to the point, the software customizes a manager’s parent orders at an enterprise level and uses deep quantitative analysis to discern systematic trading patterns and biases. Through back-testing of historical trade activity, the software identifies what would have been the optimal trading strategy, and then applies those strategies to similar types of orders going forward.³ In this fashion, the software attempts to minimize the effect of adverse human behaviors and biases such as “cutting winners and riding the losers.” Figure 1 below shows an example of the respective trajectories of actual vs. optimal trading tactics.

Figure 1



- Related, the frequency with which a manager’s trading activity is analyzed and incorporated into their electronic trading tools is also an important feature. Most algos, if they recalibrate their trading strategy settings at all, are done on an annual basis, use only a small portion of the client’s data, and do so in a

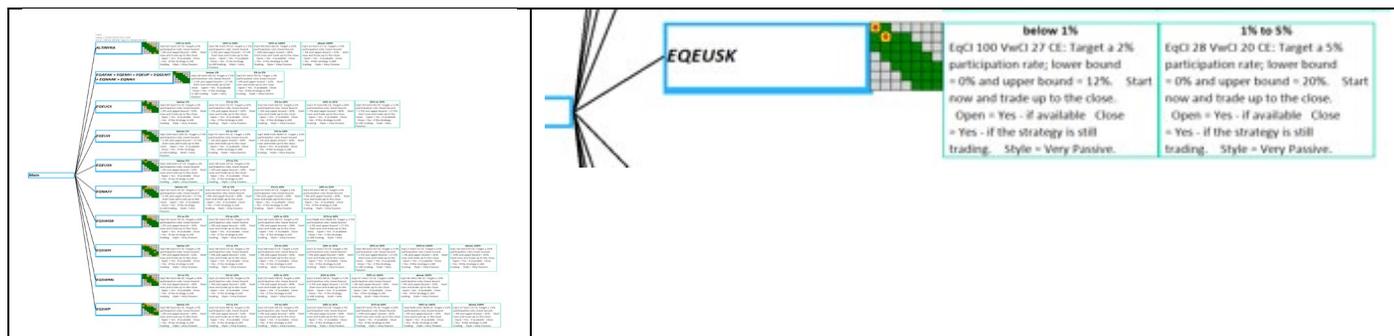
³ Mechanically, how this works is that the manager’s historical trading history is subdivided into multiple buckets, in which each bucket reflects a pool of orders sharing the same set of characteristics (e.g., which portfolio manager, time-of-day, liquidity, growth/value, etc.). Abel Noser’s tool, for example, has over 300 order buckets. Each bucket is then assigned its own specific trading strategy. Going forward, as new orders are sent to the desk, the algo immediately identifies which bucket the new order belongs in and trades it pursuant to that bucket’s assigned trading strategy.

perfunctory manner. In contrast, the next generation algos typically use the totality of the client's data, recalibrate every month or quarter (based on the manager's own trade activity and patterns), and have the ability to recalibrate each week, if necessary.

- As noted earlier, traditional algos determined the size, price, and time at which each child order should be traded. The newer generation of algos go further and do a better job of managing the parent order's strategy by filtering each child order through a suite of tactical engines designed to maintain an optimal trading speed while opportunistically capturing liquidity. In effect, this software acts as a child order management system.
- Importantly, the newer tools don't simply utilize a static trading strategy for each type of order, but rather establish a range of strategies. The exact strategy within the range that a specific order will then use is determined in real-time based on multiple dynamic tactical elements, and the market conditions existing throughout the trading period. For example, the trading strategy for one type of order might be to generally trade at a pace equal to 8% of the day's trading volume, but with the ability to trade as slow as 2% or as fast as 12% depending on the actual trading conditions seen throughout that day.
- As noted earlier, an additional benefit of the new tools being built by independent providers is that they, in essence, represent a SOR Manager/Wheel. This functionality largely eliminates the risk of parent order information leakage. Historically, managers would send an entire parent order to one SOR. Conceptually, the broker-dealer that managed that SOR could thereby know the full size of the parent order prior to all the shares being executed. Managers concerned about that potential information leakage now have the ability to minimize this risk since the new tools meter out the multiple child orders to lots of different SORs. Consequently, no single SOR sees the entire parent order.
- Necessarily, the new software also evaluates the SORs used by each of the broker-dealers on the manager's SOR Wheel. This empowers managers to work with the builder of each SOR to fine-tune the code used to prioritize the sequence with which trades are routed to different venues. Some of this can be as simple as ensuring the SOR doesn't blindly prioritize the SOR builder's own venue. However, it also includes enriched venue analysis and comparisons across all the SORs used by a manager. In this manner, the manager's preferences regarding mark outs (the likelihood that an order might impact the mid-quote of the spread before getting executed), historical fill rates, the historical time required to get filled, historical price reversions after getting filled, historical price movements before, during, and after getting filled, etc., can all be incorporated into the allocation of trades to each respective SOR used by that manager.
- Last, but by no means least, it goes without saying that prudent managers should carefully document the different strategies they deploy for each type of order they execute (and at least implicitly, why they chose the specific trading strategy for each respective type of order). We call this document a Trade Strategy Decision Tree and it should be incorporated into every manager's written best execution and brokerage allocation policies. Figures 2 and 3 below show an example of this type of documentation.

Figure 2

Figure 3



Importantly, this new generation of trading software, once installed, entails no change in the manager’s trade flow, and no additional effort is required for the traders. That said, it’s important to acknowledge that migrating to new trading tactics is not something to be taken lightly. Both in the initial transition, as well as when considering additional tweaks in the future, prudence and moderation are called for.

In practice, what we feel works best is for managers to initially allocate a relatively small portion of their typical trade flow (maybe 20%) to essentially experiment with the new trading tactics. In this fashion, the remaining 80% of trade activity acts as a control group, against which the performance of the new protocols can be judged. Only after quantifying that the new trading tactics resulted in positive performance should the manager continue to migrate an increasing percentage of their trade flow to the new approach.

In late-2021, Abel Noser conducted a webinar in which two bulge bracket asset managers discussed their reasons and experiences for adopting these best practices. We encourage interested parties to listen to the recorded discussion and hear first-hand the perspectives of these seasoned traders. [[Click here](#) to request access to the webinar recording.]

Implications for Asset Owners

What does all this mean for asset owners? In our view, the existence of these new trading tools calls for additional due diligence when assessing each manager’s internal policies and practices to ensure a high standard of excellence. In addition, for plan fiduciaries who care, these tools also open up new opportunities regarding the use of minority/women/veteran-owned broker-dealers, as well as supplementing traditional commission recapture programs. Taking each of these in turn:

Oversight Best Practices

As fund fiduciaries, every asset manager would ideally incorporate new trading enhancements into their existing process as they became available. However, for a variety of reasons, the rate of adoption is often slower for some managers than others. We therefore recommend that asset owners, as prudent stewards of their funds, periodically conduct due diligence on their managers’ electronic trading practices.

Based on our reviews, the most efficient electronic trade processes are found in those managers that have quantitatively determined:

- Which trades are best suited for electronic trading;
- The optimal speed and size with which those trades should be automatically fed into the market; and
- How to systematically route those trades to the ideal broker-dealer and execution venues.

To this end, due diligence on fund managers should be designed to inform asset owners of the degree to which their managers have the requisite knowledge and have at least considered the new potential practices that predicate sound electronic trading processes. To facilitate this due diligence gathering, we suggest requesting detailed responses (from fund managers) to the following five areas of inquiry:

1. To the extent a manager utilizes SOR/algo providers, they should list the providers, by type:
 - a. Bulge bracket (e.g., Credit Suisse, Goldman, JPM, Morgan Stanley, etc.)
 - b. Mid-tier (e.g., Cowen, Piper, Stifel, Instinet, etc.)
 - c. Boutique Shops (e.g., Best Ex, Clearpool, ITG/Virtu, Pragma, etc.)
2. Can the manager describe the logic behind the child order routing decisions of their algos including:
 - a. Child order size;
 - b. Child order price;
 - c. Timing of child order;
 - d. Child order venue selection;
 - e. Child order replacement if unfilled?
3. What strategy was used to trade each respective order and why? Does the manager have a formal written *decision tree* detailing the specific trading strategies for each type of order they executed?
4. Can the manager explain the level of child order execution quality analysis they perform? For example:
 - a. Do they analyze venue performance?
 - b. Do they analyze both executions and unfilled orders?
 - c. Can they provide a sample of your child order analysis?
5. Perhaps most important from a systematic process perspective, how does the manager know their choice of trading strategy was optimal? In this regard, just referring to quarterly post-trade TCA reports is not enough. Does the manager conduct what-if analysis to discern whether their results would have been better/worse had they used alternative trading strategies? And it should go without saying that manager refrains that, “*they are experienced traders and will intuitively know if their strategy was optimal*” won’t suffice.

MWBE and Commission Recapture Programs

As noted above, a critical feature of these new tools is that, once installed on a buy-side trading desk, they automatically and systematically route trades to specific brokers without changing the manager’s trade flow or requiring any additional effort from the traders. Historically, those challenges were frequently cited as potential obstacles to achieving best execution. And many asset owners who had internal initiatives they cared deeply about, were therefore worried that requiring manager participation in those programs might negatively impact execution quality.

Now, not only can those programs be introduced to managers without fear of unintended consequences, but in doing so, the asset owner also facilitates the integration of new electronic trading best practices within the manager’s trade process that can often yield improved overall trading performance.

Further, because these new tools proactively review all of the manager’s trading activity in a continuous feedback loop (that fine-tunes the routing of subsequent trades), should a MWBE and/or commission recapture

broker-dealer provide sub-par executions, those transactions would be immediately detected, and routing would be automatically adjusted.

In this fashion, managers can include MWBE and/or commission recapture broker-dealers in their pool of participating electronic broker-dealers with minimal effort and comfort that execution quality will not be compromised. Indeed, implementing such programs can help satisfy the dual purpose of providing a prudent solution for improving fund performance (through more efficient trading), while also achieving client *equity, inclusion, and diversity* and/or commission recapture goals.

Conclusion

In today's evolving electronic marketplace, the combination of advanced AI technology fed by each manager's actual historical trading patterns results in ever-evolving electronic trading tools that improve execution efficiency and help remove adverse human behavioral practices (such as waiting too long to pull the trigger or delaying selling while waiting for prices to revert). In this environment, the once common refrain from buy-side traders that, *"we're experienced traders and will know when we get best execution,"* is not just passé, but also potentially counterproductive.

In point of fact, based on our independent third-party analysis, managers that have taken advantage of these next-generation tools have seen improved execution quality between 4 and 20+ bps.⁴ Indeed, an argument could be made that managers who are resistant to at least considering such systematic experimentation are perhaps too complacent – which introduces its own level of risk.

Obviously, all managers have a fiduciary obligation to decide what trading tools and tactics best meet their needs. However, asset owners as plan fiduciaries similarly have a right (and an obligation) to exercise prudent oversight of their manager's trading policies and practices.

In this regard, understanding a manager's algo and SOR practices is, in many ways, no different than monitoring a manager's investment and brokerage policies. And investigating whether a manager's algos/SORs might also be leveraged so as to further fund goals and objectives is no different than discussions with managers regarding the use (or non-use) of commission recapture brokers, custodian FX Standing Instructions, MiFID II commission unbundling protocols, or any number of other practices that asset owners routinely track.

*"I keep six honest serving men
They taught me all I knew
Their names are: What and Why and When
and How and Where and Who"*
Rudyard Kipling, The Elephant Child, 1902

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⁴ See footnote 1