Trends in Global Equity Electronic Execution

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THE EVOLUTION OF FINANCIAL MARKETS CONTINUES TO BE DRIVEN BY REGULATORY CHANGE, COMPETITIVE DYNAMICS AND TECHNOLOGICAL INNOVATION

LESS THAN A FIFTH OF TRADERS IN THE STUDY ARE USING AN ALGO WHEEL, BUT THOSE WHO DO REPORTED USING IT FOR

38%

**OF THEIR ALGO FLOW**

Introduction

Electronic equity trading is as pervasive today as trading itself. It is the fastest-paced part of capital markets and remains one of the most innovative and dynamic environments. The creative destruction of the last decade has seen dozens of new business models launch—some fail, but a few thrive. Dark pools have shut down, only to be replaced by new ones. Fresh-faced young startups get bought out by established firms, while at the same time, some new companies take out old ones. And trading flow shifts from venue to venue, as new products debut and advanced decision-making tools are employed.

As markets continue to evolve in this way, like perpetual motion, it can be difficult to keep on top of the latest innovations and newest developments in the space. In this study, we take a look at the recent trends in global electronic execution, including shifting attitudes brought about by MiFID II, the uptake of algo wheels and the use of artificial intelligence (AI) technology.

METHODOLOGY

Between May and October 2018, Greenwich Associates interviewed 256 buy-side traders in Europe and North America, working on equity, fixed-income and foreign-exchange trading desks. Topics included trading desk budget allocations, trader staffing levels, OMS/EMS/TCA platform usage, and the impact of market structure changes on the sector.

RESPONDENT PROFILE BY DESK
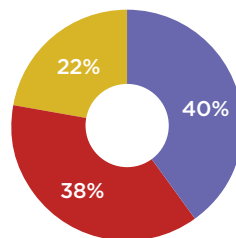
- Equities — 40%
- Fixed income — 38%
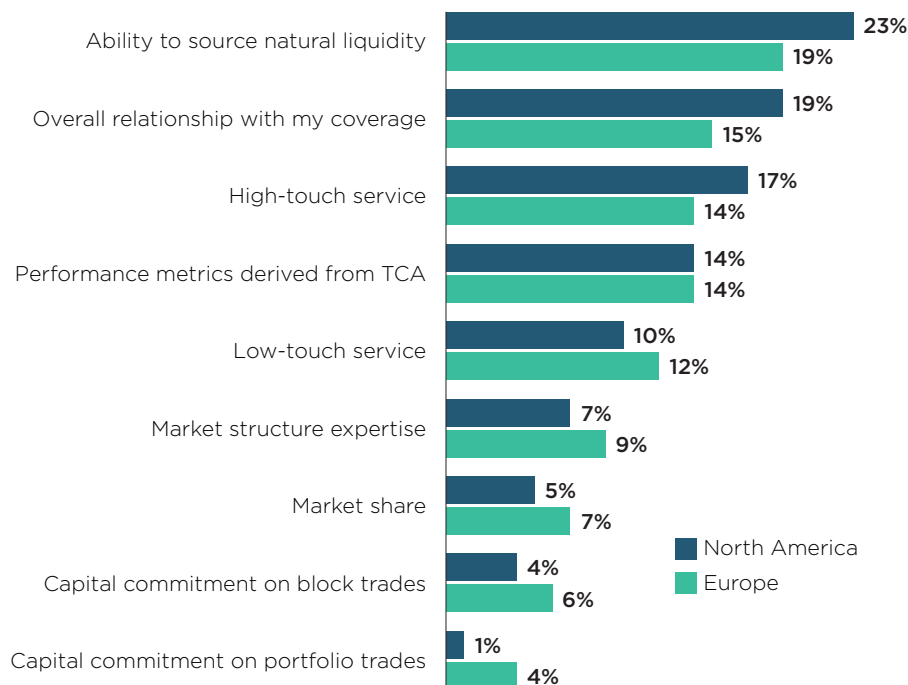- FX — 22%

RESPONDENT PROFILE BY REGION
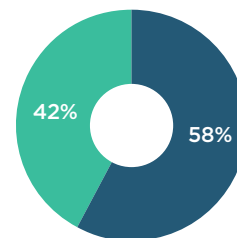
- North America — 58%
- Europe — 42%

MiFID II Refocuses European Traders

In January 2018, European equity markets underwent a tectonic shift, as the sweeping MiFID II regulations came into force. (See the Greenwich Report *The MiFID II Trading Transformation*[1] for a discussion of the key changes in trading market structure.) An unbundling of research from trading and a more stringent best execution requirement have resulted in a divergence in how European traders value services offered by their brokers as compared to U.S. traders.

EVALUATING BROKER RELATIONSHIPS

	North America	Europe
Ability to source natural liquidity	23%	19%
Overall relationship with my coverage	19%	15%
High-touch service	17%	14%
Performance metrics derived from TCA	14%	14%
Low-touch service	10%	12%
Market structure expertise	7%	9%
Market share	5%	7%
Capital commitment on block trades	4%	6%
Capital commitment on portfolio trades	1%	4%

Note: Based on 96 respondents.
Source: Greenwich Associates 2018 Market Structure and Trading Technology Study

On both sides of the Atlantic, the ability to source natural liquidity is the most valued component of a broker's services. Overall relationship and high-touch service are also important factors but are less valued in Europe on a relative basis. European traders focus more on elements such as low-touch service and market structure expertise. This makes sense in the current environment, with execution unbundled from research and now being evaluated on its own merits. So today, relationships matter more in the U.S. and Canada than in Europe.
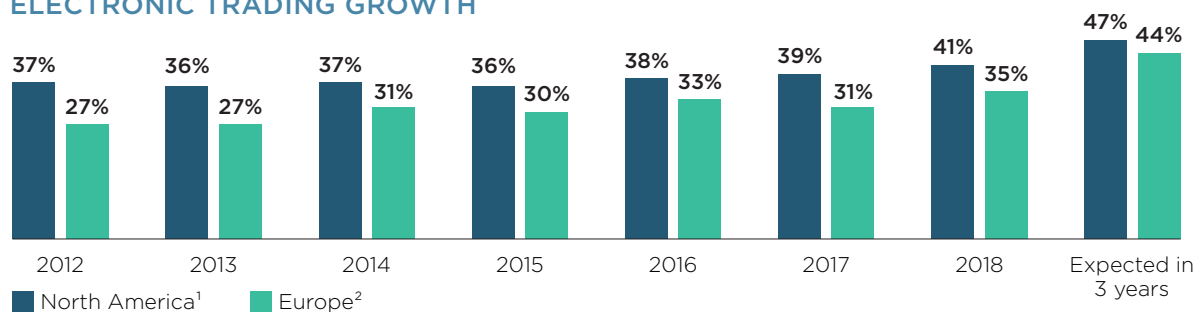
This is a clear reflection of the shift in perspective brought about by the MiFID regulations, and a sign of how North American markets may evolve as MiFID-like practices permeate into these equity markets.

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[1] https://www.greenwich.com/equities/mifid-ii-trading-transformation

Algo Usage

Over the last year, there has been a small but meaningful shift in buy-side usage of algorithmic trading. In Europe, buy-side traders are now using low-touch channels for 35% of their flow, up by 4 percentage points since 2017. And North American markets are up 2 percentage points to 41% in the same time frame.

ELECTRONIC TRADING GROWTH

	2012	2013	2014	2015	2016	2017	2018	Expected in 3 years
North America[1]	37%	36%	37%	36%	38%	39%	41%	47%
Europe[2]	27%	27%	31%	30%	33%	31%	35%	44%

Note: [1]Based on 316 respondents in 2012, 294 in 2013, 316 in 2014, 321 in 2015, 320 in 2016, 300 in 2017, and 274 in 2018. [2]Based on 208 respondents in 2012, 194 in 2013, 197 in 2014, 185 in 2015, 178 in 2016, 164 in 2017, and 155 in 2018.
Source: Greenwich Associates European and North American Equity Investor Studies

In Europe, the shift to low touch is likely driven by MiFID II, but it's a bit harder to pin down the cause of the increase in North America. However, increased usage of "algo wheels" may play a part.
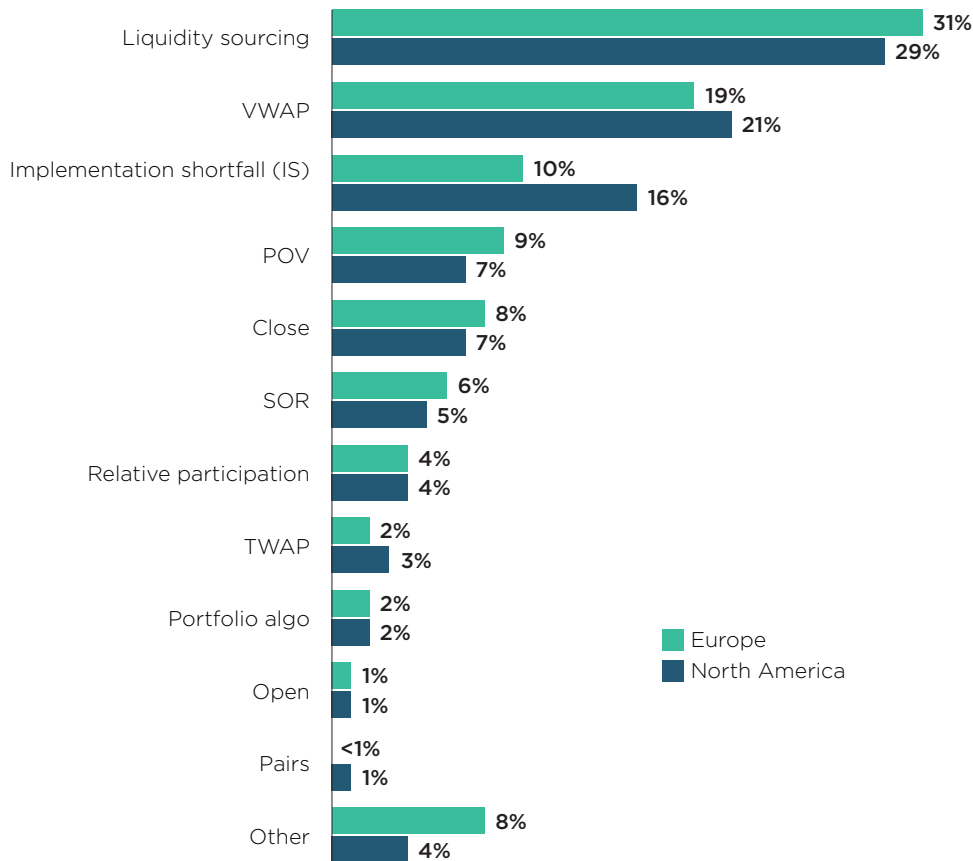
Liquidity-sourcing algos—those which seek out liquidity across multiple dark pools and other venues—remain the most popular type in both North American and European markets, representing about 30% of all algo flows. This ties in with how highly institutional traders value a broker's ability to source liquidity.

Volume-weighted average price (VWAP) is the second most popular algo, representing about one-fifth of all algo flows. While VWAP is much less important as a performance benchmark these days, it is still used as a "workhorse" algo. In addition, most firms have added "I would" type functionality, which allows the algo to behave more aggressively and opportunistically if the price comes within a specified range. For example: *Trade VWAP over the day, but complete the order if the price falls below $45.*

Implementation shortfall, sometimes known as arrival price or IS, rounds out the top three algos. IS is the preferred performance benchmark for trade analysis, but this does not translate through to execution algorithms. This is because IS algos tend to be more aggressive and most suitable for time periods of one hour or less, whereas institutional orders are often worked for longer periods of time.

Liquidity-sourcing algos represent about 30% of all algo flows.

ALGO USAGE

Category	Europe	North America
Liquidity sourcing	31%	29%
VWAP	19%	21%
Implementation shortfall (IS)	10%	16%
POV	9%	7%
Close	8%	7%
SOR	6%	5%
Relative participation	4%	4%
TWAP	2%	3%
Portfolio algo	2%	2%
Open	1%	1%
Pairs	<1%	1%
Other	8%	4%

Note: Based on 32 respondents for Europe and 54 for North America.
Source: Greenwich Associates 2018 Market Structure and Trading Technology Study

Deals on Wheels

An important trend within electronic execution has been the emergence of algo wheels. An algo wheel is a piece of routing technology embedded into a trader's execution management system (EMS) that connects to multiple brokers' algo suites. With an algo wheel, a trader decides to route an order algorithmically, but instead of selecting a specific broker, they route to that algo category and the wheel decides which underlying broker algos to route to.

The term "wheel" may make it sound like the algo selection process is somewhat random—far from it. Embedded within an algo wheel is sophisticated transaction cost analysis (TCA) functionality that captures data about the performance of all algos under specific market conditions. As conditions change or new data is collected, the wheel may automatically switch from, say, one liquidity-sourcing algo to another without requiring any input from the trader.

ALGO WHEEL
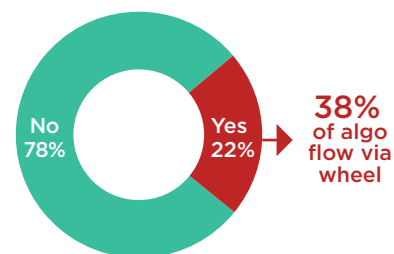
Source: Greenwich Associates 2019

> An algo wheel does not take away the responsibility for best execution—rather, it allows traders to manage it.

This enables traders to seamlessly apply a quantitative overlay to their low-touch execution workflow. In addition, it allows them to easily onboard new algo brokers without having to spend a lot of effort learning and experimenting with each new algo.

It is important to note that an algo wheel does not take away the responsibility for best execution—rather, it allows traders to manage it. The wheel can be programmed to work within certain parameters. For example, traders can set up preferred algos and parameter settings, assign a target allocation across their brokers, and even set up routes to high-touch traders.

Currently, less than a quarter of traders we interviewed are using an algo wheel, but those who do use it for 38% of their algo flow. On average, traders told us they had about seven brokers' algo suites connected to their wheel. Assuming they connect five algos per broker, that is an average of 35 algos being automatically and intelligently routed to via algo wheels.

USE ALGO WHEEL

No 78%

Yes 22%

38% of algo flow via wheel

Note: Based on 69 respondents.
Source: Greenwich Associates 2018 Market Structure and Trading Technology Study
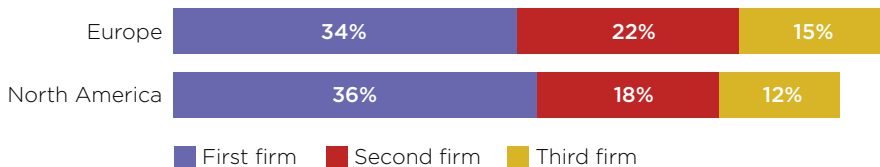
The top reason traders told us they use the wheel is to assist with achieving best execution, as it easily enables them to compare algos side by side. In addition, with the increased scrutiny over broker routing in Europe, an algo wheel provides an effective framework to justify why one broker was chosen over another.

As adoption of algo wheel technology expands, it has the potential to significantly alter the e-trading landscape. Currently, in both the U.S. and Europe, electronic flow is heavily concentrated, with 66% and 71% of flow, respectively, going to the top three brokers. This is largely due to the significant amount of due diligence and experimentation that is required for traders to get comfortable with a certain set of algos. This makes them hesitant to add new brokers and expand beyond their core set of algos. An algo wheel removes these frictions, as it is able to seamlessly trade and analyze different algos. Additionally, algo wheels may also be able to leverage existing trade analytics data derived from other clients' routing history, providing a larger data set and more robust analysis.

CONCENTRATION OF ALGORITHMIC BUSINESS
Q1 2018

	First firm	Second firm	Third firm
Europe	34%	22%	15%
North America	36%	18%	12%

■ First firm ■ Second firm ■ Third firm

Note: Based on 82 respondents for Europe and 179 for North America.
Source: Greenwich Associates 2018 European and North American Equity Investors Studies

We believe that algo wheels are set to gain wide adoption, which will lead to an increase in the overall level of electronic trading and a more competitive landscape for electronic brokers.

Algo Bots

Artificial intelligence has reached into many parts of our daily lives. From digital voice assistants to chat bots to self-driving cars, wherever there is a computer, technicians are deploying or trialing AI technology.

Trading is no exception. There are already investment firms that are using machine-learning techniques to identify new trading signals and investment models. But now the technology is being deployed to the trading process, whereby the machine-learning algorithm is fed a vast quantity of historical trade data and can figure out the most appropriate trading strategy based on a user's parameters. Different from traditional algos, which are programmed to react in a specific way to certain events, AI algos are supposedly able to make decisions about how to trade on the fly, based on the incoming data stream.

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It sounds flashy and cutting edge, but in reality, we find that the vast majority of firms are not using these new tools yet. Among those who are, most say the performance is the same as standard algos, although 37% of users say they are better.

One of the better-known examples of AI technology being used in the trading process is IntelligentCross—a new ATS that launched last year. Although not strictly an algo and more of a dark pool, IntelligentCross uses a machine-learning engine to optimally time the matching of trades, with the goal of minimizing market impact while maximizing liquidity.

It is too early to tell if this type of trading will take off, but we should expect more firms to debut AI-powered trading tools over the coming years.

EXPERIENCE WITH AI ALGOS

3%
2%
8%
13%
73%

37% of users say performance is better with AI algos

- Worse than standard algos
- Much better than standard algos
- Better than standard algos
- Same as standard algos
- Not using AI algos
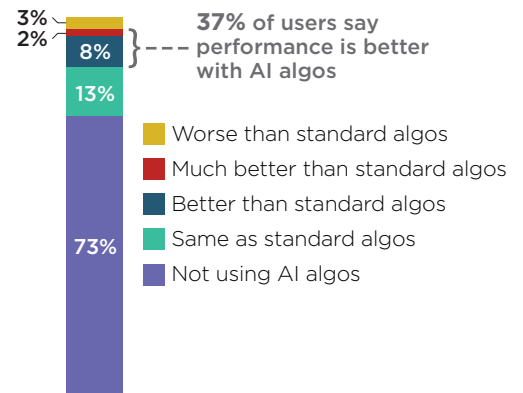
Note: May not total 100% due to rounding.
Based on 86 respondents.
Source: Greenwich Associates 2018 Market Structure and Trading Technology Study

Final Thoughts

The evolution of financial markets continues to be driven by regulatory change, competitive dynamics and technological innovation. MiFID II is causing European firms to focus more on factors directly related to execution performance. New functionality has taken a mundane process, such as order routing, and turned it into one of the most disruptive parts of electronic trading. And the latest intelligent technology is now being applied to the trading process.

As we look out over the next one to two years, we should expect an expansion of MiFID-like business practices around the globe, leading to increased focus on execution and routing. Algo wheels will soon become as prevalent as the execution management system itself, with significant ramifications for trading flows. When it comes to AI in trading, however, we are still in the very early innings, so it may be a few more years before we see widespread adoption. One thing is certain, though—the path for technological innovation only goes forward.

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