

The 2018 APAC Algorithmic Trading Survey



Taking centre stage

The trend of improving performance for APAC algorithmic trading shows no sign of slowing down according to this year's survey.

As The TRADE's annual Asia-Pacific (APAC) algorithmic trading survey has shown in recent years, the region has been gaining ground on Europe and North America to the point where distinct differences are clearly noticeable among the results. While Europe, and to some extent North America, have grappled with the regulatory burden of MiFID II, the APAC region has largely – although not entirely – escaped these burdens and focused on furthering quality instead.

This trend of continuous levels

of improvement being displayed in Asian algorithmic trading is evident in Figure 1, which shows the scores provided by this year's responses over the past five years across 12 areas of algorithm functionality. Respondents to this year's survey scored also providers higher than any of the previous five years across ever category, with an overall survey-wide average of 5.81. This compares favourably to the results of The TRADE's global algo trading surveys conducted earlier this year, which scored an average of 5.57 although respondents were

more likely to be critical due to the pressures of MiFID II in Europe and, to some extent North America than in APAC.

While none of the functionalities reviewed in this year's survey scored as high as 6.00 – both the improving trader productivity and ease of use categories were closest to doing so, each being scored 5.98 by respondents – while none of the categories scored lower than 5.50.

The largest year-on-year score increases came in the aforementioned categories, as well as for customisation capabilities which increased from 5.13 last year to 5.70 this year. Clearly the efforts being made by algo providers to allow users to modify and tailor their products to fit particular trading strategies, particularly relevant during times of regulatory and geopolitical upheaval. There were incremental improvements in the cost, customer support and anonymity categories, although not enough to cause a serious shift in the overall scores for these functionalities.

Client support and execution consulting scored highly and in-line with the survey average, as did the reducing market impact, execution consistency and speed categories. While there were no specific areas of stand-out performance in this year's survey results, it appears that APAC respondents are gener-

Figure 1: Rating of algorithm performance

| | 2018 | 2017 | 2016 | 2015 | 2014 |
|-------------------------------|------|------|------|------|------|
| Improving trader productivity | 5.98 | 5.64 | 5.60 | 5.26 | 5.61 |
| Reducing market impact | 5.82 | 5.56 | 5.40 | 5.22 | 5.51 |
| Execution consistency | 5.87 | 5.57 | 5.48 | 5.26 | 5.53 |
| Cost | 5.69 | 5.58 | 5.15 | 5.18 | 5.56 |
| Speed | 5.87 | 5.63 | 5.19 | 5.26 | 5.64 |
| Anonymity | 5.84 | 5.68 | 5.62 | 5.37 | 5.58 |
| Price improvement | 5.75 | 5.40 | 5.41 | 4.99 | 5.36 |
| Customisation capabilities | 5.70 | 5.13 | 5.17 | 5.23 | 5.29 |
| Ease of use | 5.98 | 5.61 | 5.50 | 5.26 | 5.69 |
| Internal crossing | 5.50 | 5.25 | 5.05 | 4.97 | 5.41 |
| Execution consulting | 5.88 | 5.58 | 5.70 | 5.25 | 5.60 |
| Customer support | 5.80 | 5.65 | 5.57 | 5.41 | 5.72 |

Figure 2: Reason for using algorithms (% of responses)

| | 2018 | 2017 | 2016 | 2015 | 2014 |
|--------------------------------------|-------|-------|-------|-------|-------|
| Price improvement | 8.59 | 8.50 | 8.53 | 9.23 | 8.76 |
| Consistency of execution performance | 9.55 | 14.29 | 11.37 | 8.86 | 10.05 |
| Customisation capabilities | 6.75 | 5.44 | 6.16 | 5.78 | 6.17 |
| Ease of use | 10.35 | 13.61 | 11.78 | 11.93 | 11.20 |
| Greater anonymity | 8.34 | 10.20 | 8.76 | 11.44 | 10.88 |
| Higher speed, lower latency | 6.83 | 6.32 | 5.82 | 7.50 | 4.49 |
| Increase trader productivity | 8.67 | 10.78 | 10.55 | 10.82 | 10.63 |
| Internal crossing | 8.87 | 6.58 | 7.01 | 5.54 | 8.15 |
| Lower commission rates | 9.38 | 6.12 | 8.48 | 8.61 | 8.55 |
| Reduce market impact | 8.00 | 10.97 | 11.78 | 8.73 | 11.45 |
| Execution consulting | 6.80 | 4.08 | 3.59 | 5.78 | 3.49 |
| Client support | 7.87 | 6.12 | 6.16 | 5.78 | 6.47 |

Figure 3: Average number of providers by AuM

| | 2018 | 2017 | 2016 | 2015 | 2014 |
|------------------------|------|------|------|------|------|
| Not answered | 3.60 | 3.03 | 1.93 | 2.83 | 2.03 |
| Up to \$0.25 billion | 1.33 | 1.83 | 2.73 | 3.02 | 1.87 |
| \$0.25 - \$0.5 billion | 3.78 | 2.61 | 2.33 | 1.45 | 3.33 |
| \$0.5 - \$1 billion | 2.19 | 2.82 | 2.01 | 1.67 | 2.71 |
| \$1 - \$10 billion | 3.08 | 3.31 | 3.93 | 3.42 | 3.83 |
| \$10 - \$50 billion | 1.58 | 3.38 | 3.40 | 4.72 | 4.16 |
| More than \$50 billion | 2.41 | 3.10 | 3.67 | 5.01 | 5.34 |

ally pleased with both the product and service they are receiving from their algo providers.

What is most revealing about this year's survey results is how far algorithm provision has come in just a few short years, at least according to APAC respondents. In the 2015 edition of the survey, the average score was just 5.22, with only one category scoring higher than 5.40.

Easier and cheaper

In terms of the reasons why APAC buy-side firms choose to adopt and use certain algos, as shown in Figure 2, the results are largely in-line with historic responses, with some minor fluctuations appearing this year.

The primary reasons given by respondents for adopting algos were ease of use (10.35% of respon-

dents), consistency of execution performance (9.55%) and lower commission rates (9.38%), all of which suggests that APAC-based buy-side firms are looking for algos that are both easy to use and cost-effective, with a dependable level of efficacy.

While there were year-on-year decreases for the consistency of execution performance (4.74%) and

Figure 4: Number of providers used (% of responses)

| | 2018 | 2017 | 2016 | 2015 | 2014 |
|---|-------|-------|-------|-------|-------|
| 1 | 55.48 | 20.75 | 33.01 | 24.39 | 23.93 |
| 2 | 8.22 | 16.98 | 15.95 | 19.51 | 22.22 |
| 3 | 11.64 | 18.87 | 9.97 | 17.07 | 11.15 |
| 4 | 10.27 | 13.21 | 18.04 | 14.63 | 5.98 |
| 5 | 14.38 | 30.19 | 23.02 | 24.39 | 36.75 |

ease of use (3.26%) factors, there was a noticeable increase in those using algos for lower commission rates (a 3.26% increase year-on-year) and execution consulting (2.72%).

When it comes to the number of algo providers buy-side firms are using within their APAC operations, there are some clear results in evidence this year, as seen in Figure 3. Larger buy-side firms (those managing more than \$10 billion) have cut down their average number of providers compared to recent years, going from as many as 4-5 algo providers, to just 1.58 for those managing between \$10 to \$50 billion, and 2.41 for those with more than \$50 billion in assets under management.

This trend is by no means restricted to the APAC region, as buy-side firms globally have begun to cut down the number of technology vendors in recent years – including algo and EMS providers – they engage with, as regulatory and operating pressures continue to squeeze cost margins.

There was further consolidation of algo providers among small and mid-cap respondents, with the exception being firms with between \$.025 and \$0.5 billion, which on average are using almost four algo providers, an increase of

1.17 on last year’s results. In years passed it was the well-resourced buy-side firms that would have a stable of algo providers to choose from, whereas the smaller firms displayed greater prudence; that ratio is now reversed, and it will be interesting to see how it unfolds going forward.

The extent of this algo provider

consolidation is evident in Figure 4, which shows the average number of algo providers per respondent. Over half of respondents to this year’s survey are employing just one algo provider, down almost 35% year-on-year, while just under 15% of respondents said they are using five algo providers. Meanwhile, around one in 10 respondents indicated that they were using either two, three or four providers.

Growing importance

The results of Figure 5 show just how important algorithmic trading has become to APAC buy-side firms in recent years, with more respondents than ever using algos to execute their flows. The level of firms using algos to trade more than 40% of their flow rose consistently between 2013 and 2016,

Methodology

Survey respondents were asked to provide a rating for each algorithm provider on a numerical scale from 1.0 (Very Weak) to 7.0 (Excellent), covering 12 functional criteria.

In general, 5.0 represents the ‘default’ score of respondents. In total more than 150 individuals responded; almost 400 evaluations were submitted; and 30 providers were evaluated.

The evaluations were used to compile the eight provider profiles covering the major providers based on responses received. Each evaluation was weighted according to three characteristics of the respondent; the value of assets under management; the scale of business being conducted electronically; and the number of different providers being used. In this way the evaluations of the largest and broadest

users of algorithms were weighted at up to twice the weight of the smallest and least experienced respondent.

In arriving at any overall calculations, the scores received in respect of each of the 12 functional capabilities were further weighted according to the importance attached to them by respondents to the Survey. The aim is to ensure that in assessing service provision the greatest impact results from the scores received from the most sophisticated users in the areas they regard as most important.

Finally, it should be noted that responses provided by affiliated entities are ignored and a few other responses, where the respondent was not able to be properly verified, were also excluded.

before experiencing a drop last year to 42.57%.

This decrease can be treated as something of an anomaly compared to this year’s results, which saw a significant spike in firms using algos for their trading activities, with 65.89% of respondents using algos for over 40% of their trading, an increase of almost 25% year-on-year.

Meanwhile there was a significant decrease in firms using algos to execute between 20-40% of trades, with just 2.86% of respondents doing so – a drop-off of over 25% from last year’s level. While a number of buy-side firms are

still using algos to execute up to 5% of their flows (13.02%), the picture here is that algo trading has become so prevalent in the APAC region that more firms are now relying on it for either the bulk of their executions or for extremely niche orders that may be otherwise difficult to execute.

In terms of which algos APAC-based buy-side firms are choosing to utilise, VWAP continues to dominate the landscape, with over three-quarters of respondents using this algo, up from just under 70% last year. Other than implementation shortfall (basket)-type algos – which saw year-on-year

use increase by 15.4% – there were across-the-board decreases for every other type of algo, with dark liquidity seeking and TWAP algos showing the greatest declines over the past year.

Overall, the results of this year’s survey show that APAC algo trading is growing in terms of both quality of algorithms and popularity among buy-side firms, with little to suggest that this trend will be curtailed any time soon. While the rest of the world struggles to adapt to new regulatory regimes, APAC may be well-positioned to take the lead on algorithmic trading in the years to come.

Figure 5: Algorithm usage by value traded (% of responses)

| | 2018 | 2017 | 2016 | 2015 | 2014 |
|---------------------|-------|-------|-------|-------|-------|
| Not answered | 7.81 | 7.55 | 3.43 | 3.62 | 3.32 |
| 0 - 5% | 13.02 | 12.14 | 6.23 | 7.24 | 7.85 |
| 5 - 10 % | 7.03 | 5.66 | 11.22 | 8.69 | 10.09 |
| 10 - 20% | 3.39 | 7.55 | 7.79 | 4.34 | 14.57 |
| 20 - 30% | 0.78 | 15.09 | 12.46 | 7.97 | 10.99 |
| 30 - 40% | 2.08 | 9.43 | 9.66 | 21.01 | 10.13 |
| 40%+ | 65.89 | 42.57 | 49.22 | 47.10 | 43.05 |

Figure 6: Types of algorithms used (% of responses)

| | 2018 | 2017 | 2016 | 2015 | 2014 |
|--|-------|-------|-------|-------|-------|
| % Volume (participation) | 61.98 | 67.86 | 58.26 | 57.24 | 56.71 |
| Dark liquidity seeking | 33.07 | 45.38 | 56.39 | 26.81 | 60.30 |
| Implementation shortfall (basket) | 17.19 | 27.62 | 16.51 | 7.24 | 16.39 |
| Implementation shortfall (single stock) | 53.13 | 37.73 | 45.79 | 38.40 | 45.73 |
| Other | 7.29 | 9.42 | 8.41 | 13.04 | 7.19 |
| TWAP | 34.38 | 49.05 | 18.06 | 24.63 | 12.84 |
| VWAP | 75.26 | 69.80 | 60.74 | 57.25 | 57.20 |

Bank of America Merrill Lynch

Bank of America Merrill Lynch (BAML) received generally favourable scores from respondents but was unable to outperform the survey average across any of the 12 categories under review. The bank's highest ratings were awarded in the improving trader performance (5.47), ease of use (5.48) and execution consulting (5.59), while BAML underperformed against the survey average in the reducing market impact (-0.62), anonymity (-0.66) and crossing (-0.68) categories. BAML's lowest score came in the crossing

category (4.82).

Over half of respondents for BAML manage more than \$50 billion in assets, with the remainder split evenly between the other AuM brackets. Just over three-quarters of BAML's respondents said they are using algos to execute more than 50% of the value their flow, with just over two-thirds using algos to trade over half of their overall flow. Around half of BAML users noted their usage of the firm's algos had increased year-on-year.

| Improve trader productivity | Reduce market impact | Execution consistency | Cost | Speed | Anonymity | Price improvement | Customisation | Ease of use | Crossing | Execution consulting | Customer support |
|-----------------------------|----------------------|-----------------------|------|-------|-----------|-------------------|---------------|-------------|----------|----------------------|------------------|
| 5.47 | 5.20 | 5.29 | 5.27 | 5.34 | 5.18 | 5.17 | 5.27 | 5.48 | 4.82 | 5.59 | 5.43 |

Citi

Citi performed well in this year's APAC algo survey and will have reasons to be pleased with the results. The firm just outperformed the survey-wide average and received high scores for its customer support (6.58), execution consulting (6.44) and improving trader productivity (6.30) functionalities. While there were areas where the firm underperformed against the survey average – most noticeably for anonymity (-0.38) and cross (-0.39) – these discrepancies were largely negligible. Several of the

results for Citi were largely in-line with the survey average, indicating that respondents were, for the most part, satisfied.

Half of Citi's respondents came from the largest AuM bracket (more than \$50 billion), with a relatively even split among small and mid-sized firms making up the rest. Just over half of respondents indicated that they are using algos to trade more than 60% of their overall flow, while one-quarter said their algo usage has increased over the past year.

| Improve trader productivity | Reduce market impact | Execution consistency | Cost | Speed | Anonymity | Price improvement | Customisation | Ease of use | Crossing | Execution consulting | Customer support |
|-----------------------------|----------------------|-----------------------|------|-------|-----------|-------------------|---------------|-------------|----------|----------------------|------------------|
| 6.30 | 5.72 | 5.84 | 5.52 | 5.75 | 5.46 | 5.60 | 5.91 | 5.88 | 5.11 | 6.44 | 6.58 |

Credit Suisse

Credit Suisse recorded a number of impressive scores from respondents in this year's survey, comfortably beating the survey-wide average. The firm recorded scores higher than 6.00 in half of the 12 algo functionalities under review, with its best results coming in the speed (6.47), improving trader productivity (6.31) and customisation (6.23) categories. Alongside this, Credit Suisse also significantly outperformed the survey average for reducing market impact (0.37), crossing (0.33) and execution consistency (0.41)

categories. There were some areas where the firm failed to outperform, although this was most often by a difference of less than 0.1.

Just over two-thirds of Credit Suisse respondents said they are managing more than \$50 billion in assets, while the rest were primarily from the smaller end of the AuM brackets (managing less than \$1 billion). The same proportion of firms are using algos to execute more than 60% of both their overall flow and its value.

| Improve trader productivity | Reduce market impact | Execution consistency | Cost | Speed | Anonymity | Price improvement | Customisation | Ease of use | Crossing | Execution consulting | Customer support |
|-----------------------------|----------------------|-----------------------|------|-------|-----------|-------------------|---------------|-------------|----------|----------------------|------------------|
| 6.31 | 6.19 | 6.28 | 5.57 | 6.47 | 6.07 | 5.96 | 6.23 | 5.96 | 5.85 | 5.86 | 5.70 |

Goldman Sachs

Goldman Sachs will have every reason to be disappointed with the results of this year's APAC algo survey, wherein the firm consistently underperformed against the overall average and the specific areas under review. Respondents for Goldman Sachs judged its algo capabilities to be lacking in key areas, at least in comparison with its peers, with particularly low scores in the cost (4.80), crossing (5.04) and customisation categories (5.07). The firm's best scores were in the improving trader productivity (5.64) and ease of

use (5.48) categories, while it recorded substantially lower scores than the survey average for cost (-0.89), execution consistency (-0.75), speed (-0.73) and customer support (-0.69).

Just under half of respondents for Goldman Sachs were from the top AuM bracket (more than \$50 billion), with a significant portion coming from the lowest end of the scale (up to \$0.25 billion). Just under one-third of respondents said they had increased usage of Goldman Sachs algos year-on-year.

| Improve trader productivity | Reduce market impact | Execution consistency | Cost | Speed | Anonymity | Price improvement | Customisation | Ease of use | Crossing | Execution consulting | Customer support |
|-----------------------------|----------------------|-----------------------|------|-------|-----------|-------------------|---------------|-------------|----------|----------------------|------------------|
| 5.64 | 5.31 | 5.12 | 4.80 | 5.14 | 5.20 | 5.19 | 5.07 | 5.48 | 5.04 | 5.30 | 5.11 |

Haitong International Securities

Haitong International Securities received very favourable scores from respondents in this year's survey, outperforming the survey average in 11 of the 12 categories under review. The firm almost achieved perfect scores in the execution consulting and customer support categories (6.76), while it also achieved high scores for anonymity (6.64), customisation (6.56), reducing market impact (6.56) and improving trade productivity (6.46). The only area where Haitong failed

to score above 6.00 was in the crossing category, which scored 5.12, well below the survey average (-0.38).

Respondents from Haitong came from a range of small, mid-sized, and large AuM brackets, while over two-thirds said that their usage of Haitong algos has increased over the past year. Just under two-thirds of respondents indicated that they use algos for over 60% of their trading by volume and value, with a variety of ratios making up the remainder of respondents.

| Improve trader productivity | Reduce market impact | Execution consistency | Cost | Speed | Anonymity | Price improvement | Customisation | Ease of use | Crossing | Execution consulting | Customer support |
|-----------------------------|----------------------|-----------------------|------|-------|-----------|-------------------|---------------|-------------|----------|----------------------|------------------|
| 6.48 | 6.56 | 6.34 | 6.21 | 6.20 | 6.64 | 6.34 | 6.56 | 6.34 | 5.12 | 6.76 | 6.76 |

Instinet

Instinet provided a decent showing in this year's survey, receiving generally positive scores from respondents and marginally outperforming the survey average both in terms of overall score and across the 12 functional categories reviewed. The firm scored above 6.00 in 5 of the 12 categories, including in the ease of use (6.29), execution consistency (6.10) and speed (6.08) categories. Elsewhere, Instinet scored largely in-line with the survey averages, while the only areas where it failed to do so, despite being only marginally

below the average, were in customisation (-0.11) and execution consulting (-0.03).

The majority of respondents for Instinet came from the highest end of the AuM bracket, with over two-thirds of firms managing more than \$50 billion, while there was an even split between the remaining firms from the small-to-mid end of the AuM scale. Around 20% of respondents said their usage of algos has increased year-on-year.

| Improve trader productivity | Reduce market impact | Execution consistency | Cost | Speed | Anonymity | Price improvement | Customisation | Ease of use | Crossing | Execution consulting | Customer support |
|-----------------------------|----------------------|-----------------------|------|-------|-----------|-------------------|---------------|-------------|----------|----------------------|------------------|
| 6.01 | 5.85 | 6.10 | 6.02 | 6.08 | 6.04 | 5.82 | 5.59 | 6.29 | 5.69 | 5.85 | 5.93 |

Societe Generale

Societe Generale was another firm to record a number of high scores from respondents in this year's survey, with an overall average score well above that of the survey-wide average. The firm outperformed the survey average in all of the 12 categories under review, as well as scoring above 6.00 for all algo functionalities assessed. Its highest scores came in the customer support (6.47), improving trader productivity (6.43) and execution consistency (6.39), while it was also one

of only three firms in the survey to score above 6.00 in the crossing category (6.05). Societe Generale noticeably outperformed the survey average for cost (0.68), customer support (0.67) and execution consulting (0.5).

Respondents for Societe Generale were evenly split across AuM brackets, with just over one-quarter coming from the highest end of the scale (more than \$50 billion). Just under two-thirds of respondents for the firm indicated increased use of algos year-on-year.

| Improve trader productivity | Reduce market impact | Execution consistency | Cost | Speed | Anonymity | Price improvement | Customisation | Ease of use | Crossing | Execution consulting | Customer support |
|-----------------------------|----------------------|-----------------------|------|-------|-----------|-------------------|---------------|-------------|----------|----------------------|------------------|
| 6.43 | 6.26 | 6.39 | 6.37 | 6.29 | 6.32 | 6.15 | 6.15 | 6.31 | 6.05 | 6.38 | 6.47 |

UBS

UBS received largely favourable scores from respondents in this year's APAC algo survey, although there are areas for improvement for the firm to concentrate on. UBS only just outperformed the overall survey average score, while scoring above 6.00 in four of the 12 categories reviewed by respondents – speed (6.17), anonymity (6.15), ease of use (6.14) and improving trader productivity (6.05). The firm outperformed the survey average in nine of the 12 functional categories, only just

failing to do so for cost (-0.29), customer support (-0.20) and execution consistency (-0.15).

The majority of respondents for UBS were in the lower end of the AuM brackets, with around half of firms managing below \$10 billion, while around one-third were from the highest bracket with more than \$50 billion in AuM. Just over 20% of respondents for UBS indicated that they are recorded increased usage of algos over the past year.

| Improve trader productivity | Reduce market impact | Execution consistency | Cost | Speed | Anonymity | Price improvement | Customisation | Ease of use | Crossing | Execution consulting | Customer support |
|-----------------------------|----------------------|-----------------------|------|-------|-----------|-------------------|---------------|-------------|----------|----------------------|------------------|
| 6.05 | 5.89 | 5.72 | 5.40 | 6.17 | 6.15 | 6.00 | 5.94 | 6.14 | 5.50 | 5.96 | 5.60 |