

TAKING TCA TO THE NEXT LEVEL



Accurate and meaningful **Transaction Cost Analysis (TCA)** has become an increasingly essential requirement for buy-side firms today, not only to satisfy regulatory requirements around best execution but to also optimise costs, manage risks and improve performance and execution quality when trading.

From its simple post-trade origins in the equities space, the scope of TCA has now evolved to cover the entire trade lifecycle, and is now being used across multiple asset classes.

In this article, we look at some of the challenges associated with cross-asset TCA, particularly from a pre-trade perspective, how TORA addresses those challenges, and how firms can get the most out of transaction cost analysis, regardless of which instruments they trade.

TCA AND BEST EXECUTION

With the increasing regulatory focus on best execution, TCA has become an important tool to help firms meet their regulatory requirements under MiFID in Europe and under the US SEC's order handling disclosure rules. Both of which require firms to provide details on how their routing decisions impact order execution quality. In this regard, TCA can be seen as the 'oracle' from which firms can gather the necessary data and analytics to meet those obligations.

Market structures have become highly complex however, particularly for electronically traded markets, with countless factors feeding into the decision process around where and how to execute orders. Having the right TCA tools not only helps firms to navigate through this complexity, but also provides the necessary evidence, to both end clients and regulators, that best execution requirements are being followed.

Nevertheless, effective use of TCA for best execution should go beyond the post-trade analysis of transaction costs. To achieve true best execution, firms need to look at an increasing number of real-time metrics and apply them on a pre-trade basis to better optimise execution by not only selecting the right venue, broker/counterparty and (where appropriate) algorithm for each trade but also to fine-tuning parameters on the fly.

That means that firms need to be able to understand how the various venues, brokers and algos are likely to perform under certain conditions so that they can route their orders accordingly. Depending upon which asset class is being traded, many different factors need to be considered when assessing this.

TCA ACROSS ASSET CLASSES

The use of TCA for best execution is most mature in equities markets, so it is perhaps not surprising that almost 90% of equity trading desks now actively use TCA, according to a recent report from Greenwich Associates. This compares with 60% in FX and just 38% of fixed income desks, although those numbers are growing.

Equities

In equity markets, leading firms are now using TCA not only to ensure best execution, but to also preserve alpha to meet their investment objectives. Whereas in the past, TCA was mainly conducted post-trade to evaluate venue and broker performance, firms now have the ability to assess the potential market impact of their orders in real time, by conducting intelligent pre-trade analysis of liquidity pools (block venues and dark pools versus central limit order books for example), trading sessions, brokers, algos and participation rates, and to adjust parameters 'in flight' to ensure the most optimal execution.

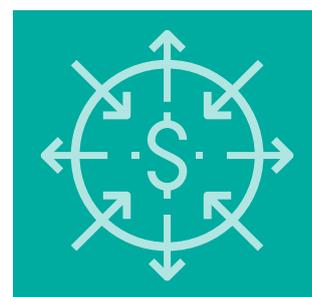


The key here is that the information available to the trader is accurate, timely, comprehensive and actionable, not just for one trade, but also on a holistic basis. This means ingesting data from the PMS, OMS & EMS, as well as historical and real-time market data, and analysing it in a meaningful way, so that appropriate recommendations can be made around how and where to execute.

FX

The FX market is much more decentralised and fragmented than equities. Buy-side firms can execute via a range of liquidity sources, including disclosed relationship-based pools, undisclosed anonymous 'all-to-all' ECN-type pools, and bank/non-bank Liquidity Provider (LP) algos.

In such a fragmented market, having an appropriate TCA solution can help with both sourcing liquidity and reducing slippage, by giving firms the ability to see all prices and liquidity from each of those destinations in one place, in a true, real-time 'top-of-book', and enabling them to assess the likelihood of execution at quoted prices.



This is where the flexibility of algo configuration comes into play. Depending on the strategy, a trader might wish to use an aggressive algo that trades at the market price regardless of slippage, a more passive algo that drips flow into the market with much less impact, or something in between, such as combining an aggressive component that goes to an LP who internalises its flow, with a passive component that goes to an ECN.

With such a wide variety of relationships and liquidity experiences available in the FX market, it is essential for FX traders to be able to assess, based upon their own firm's flow, how and where to execute for optimal performance.

Fixed Income

Historically, fixed income TCA has been the most challenging because of varying levels of liquidity in certain bond sectors. The lack of trading in specific names and bond issues means it is often difficult to reference an accurate benchmark to carry out a meaningful analysis of the execution quality. Even for bond issues where trading has been more active, the orders are often executed by voice rather than electronically and so access to the required execution datasets has been hard to come by.

In more recent years the percentage of bonds trading electronically has risen and so, in certain circumstances, getting access to this execution data has been easier but this is not the case across the board. A robust bond TCA analysis needs to aggregate pricing data from multiple sources, including indicative and firm quotes directly from dealers, from multiple platforms and executed prices from services such as TRACE. Even this is often insufficient and so, to fill the data gaps, bond TCA often needs to include model/theoretical prices and evaluated prices from independent firms. Here prices for illiquid bonds are calculated based on more liquid bonds with similar characteristics and these prices are used as the benchmark for the TCA. Also, as the bond market is RFQ-based bond TCA must also consider prices quoted by dealers that were not hit/accepted into evaluation. Managing these large data sets and making actionable metrics available at the point of trade and post-trade is the goal for leading TCA providers.

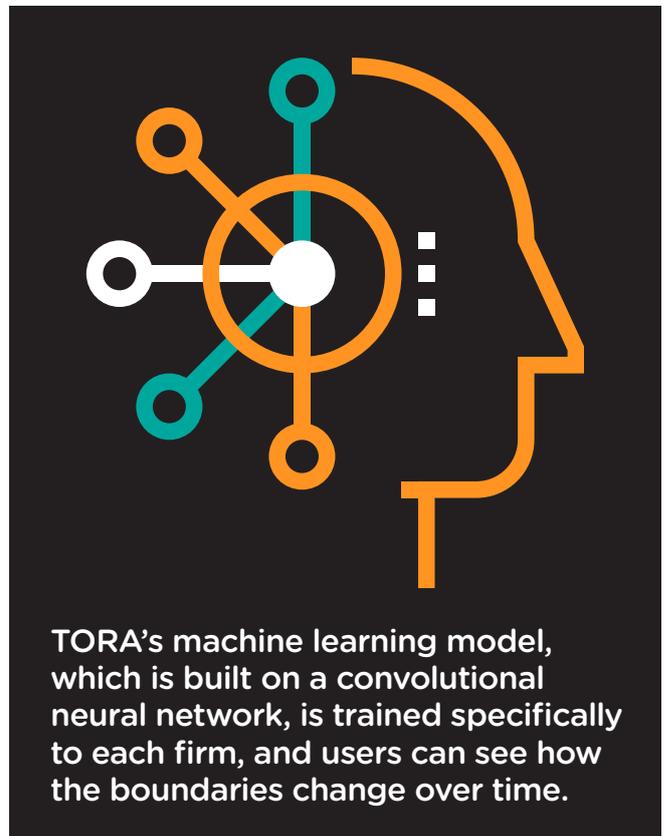


PRE-TRADE TCA

Pre-trade TCA is increasingly being used by firms to analyse liquidity, reduce market impact, and improve execution quality. To be effective, pre-trade TCA requires the use of models that factor in numerous data points in real time, including metrics that show the broker and algo performance in similar conditions to those under which the order is likely to be executed. This is an area where AI and machine learning are playing a part.

TORA TCA uses AI to analyse expected liquidity, participation, spreads, volatility and volume consumption, in order to check how well certain algorithms or brokers performed historically, providing recommendations around which broker and which algorithm would be most appropriate for a particular trade or strategy. It also recommends algo participation rates, based around live market volatility and liquidity characteristics throughout the day. Clients can either follow those instructions or override them.

TORA's machine learning model, which is built on a convolutional neural network, is trained specifically to each firm, and users can see how the boundaries change over time. This gives traders the ability to insert new data into the model or remove it. (One example we have seen is where some clients have removed March and April 2020 data, which was anomalous because of the unprecedented volatility around that time.)



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WORKFLOW INTEGRATION

For TCA to be of most value, it needs to be usable across the firm, not just on the trading desk. From the portfolio manager's perspective for example, integration of TCA into the investment process can help PMs tie their portfolio ideas directly to the execution strategy, which can help with alpha preservation.

This is why clients are now integrating TORA TCA across their entire workflow to provide actionable information not just to traders, but also to portfolio managers, risk controllers, back office and compliance staff in order to preserve alpha, manage risk, optimise costs, and ensure regulatory compliance.

With TCA being an integral component of the TORA OEMS platform, clients have the ability to create dynamic TCA reports for a variety of purposes on both a pre-trade and post-trade basis. At TORA, we also work closely with our clients to help them understand and get the most out of their TCA data, so that they can use it both quantitatively and qualitatively in their trading workflow.

CONCLUSION

In summary, as financial markets become increasingly complex and data-centric, as regulators push for more transparency, and as firms need to stay ahead in an ever more competitive market, TCA will need to continue to evolve to keep pace.

Advanced TCA, such as that offered by TORA, helps buy-side firms to meet regulatory requirements around best execution and helps them to make better use of data across the trading lifecycle, from portfolio construction to trade execution.

ABOUT TORA

TORA is the leading global provider of advanced investment management technologies supporting the full trading lifecycle. TORA has a full suite of cloud-based SaaS delivered execution, analytics and compliance tools, as well as order, portfolio and risk management capabilities and a global FIX network.

TORA's products are utilised by hundreds of the industry's leading hedge funds, asset managers, proprietary trading firms and sell-side trading desks globally. TORA has over 250 employees globally. With its headquarters in San Francisco TORA has offices across the globe including New York, Hong Kong, Tokyo, Jersey, Romania, Singapore and Sydney.