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From June's Trading Places: Risk APIs: A Step In The Right Direction - Mirko Marcadella, Managing Director, The Technancial Company Ltd

Date 25/05/2016

I've worked in the financial markets for 25 years, within this time I have seen the sector change dramatically as a direct result of electronic trading, which was introduced back in the 90s. The pace at which the change has affected our industry has been slower than in other less regulated environments, but still market competitiveness is forcing innovation to thrive. The introduction of machines which reduce or substitute the need for human involvement in the trading process is a fact ever more present in certain asset classes than in others. Over time, exchanges have adopted market microstructures that incentivised electronic trading and as a result, more than 60% of trading volumes in equities are managed by machines today. Order sizes have reduced progressively over time, however, the order frequency has dramatically increased, adding to the continuous message volume growth that needs to be handled, processed and stored. Big Data technology, originally developed and successfully utilised in other industries, has transitioned into our arena where it has been largely adopted by financial markets to cope with the growing demand of data management within this information greedy industry. Machine learning and artificial intelligence (AI) is playing a more common role, where it not only implements trading systems but monitors and detects misbehaviours, more commonly known as market abuse. The financial industry is a highly regulated organism, in which the rules and guidelines must constantly keep pace with innovation by introducing measures to protect market participants and investors. Most of the time regulation corrects distortions of the system, with these new rules serving to re-establish trust after, for example, a major incident or even worse a financial crisis.

In recent years, especially after the 2008 financial crisis, the amount of new regulation introduced into the US, Europe and Asia has been vast and very impressive. Even now, financial institutions are struggling to comply with this new regulatory environment that has served to remould our entire industry. The most dynamic of these institutions has realised that complying with new regulation is not necessarily only a cost but an opportunity as well. Policy makers, regulators and industry players have largely debated if High Frequency Trading (HFT) is useful for market stability or is in fact partly to blame for the stability issues that the markets have experienced. Part of the newly introduced regulation is focused on monitoring and controlling electronic trading in all its forms: DMA, SDMA, HFT, algorithmic trading. We believe that in today's sophisticated trading environments, where technology is dominant, it can be used effectively to monitor trading infrastructures, in near real-time, that are a complex combination of multiple algorithms, systems, connections and data sources. Nowadays, Risk Management and Trade Surveillance are available intraday and in real-time, whereas only few years ago they were T+1 tools. In today's trading environment where machines can generate thousands of messages per second and mis-programmed algorithms can cause huge losses in minutes; relying on a T+1 view of risk is simply no longer enough.

We have come to the point in our industry's development where technology allows agnostic monitoring of complex trading environments, where each and every trading system has its own pre-trade controls but I often see financial institutions that still do not have a holistic intraday view of their risk. For us, Risk Management and Trade Surveillance are more and more interconnected, where Trade Surveillance is broken down into two main elements. On the one side it monitors the users, scanning for misbehaviors like spoofing, layering and other market manipulative actions. On the other side it monitors algorithms and automatic trading systems to detect failures that can cause disruptions to the financial institution's continuity and sometimes even market stability.

The introduction of Risk APIs in trading platforms and exchanges is the direction I strongly believe the industry should go. This will make our environment a lot safer, as the API allows other external systems to instruct the trading platform and/or the exchange to cut an account from trading, also known as a "kill-switch". In more sophisticated cases it (API) will only allow risk reducing orders/trades through. Risk APIs are new to the industry and unfortunately they are not guided by any prescriptive regulatory framework or standard, which leads to various implementations and versions from differing platform vendors. Nevertheless, this is a step in the right direction in establishing the interoperability of systems and allow the creation of supervisory/monitoring tools which can effectively build a "second line of defence", aggregate information across trading platforms and in near real-time provide feedback to the trading platforms or exchanges, instructing them on how to limit clients' trading activities that suddenly became risky as a result of the combination of their positions, market trends and/or their trading activity.

The technology is readily available and is now affordable - not only to the largest financial institutions. Creating highly integrated environments is now not only possible but obtainable, where trading platforms are monitored in real-time and escalation procedures are defined/implemented by systems to alert users (trading desks, risk managers, compliance officers and even clients), instruct trading platforms on how to limit client activities, mass-cancel open orders, auto-liquidate positions and finally "kill-switch" if necessary.