Why do the European capital markets need so many trading systems?

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The evolutionary history of trading systems in Europe

In the first 10 years of exchange automation (mid 1980s to the mid 1990s) large securities exchanges across the globe typically built their own trading systems solutions, regarding the apparent unique features of their design as a competitive advantage. On the other hand, smaller new entrant marketplaces installed a 'package' from one of only a few, maybe 10 specialist exchange trading system vendors, some of whom were also exchanges. Outsourcing in Europe was quite rare, limited to Borsa Italiana, RM System in the Czech and Slovak Republics, and maybe a couple of other venues.

Since the mid 1990s, exchange dynamics have changed totally and outsourcing of technology is very much in vogue with exchanges. Today 62% of European exchanges outsource their end-to-end IT development and facilities management services to a third party provider. Of course, the majority of these venues include markets acquired by Nasdaq OMX, NYSE Euronext and the London Stock Exchange, but there are quite a number of other venues that outsource their trading technology to a third party provider.

Interestingly by contrast, in the multilateral trading facilities and dark pools sector, the majority have developed and operate their own 'unique' solutions, as the existing trading system models did not adequately deal with the emerging needs of the modern sell-side customer. For example, high frequency traders and statistical arbitrage providers collectively need high throughput, without throttling but with more innovative order types. The industry as a whole also needed solutions that continually helped to narrow spreads and provide both optimal price discovery and quantity discovery (without market impact costs). None of this was available from the incumbent providers.

The current dynamics amongst solution providers

In the traditional exchange sector, four main providers are servicing the IT needs of the majority of Europe's marketplaces – Deutsche Börse Systems AG, the London Stock Exchange, Nasdaq OMX Technology AB and NYSE Technologies. The link between technology and corporate strategy is very different for these four providers, but they all operate and sell solutions at significantly higher prices compared to the costs experienced by new entrant venues.

Deutsche Börse Systems AG

Deutsche Börse Systems AG has a number of outsourced IT customers in Europe in both the cash and derivative marketplaces. Its customers include the Bulgarian Stock Exchange, Helsinki Stock Exchange, Irish Stock Exchange, Vienna Stock Exchange, SIX Swiss Exchange and of course Deutsche Börse Group's own Frankfurt Stock Exchange.

On the cash markets side, Deutsche Börse Systems enables exchanges who select their systems to drive cost out of a marketplace and, importantly, provide access to a larger client base given the huge sell-side user footprint or network of Deutsche Börse. The evidence to date shows that there has been no link between IT outsourcing and corporate merger activity and the technology clients enjoy the services of Deutsche Börse Systems AG without the IT services contract being a back-door entry into a corporate deal. Furthermore, even though MiFID enables the passporting of trading of securities across venues, the Frankfurt Stock Exchange has not attempted so far to compete in the order book space with the clients of Deutsche Börse Systems AG – quite a sensible strategy from the point of view of the Group. In the derivatives space, the Eurex market has been a long-term joint venture between the Frankfurt Stock Exchange and SIX Swiss Exchange but has not led to the development of a merger between the two exchanges.

In summary, the experience with Deutsche Börse Systems AG so far is that it has helped to commoditise the trading systems landscape in Europe, and in certain areas to drive down cost and provide participant access to multiple markets via a single access mechanism, without requiring the consolidation of marketplaces. As an exchange operator, you don't need to get married to run a marketplace with Xetra or Eurex – an important political benefit.

London Stock Exchange (LSE)

The LSE has not been as successful in selling its IT solutions to third party exchanges as many of the other providers. Only recently has it started to facilitate the consolidation of European trading systems.

Prior to the merger with Borsa Italiana, the LSE had only sold SETS to the Johannesburg Stock Exchange with whom there is a special cultural relationship. Following the merger with Borsa Italiana, SETS has been implemented for the Italian markets. While this formed part of the rationale for the merger, it is fair to say that Borsa Italiana was in real need of an upgrade to its cash market technologies and therefore any potential suitor would have become the technology provider to the Italian marketplace. LSE technology was therefore a facilitator of a merger. Interestingly, since the transition to LSE technologies it has been unclear as to whether cost has been driven out of the Borsa Italiana group for the benefit of Borsa Italiana customers. Most recently, the LSE has reached a deal with Oslo Børs.

Borsa Italiana also currently outsources its derivative market technology to Nasdaq OMX. The long-term relationship with OMX for the Click derivative trading system did not lead to a merger between Borsa Italiana and OMX. This relationship is due to come to an end when Borsa Italiana transfers to an LSE white-labelled Sola solution from Montreal Bourse. The LSE is also due to launch its own dark pool system, Baikal, based on TradeElect and Fidessa technologies.

It is too early to tell what impact if any LSE technologies will have on the cost of European trading. As with Deutsche Börse, any marketplace that selects the LSE will gain access to a very large user base through a single interface thereby cutting the acquisition cost per sell/buy side customer. Similarly, as an exchange operator, you don't need to get married to run a marketplace with LSE technologies – which is an important political benefit.

Nasdaq OMX Technology AB

Before OMX – and hence OMX Technology – became part of Nasdaq OMX it was very successful in selling its trading systems across the world.

OMX was an example of a provider who operates both in a purely commercial capacity as well as using the trading systems as a lever for acquisitions.

The NOREX Alliance was formed in 1997, when Stockholm Stock Exchange (SSE) and Copenhagen Stock Exchange (CSE) decided to share a newly developed trading platform, developed by SSE – SAXESS. Both exchanges had realised that smaller and medium-sized exchanges would be unable to support the cost of developing and running an up-to-date electronic trading system. Much concern was given to ensure that the independence of CSE was not compromised by sharing systems with SSE.

In the following years, all the other Nordic and Baltic exchanges joined the NOREX Alliance and switched to the SAXESS trading system. Eight exchanges sharing one trading system would require only one technical link-up for members. Therefore, the cost of testing those small and medium-sized markets for international members was lowered considerably. And all exchanges benefited immensely, both in terms of cost and liquidity.

Eventually the close relationship meant that joint ownership became a natural subject for discussion and by late 2006, OMX was the owner of all Nordic and Baltic exchanges, except Oslo Stock Exchange (OSE).

OSE continued as member of the NOREX Alliance and using the SAXESS system. When the next generation system – Genium – was to be built, OSE was the first customer to sign up. After the merger with Nasdaq, the development of Genium as originally envisaged was halted. Subsequently, OSE entered into a strategic partnership agreement with the London Stock Exchange to co-operate across their equities, fixed income and derivatives markets. As part of the agreement LSE will provide OSE with its trading systems for all types of security.

Whatever the reasons behind this decision, it has sparked competition between Nasdaq OMX and OSE in that the former has now started trading in Norwegian shares at the Nasdaq OMX Stockholm segment. One might say that Nasdaq OMX is acting like a rejected suitor.

By contrast, in North America the acquisition of INET by Nasdaq was an essential business preservation measure. Nasdaq learned the hard way about the implications of order book fragmentation and had to buy INET in order re-acquire the order book volume it had lost by pursuing an obsolete IT strategy. Accordingly, it is certainly possible to say that in North America trading technology drove the acquisition of INET by Nasdaq.

Since the formation of the OMX Group, Nasdaq has entered the equation and has brought a very different strategy, launching its own multi-lateral trading facility in Europe, NEURO, using INET technology from North America.

NEURO, in theory, competes with many of the underlying European markets but, along with the introduction of INET technology, has represented a change in the strategy towards technology clients. INET, the crown jewels of Nasdaq OMX technology in terms of performance, is not on offer to technology clients that are not part of the family. Nasdaq OMX has other systems in the bag and will probably continue to sell those; but the top system will not be for commercial sale. This is an interesting strategy and is unlikely to lead to further acquisitions and will probably result in a loss of market share in the technology business.

NYSE Technologies

Paris Bourse developed its own system, known as the NSC solution, in reaction to SEAQ International. This secured their short term local market. Then they diversified their business by creating a technology services business, selling/donating the solution to many marketplaces, working closely with Tandem Computers. Paris Bourse became a founding shareholder and partner in launching the GL and ATOS businesses. This broad IT business helped to facilitate the merger with Amsterdam, Brussels and Lisbon. Technology was an important part of the reason for the merger and Paris was one of the few exchanges with an up-to-date system. Later Liffe was acquired on the basis that Connect was retained and used to drive economies of scale into the derivative markets within the group. The NSC system was also sold to the Warsaw Stock Exchange and a number of sites outside Europe (Oman, Kuala Lumpur etc).

More recently, Euronext has diversified its marketplace technologies and also built a dark pool known as SmartPool, while in the US NYSE has a separate dark trading model from BIDS. SmartPool and the rest of Euronext are migrating to UTP (the Universal Trading Platform) from which all trading services in the US and Europe will be operated. UTP is based on the ARCA technology coming from Chicago, paving the way for trans-Atlantic harmonisation.

The Euronext case study is interesting as it has helped to achieve consolidation in both trading systems and markets, but it has not re-invested in the European technology paving the way for the US technologies to be imposed on the European marketplace. The benefits will clearly accrue to NYSE Euronext shareholders and the low latency users of the Euronext marketplace, but whether it will help any further expansion in Europe with a decision base out of North America is certainly an open question.

The important role of MTF and dark order book solutions

In the past two years it has been clear that, from the sell-side and buy-side perspective, the European trading systems landscape was improving, but not fast enough. There was a lack of innovation in functionality, largely due to the marketplaces being monopolies and offering almost a 'one size fits all' trading solution for all segments of the market, however disparate the needs of different stakeholders happened to be.

Since the advent of MiFID, significant competition has emerged, with new functionality, services and the lowest latency solutions from a number of new venues each with different selling points. The venues include Chi-X, Turquoise, BATS, PLUS, Equiduct and, on the dark broker-dealer side, ITG-Posit, Nyfix, Liquidnet, to name but a few.

These new entrants have injected fresh thinking into the capital markets, driving innovation of all marketplaces through competition, but have yet to move the reference markets. Now, due to an accident of timing and with the recession biting even further, it is highly likely that some new platforms will not survive. They face a series of political, policy and hidden barriers to entry, increasing their capital burn rate substantially for no benefit to the European capital markets or shareholders of the venues. They are also unable to attract the liquidity they rightfully deserve, as regulators are not able or willing to enforce 'best execution policies' adding to the cost of trading in the UK alone by GBP400m-GBP600m per annum in implicit trading costs. Consequently, there is a strong chance that many of them will run out of capital over the next 12 to 18 months. This may be viewed as a Darwinian selection process, but in reality it will have a detrimental impact on the evolution of the European marketplace, allowing the industry to revert to the monopolistic lethargy of the 1990s in terms of exchange services.

With regard to the impact of these new venues on the cost of trading, to date they have helped to substantially lower both the explicit and implicit costs of secondary market trading and, in the case of dark pools, they have delivered double-digit basis point price improvement (and reduced market impact costs) over the equivalent trade on reference markets.

Only one of the venues has chosen to diversify into the trading systems market: Chi-X, through its sister company Chi-Tech which acquired Cicada and consolidated its systems offering. Chi-X has yet to achieve a sale in Europe, although it is still early days. Potentially, the advent of Chi-Tech represents a new chapter in terms of value for money solutions – i.e. modern functionality and extremely low latency at a sensible price that is recession friendly. Most importantly, and as with Deutsche Börse and the London Stock Exchange, you don't need to get married to Chi-Tech to get access to their best technologies as used in the Chi-X marketplace.

The outlook

There is still significant potential for consolidation of trading systems. The effort to lower costs needs to be re-invigorated but, how migration will take place from the current scenario to a more consolidated trading systems environment is unclear.

Logically, Europe only needs a few trading systems, probably no more than five. On the one hand there should be the large, low latency reference markets that commoditise the trading execution services; and then a small number of niche providers, independent marketplaces that deliver a specialist service to a niche group of customers. Under this scenario, Europe's capital markets would be significantly cheaper and more efficient.

We have demonstrated that consolidation of trading systems does not necessarily require consolidation of markets. So if consolidation of trading systems will benefit the greater good of Europe and will clearly lower costs, why is it not happening?

The real challenge is not always financial. There are many psychological barriers to the consolidation of trading systems even through an outsourcing model. The two most often cited are market independence and market access.

With regard to the big issue of market independence – the key question is the ability to control the destiny of the marketplace and the relationship with the investment firm clients. It is often stated that outsourcing core trading technology to a third party systems provider can lead to the loss of independence of a trading venue, for a variety of reasons. This argument may hold some truth, but loss of independence is certainly not inevitable. The case studies above show that technology has been a significant influencer in many of the exchange mergers in Europe, but it has not been the cause – the cause of mergers has typically been personal/political ambition, cost efficiencies, cultural affinity and goal congruence. One of the outcomes of each corporate merger has been a harmonisation of technologies to drive cost out of the combined business. In our opinion, the risk of loss of independence for an exchange is more related to the fragmentation of trading and, given that is facilitated by MiFID, consolidation of platforms through outsourcing provides a chance to re-consolidate order books and to remain competitive. Indeed, the history in North America has shown that both Nasdaq and NYSE ignored the progress of technology and demands of customers, and then found their order books fragmented and had to acquire their competitors in order to re-assemble their business: an important lesson for European markets that seek independence.

The second key barrier that is often cited is market access. Given that there is no standard low latency access standard to markets, not even FIX, if an exchange changes systems it puts the client base through a large IT change. This is not as big an issue as may be thought, although if a proprietary solution is selected that is not supported by the independent software vendors then time to market certainly becomes an issue. However, solutions are readily available and it is not a real barrier to trading system consolidation and European market cost reduction.

Conclusion

Cost saving is a good reason for reducing the number of trading systems in the European marketplace. If cost reduction is not achieved, the cost of capital in Europe will continue to remain unnecessarily high and portfolio performance will continue to be impaired.

Outsourcing can achieve the majority of cost reductions, both in direct costs and implicit costs. Outsourcing can also protect market independence and, with the right solution, market access can also be protected. We hope Europe embraces this goal and seeks to consolidate trading systems, even if it cannot consolidate marketplaces.

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