



Capital Markets: The Digital Transformation

Capital Markets continue to face unprecedented headwinds from the combined forces of regulation, market volatility, disruptive technology and an ever-demanding client base. From M&A to asset management, most areas of financial services have remained largely immune to the technological overhaul other industries been forced to address. Today, however, with revenue margins falling and regulatory obligations increasing, capital markets are finally under severe pressure to change.

Automation has focused on trading but now it must spread across the lifecycle of a trade, front to back, from single stock to multi-asset global execution. The ever-increasing volume of data that firms need to assimilate, analyse and react to will finally break down traditional methods of client interaction. Loading technical complexity onto siloed legacy IT systems to comply and survive economically will lead to IT spaghetti spiralling out of control. Only by taking technology from a support role to an integral strategic role will the industry be able to transform business models capable of success in the digital age.

Introduction

Capital markets have remained under siege since the global financial crisis of 2008. Unable to shake off the combined forces of a long-term shift from a capital-intensive sell side, a deluge of regulation in an increasingly volatile political backdrop, and increased client demands for improved transparency and control in an environment of reduced revenues, firms are reaching their nadir. While progress has been slow and limited, survival requires a seismic change in business practices and procedures.

Unlike other industries, capital markets have been slow to introduce enhanced production cycles and optimized efficiencies. Now, firms from global banks to asset managers cannot avoid aggressively addressing business strategy and procedures. Siloed, legacy technology and inconsistent data sources strung together across business and IT cannot deliver the enterprise-wide visibility now required, and hampers organisations as they prepare for the digital age.

Firms today must collect, collate, store, retrieve, analyse and interrogate data constantly; those that implement technically agile data strategies will derive valuable intelligence from their data, which will differentiate their businesses. Never ending transparency demands from customers require real-time front-to-back insight. Streaming analytics enables multiple data streams to be processed real-time but only by mining those siloed data streams across a trade lifecycle can accurate intelligence be derived. Incorporating structured and unstructured data across multiple trading platforms and architectures can establish trends that, together with overlaying predictive analysis, can provide real-time understanding of businesses, through both reaction and innovation.

Harnessing innovation will lead to success, and the fintech industry needs to shift from a perceived disruptor to an enabler of existing business practices. Single points of contact must morph into central agile hubs with multiple access points. Streaming analytics that can match a firm's view with changing events in the marketplace for early identification of risks and opportunities. Correct access and authentication will be required at every stage in a trade's lifecycle to integrate and enable siloed systems to deliver accurate data-driven decision making. As such, the capital markets' digital transformation is not a static one-off project but a continuous evolution that will ultimately revolutionise every financial services firm's strategy.

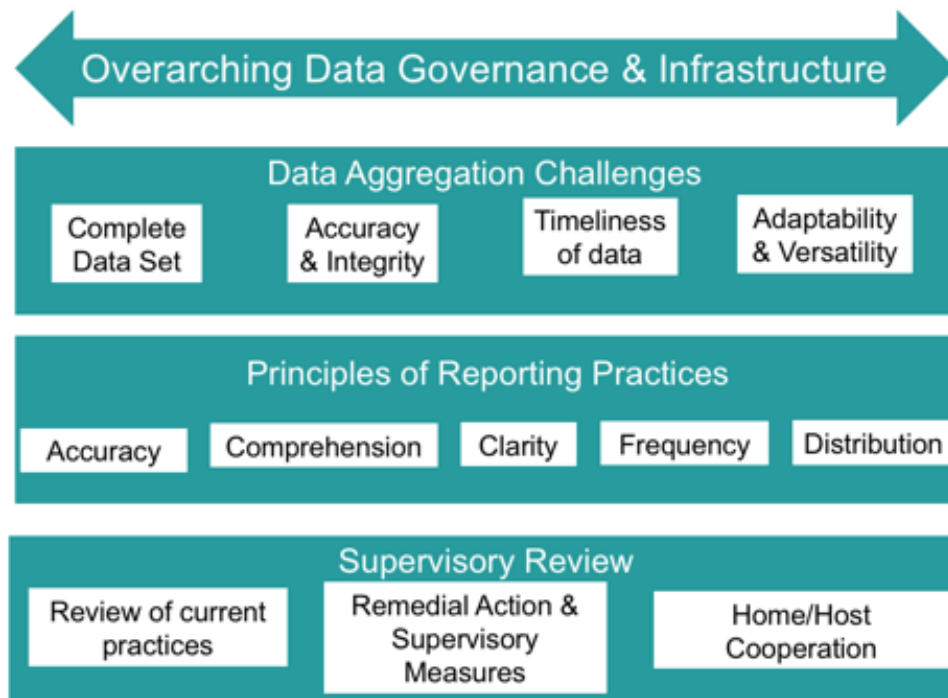
Regulatory Overload

At the core of the largest regulatory initiative is accurate, consistent data that can be integrated and interrogated successfully. For the most part, market participants have so far focused resources and technology on trade execution. Future financial regulation will impact every decision from an initial investment to final settlement. As a result, many, if not all, current processes and business practices will need to change.

Regulatory compliance has transformed from vanilla know your customer (KYC) requirements to real-time risk mitigation and extensive fraud prevention within precise timeframes. Firms can spend millions of dollars on capturing every aspect of a trade, creating a minefield of information that requires new capabilities in data management — what to collect, when, where, why and how to validate it.

The recent announcement to delay the implementation of MiFID II¹ highlights the extent to which European regulators intend to rely on the provision of accurate and reliable data (see Exhibit 1). Trading and execution venues, members who use them and the National Competent Authorities responsible for monitoring them will be required to provide and use data more effectively to deliver a more transparent, robust and efficient marketplace.

Exhibit 1
Impact of MiFID II on Data



Source: TABB Group

¹ http://europa.eu/rapid/press-release_IP-16-265_en.htm

Execution Trade Data Today

Better informed decisions lead to improved trading performance. But in addition to factoring in all costs and charges, changes to trading strategies will also now require justification, possibly even recertification under new organisational requirements — specifically ESMA's Regulatory Technical and Implementation Standards Order Data and Record Keeping (RTS 24) and Trade and Transaction Reporting (RTS 26). But it is not just Europe — in the US, new requirements under Regulation AT (Algorithmic Trading) are at the proposal stage, and increasingly there will be a convergence of regulatory mindset across the globe.

As new regulations require more data to be captured at the transaction level and stored for future recall, data will populate various post-trade feeds for allocations, confirmations, affirmations and surveillance or global order and risk monitoring. Therefore, it must be accurate and as close to real time as technically possible. Knowing what to ask of data to interrogate and analyse execution processes correctly will be critical — pre-, at- and post-trade (see Exhibit 3).

Exhibit 3
Trade Lifecycle Data Workflows



Source: TABB Group

Linking different order management systems that are often siloed by asset class or replicated across regions and business lines can uncover complex and tangled chains of data, different sources of data storage and gaps in data. Here the key is coping with the sheer magnitude of data, recognizing any potential inaccuracies and gaps, and discovering where the fault lines lie. Firms will need to implement a comprehensive data strategy that is harmonised across the entire organization and determine what data analysis is crucial to their business and must be captured by automating processes across the full lifecycle of a trade.

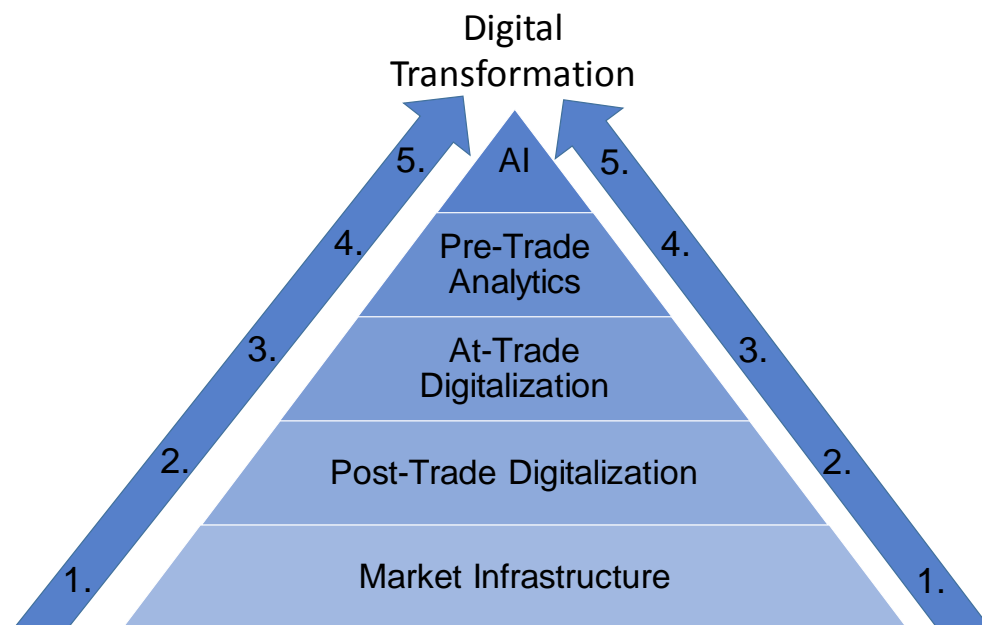
Integration of Disruptive Tech

In tandem with new regulatory requirements, the decline of the traditional centre of risk transfer has left a gaping hole in how firms can execute business efficiently. To date, firms have been coping by adding complex technological requirements onto legacy systems. The inevitable IT spaghetti, associated support costs and increased risk is what chief technology officer nightmares are made of.

However, opportunities are emerging. A new generation of cloud and mobile technologies, open service architectures and APIs offer the potential to engage in new development of services and provide a changing dynamic between providers and users. Fintech firms have made inroads but progress remains slow. Financial innovators cannot drive efficiencies with little market infrastructure from which to build. Fintech should therefore be seen as an enhancer to complement business models, and the catalyst behind business practices entering the digital age in which financial incumbents become host platforms, interacting with new providers to bring cost efficiencies and improved solutions to meet new challenges.

Incumbents may need to change processes but they also provide the necessary scale and distribution models to implement change into infrastructure, not to mention their essential industry expertise. Fintech, while innovative, risks solving imaginary problems while real headaches go unnoticed, preventing wholesale adoption and mass behavioural change. One example would be the introduction of artificial intelligence (AI) into algorithms; certain evolutionary stages need to be processed to reach the necessary digital transformation that added AI can provide (see Exhibit 4).

Exhibit 4
Building Blocks of Digital Transformation



Source: TABB Group

Another example of disruptive technology as an enabler is blockchain. Originally the technology to underpin bitcoin, blockchain was considered a standalone write-once database, but now the possibility to embed logic within processes gives blockchain a potential new breadth of reach. For example, Barclays has introduced a prototype of Smart Contract Templates that combine legal agreements and business logic. Smart Contracts have the potential to enable firms to self execute or automate a contract between parties and store this on blockchain. The next step is to create specific verticals or needs, public versus private blockchains and inter-company blockchains.

But like much of fintech, noise and hype can disguise fundamental real and valuable change. Blockchain in its current form may or may not become part and parcel of trading but it represents a potential method for consumers to be in greater control of their data. Whether that's personal information or details of assets, the demand for decentralised control with universal accessibility and cast iron governance for the global generation is here to stay.

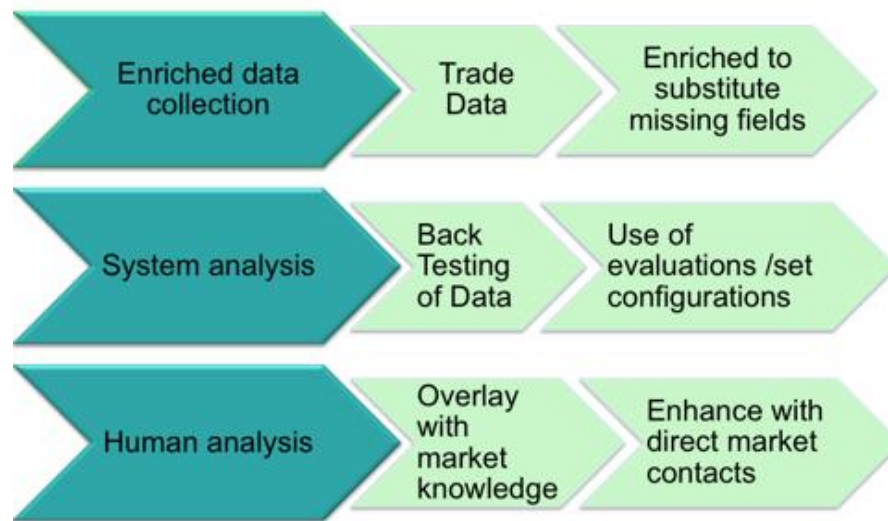
Changing Business Practices

The backbone of capital markets remains the infrastructure that connects asset holders and intermediaries, but these roles are shifting and adapting. The adoption of disruptive technologies within existing business models will facilitate greater transparency and efficiency.

The continued retrenchment of the sell side has seen a switch in control of asset ownership as well as a change in methods of execution and types of counterparty. The recent rise in multi-asset passive investments such as exchange-traded funds, and the rise of new strategies such as smart beta are moving the dial on what is required. As the world's leading money managers continue to invest in quantitative methodologies and complex investment strategies, they are clearly under pressure to deliver.

Increasingly, managers are expanding investment strategies into more fluid, hybrid models that are heavily dependent on data to contextualize information flows and create a unique edge. With passive alternatives and smart beta, investors have a more diversified and sophisticated armory with which to implement their investment strategies.

Exhibit 5
Building Blocks of Digital Transformation



Source: TABB Group

The combination of enriched data capture, improved analysis and human oversight can provide powerful real-time predictive analytics that can harness AI (see Exhibit 5). The more data stored, the greater opportunity for enhanced AI moving beyond algorithms into bots and machine learning tools that can recognize and react to patterns within that data. Predictive analytics will expand from the search for alpha to the mitigation of false positives in market surveillance or KYC.

Wider adoption of AI into an organisation's decision-making process allows firms to create a culture of "data relevancy" that can underpin every decision to support and drive a firm's growth strategy. By focusing on improving operational excellence, firms can then be freed up to focus on value creation through efficient analysis with intellectual input. By

incorporating technology and an analytical process into decision making, quantifiable evidence can be produced to back-stop business intelligence, ensuring that organizations have the correct models, platforms, talents and tools to succeed in the digital age.



The Way Ahead

Capital markets still have a vital role to play in the creation of economic activity and wealth through lending, saving and investing. However, financial services activity now occurs less within the physical world and more and more in the digital world. This evolution is forcing the industry to be less product-centric and more customer-centric to generate efficiencies that can improve customer experience and generate revenue. To achieve this shift successfully, firms will need to move technology to the centre-stage as an integral part of any strategic vision.

The combined forces of regulation, reallocation of capital and declining revenues will accelerate trends in digitalisation. While other industries have addressed mass industrialisation, capital markets have thus far remained resistant to change. However, with the overwhelming need to consume more data faster and act immediately on the information gleaned from that data, firms can no longer avoid aggressively addressing defunct business models. Blindly adding layer upon layer of legacy technology will leave firms drowning in a sea of complexity — ultimately raising regulatory risk and costs. Unable to stop the flood of data, firms have to get smarter at organizing, sharing and evaluating data, workflows and processes across the financial services value chain.

Greater client demand for increased transparency and control requires real-time insight across organisations. An orchestration layer can provide the very visibility, transparency and data providence necessary to oversee an individual clients' activity across a firm. Increasingly, firms will need to take an enterprise-wide approach to risk rather than managing risk in silos. Next will be the part individual firms play within the wider industry activity. This will require disruptive technology to adapt and develop. Industry-wide blockchains, public vs. private, consensus vs. distributed, permissioned ledgers to permissionless — the extent to which technology will shape next-generation business models has only just begun.

The challenge for established financial services firms and the vendors that support them will be to find the correct means of collaborating with new, innovative technologies to achieve this transformation. But it needs to happen in tandem with behavioural change. It is not just technology, but new approaches to workflows, processes, metrics and controls. The most prudent firms are already laying the foundation for the regulation of tomorrow in an increasingly competitive and challenging environment.

Disruptive new business models, products and services now need to be incorporated into incumbent organisations and market norms in order to understand, address and monitor new risks and challenges. Only then will capital markets achieve the transformation critical to succeed in the digital age.

About

TABB Group

TABB Group is the international research and consulting firm focused exclusively on capital markets, founded on the interview-based research methodology developed by Larry Tabb. Since 2003, TABB Group has been helping business leaders gain a truer understanding of financial markets issues to develop actionable roadmaps and approaches to future growth. By accurately assessing their customer base, competition, and key market opportunities, TABB Group works with senior industry leaders to make critical decisions about their business. For more information, visit www.tabbgroup.com.

TABB Group's FinTech Practice

TABB Group's FinTech research practice is specifically designed to help financial institutions understand the latest spending trends, strategies and solutions that are critical to achieving best-practices in financial services technology, data, analytics, and technical infrastructure. This service also helps technology and data solution sales and marketing organizations understand specific requirements and uses cases within financial services and capital markets firms.

FinTech Team

Primary Analyst:

Alex Tabb

Partner

atabb@tabbgroup.com

Alexander Tabb is a Partner at TABB Group who specializes in institutional capital markets technology, technology implementation and information security/information risk. Alex joined TABB in May 2004 from Kroll Inc., where he served as an Associate Managing Director for two and a half years. Prior to joining Kroll, Alex was a Foreign Service Officer with the US Department of State, serving as an Economics and Commercial Officer in Africa, Eastern Europe, and the United Nations. Since joining TABB Group, Alex has written a number of research notes on technology, including Optimizing Collateral: In Search of Margin Oasis; Financial Services Extranets: Connecting a Fragmented Trading World; and Robo-Advisors vs. Traditional Advisors: A Battle for the Hearts and Minds of Investors.

Terry Roche
Head of FI Research
troche@tabbgroup.com

Alex Tabb
Partner
atabb@tabbgroup.com

Dayle Scher
Senior Analyst
dscher@tabbgroup.com

Monica Summerville
Senior Analyst
msummerville@tabbgroup.com



www.tabbgroup.com

New York
+ 1.646.722.7800

London
+ 44 (0) 203 207 9477