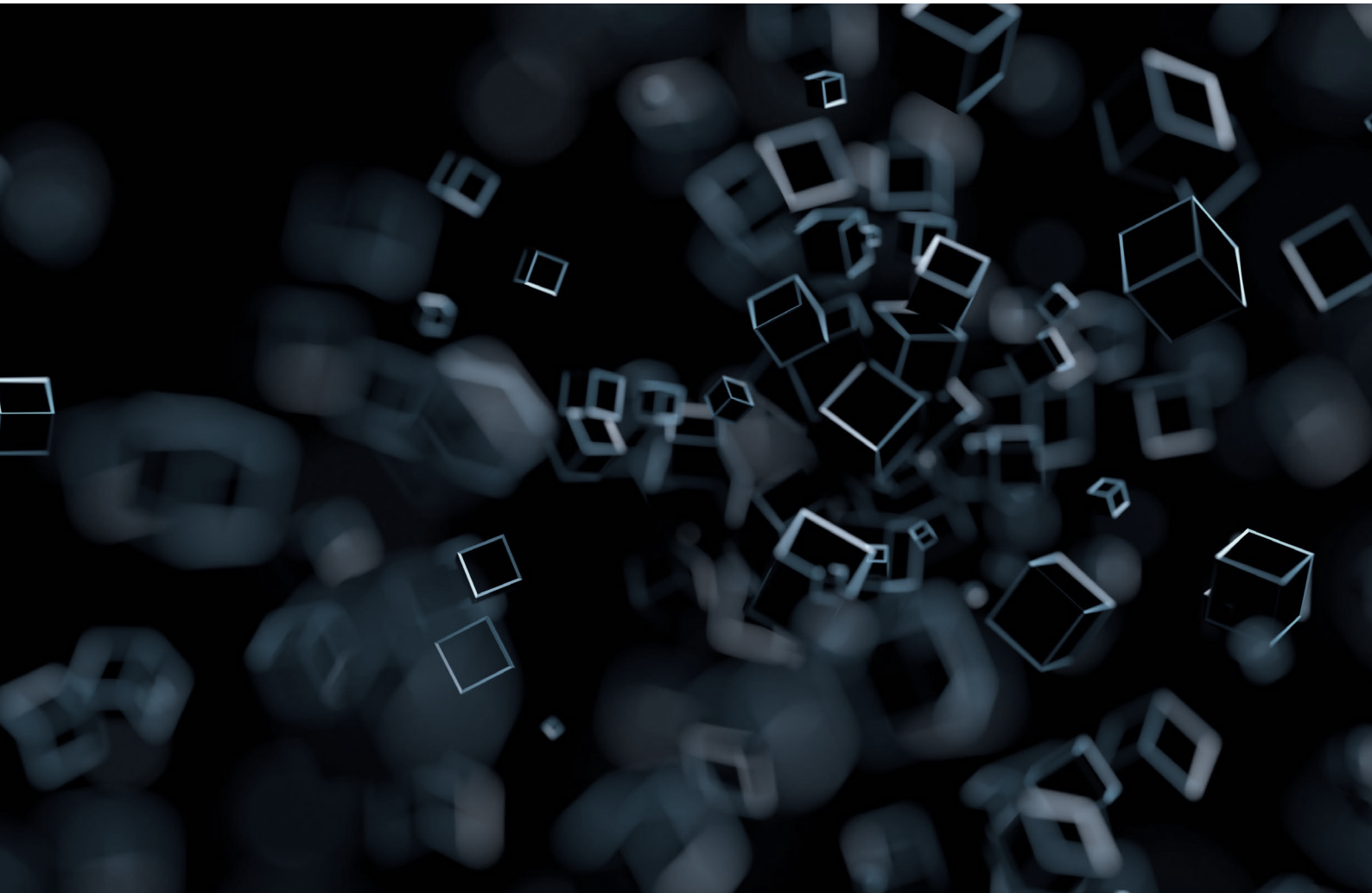
CAPCO

MAKING DATA WORK FOR THE ENTERPRISE



SPEED READ

- The Capital Markets ecosystem is evolving – and data is at the heart of the change.
- Data and technology environments are currently fragmented, limiting banks' abilities to tap the full potential of data as an enterprise asset. Legacy and siloed infrastructures along with unstructured and inconsistent datasets are a challenge and lead to increased costs when organisations seek to extract value.
- Data can serve as a key differentiator for Capital Markets. Whether a bank is providing client-focused services and insights, eliminating manual work, integrating external services, enabling decision making, or reducing time spent on low-value, high-frequency tasks, the future of value creation across the enterprise is rooted in data.

A CHANGING CAPITAL MARKETS ECOSYSTEM

Before exploring how best to make data work for the enterprise, it is important to understand the different external dynamics that are driving the need for change. A Porter's Five Forces framework shows that the enterprise strategy of traditional industry players needs to evolve, with data at the heart of the change. This is driven by heightened client expectations, complex new interactions with third parties across the value chain, an increasingly competitive environment, and expanding regulatory requirements.

Clients are increasing their demands for data and sophisticated analytical tools. Banks can become data aggregators providing individualised, sophisticated insights directly to clients, complemented by access to powerful analytical tools. It will require increased vigilance, with data security, privacy and ethics being key considerations, as clients will have concerns around who sees their data, how it can be utilised, and how they could be disadvantaged through its (mis)use.

Financial Markets Infrastructure (FMI) networks are increasingly complex, presenting significant data challenges. Key exchanges and market infrastructure players are expanding their services up and down the value chain. A prime example is the recent London Stock Exchange merger with Refinitiv to create a leading global financial markets infrastructure and data provider. It would not be surprising to see an increase in bank acquisitions of innovative data start-ups, fintech players or even post-trade utilities as financial services adapts to the evolving needs of their client base.

An increasingly competitive environment, where data and technology are differentiators for the business model. Data is not only a driver for reducing costs and regulatory compliance. The improving capabilities of Artificial Intelligence (AI) and analytical technologies, increased computational power from the cloud, growing volumes of data and new data sources are collectively enhancing the art of the possible in the organisation, front-to-back. Key examples include improved client analytics and real-time risk analytics.

Regulators are requiring banks to put data on their agenda. Regulation (MiFID II, SFTR, EMIR, FRTB, PRIPS etc.) is shining a light – and raising the bar – on how data is governed, managed and used within Capital Markets enterprises. In response, enterprises are forming new data risk frameworks to formally define & manage the risk to the enterprise associated with data.

MAKING DATA WORK FOR THE ENTERPRISE

Data is an asset that can serve as a differentiator for Capital Markets enterprises. Whether a bank is providing bespoke client services, eliminating manual work, integrating external services, enabling decision making, or reducing time spent on low-value high-frequency tasks, the future of value creation across the enterprise is rooted in data.

CHARACTERISTICS OF DATA WORKING FOR THE ENTERPRISE:

Bespoke client services – Every client is different, but they all value a level of service that is tailored to their specific needs, while also sharing some common characteristics. Data from across various lines of business can be brought together to ensure a seamless client interaction at the point of service. Beyond the ease of interaction, there is additional value to be captured by leveraging data sources to derive insights into clients' needs and behaviours, allowing the development of real-time targeted recommendations and personalised service offerings. These insights can not only help your client feel connected to your organization, but your service team can also recommend highly targeted cross-sell opportunities, unlocking the secret to diversifying your client's wallet. A data-driven strategy that provides a low cost of bespoke servicing increases client satisfaction, retention and revenues.

Become less manual – Manual processes have higher operational risk and are likely to be costly in the long run. Instrumentation of these processes can provide insights around the critical points of integration, thereby driving your automation strategy on empirical evidence and reducing the cost of insight. Automation can be accelerated by digitizing and structuring data, reducing the time spent on data sourcing and interpretation. There is also increasing value in leveraging unstructured data. For example, intelligent automation strategies – such as the real-time capture, interpretation and digitisation of emails and chat messages – can automate the pricing and booking of transactions or responses to client queries. Regulatory change also requires interpretation of unstructured data, including the digitization of legal contracts to automate analysis for the LIBOR transition. The rise of AI & Natural Language Processing (NLP) technologies has opened a new automation agenda in this area.

Integration of external sources – External data sources are a significant cost to all Capital Markets organizations, but the rise of new alternative datasets can provide a competitive edge by unlocking additional insights for a differentiated perspective. For example, the need for understanding and transparency around Environmental, Social and Governance (ESG) factors has created a market for such alternative data sets. These new data requirements will drive change in your infrastructure as well as in the external data market. Even the operating processes and systems at data origination are likely to be forced to evolve to deliver the required granularity of data models at transaction, product and client level.

Right data available at the right time for decision making – Currently, financial institutions battle to provide 'as much data as possible' to support decision makers. The reasons for this current focus are twofold. First, organizations aim to provide the highest data quality possible – i.e. the data is accurate, complete, and timely. Second, financial institutions are working to increase access to data for decision makers through the use of business intelligence and dashboards, or by integrating the data on one screen for improved visibility. A data-enabled organisation will go one step further, providing the 'right data' at the right time to enhance decision making, using patterns, Machine Learning, AI and other predictive capabilities to provide recommendations on which data sets should be presented for decision making.

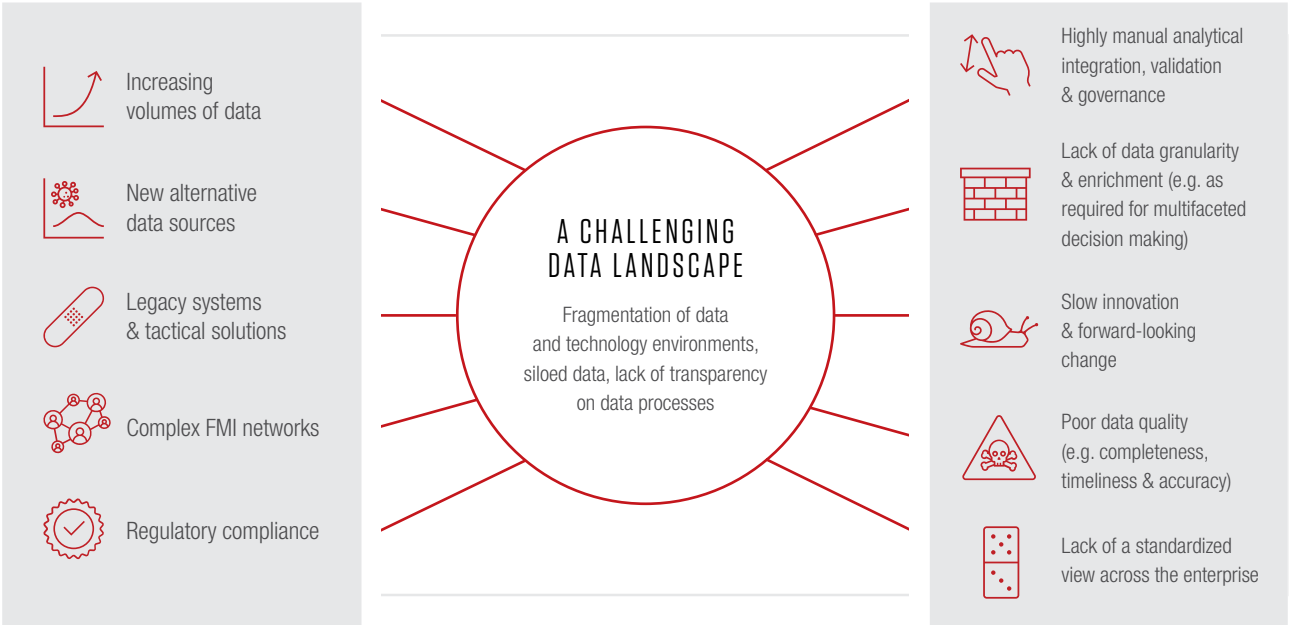
Less time on low-value, high frequency tasks – In a high-functioning organization, skilled employees are focused on the important tasks, utilising their talent and experience to provide maximum value to the enterprise. However, in many organizations, employees of all types often spend significant time on low-value, high frequency tasks. Others suffer through endless context switching that can distract them from important tasks and is also a cause of employee dissatisfaction. Data can be used to define and manage rules that better route these tasks, reducing distractions and automating where possible within a defined and more streamlined workflow.

A CHALLENGING DATA LANDSCAPE

There are a number of key drivers that are challenging the current data landscape and inhibiting financial institutions' ability to make data work for the enterprise. The velocity, volume and variety of data in the market is increasing exponentially, whilst internally data and technology landscapes are fragmented due to legacy systems, tactical solutions, siloed data and a lack of transparency around data processes.

The internal data infrastructure that often prevails in firms today is generally incapable of handling the higher-value data requirements of the rapidly changing market, resulting in challenges that include:

- Highly manual analytical integration challenges, offline validation and governance
- A lack of the data granularity and enrichment required for multifaceted decision making
- Slow innovation and difficultly in implementing forward-looking changes
- Poor data quality overall (e.g. accuracy, completeness, timeliness)
- Lack of a standardised view across the enterprise.



In order to make data work for the enterprise, three key pillars need to be built to address the current challenging data landscape.

Firstly, **Data Management** is a fundamental capability, and one in which many organizations have already invested. Data Management requires an understanding of the data, implementation of data accountabilities, and addressing underlying data quality issues by implementing a pragmatic control framework. Recent regulatory requirements, such as BCBS 239 & CCAR, have prompted many banks to create sophisticated data management assets that can be leveraged and curated to make data work for the enterprise.

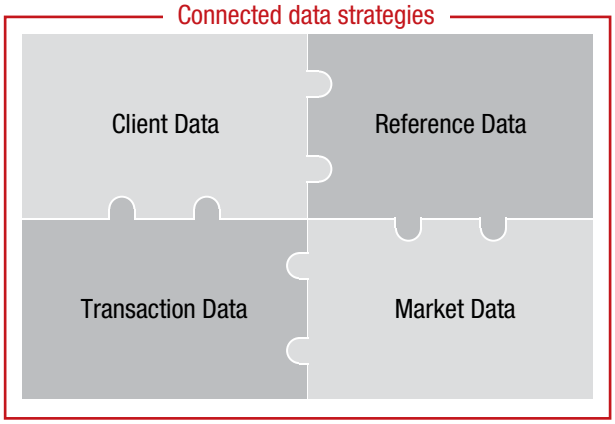
Next, **Data Architecture** requires an intentional design approach to how data is stored and flows around the organisation, decoupling data from legacy architecture, breaking down data siloes across businesses, and optimising data-in-motion to reframe business agility. Whilst this might seem like an impossible challenge, now is a perfect opportunity to implement these changes as financial institutions look to address their legacy technology landscape as part of their move to Cloud infrastructure. There is a clear opportunity to undertake architecture modernisation efforts, and embed enhanced data standards, governance and lineage within the fabric of the organisation. Capco is co-chairing the Cloud Data Management Capability Workgroup in partnership with the EDM Council to help move the industry forward in this regard.

Finally, **Data Literacy** enables employees to make the most out of the organisation's data, trust the data and use the data in a responsible and ethical manner. An organization with high Data Literacy empowers people and teams to understand, use, experiment, and make decisions with data that positively impact the overall data assets of the organization. There should be a major effort to upskill your workforce to improve levels of Data Literacy, and banks should also be championing Data Literacy externally to clients and other third parties in the value chain.

Further information can be found here in our article 'How can Financial Institutions Champion a Data-driven Society?'[1]

A DATA STRATEGY FOR THE ENTERPRISE

As highlighted above, there is a fundamental opportunity to better use data to grow revenue, enhance competitive differentiation, reduce costs, and improve risk and control across the Capital Markets industry. Therefore, given the current challenging data landscape, there is a need to define an enterprise data strategy to unlock its value. As a result, Capital Markets enterprises have set up data organisations, appointed a CDO (Chief Data Officer) and have invested heavily in data-centric tooling, training and solutions. An enterprise data strategy for financial institutions operating in the Capital Markets industry should pursue dedicated data strategies to create data assets from the foundational data that powers their businesses (e.g. Transaction Data, Client Data, Market Data, Reference Data), whilst striving for a connected data ecosystem that optimises the value of data.



1. https://www.capco.com/Intelligence/Capco-Intelligence/How-Can-Financial-Institutions-Champion-A-Data-Driven-Society

Client Data: Financial institutions have attempted for decades to enhance the data and technology landscape supporting the client lifecycle. This includes onboarding systems, client master systems and client relationship management (CRM) systems. A key value driver for a financial institution is to be able to connect all touch points with a customer and consistently map client hierarchies to internal account structures (previously referred to as single customer view). Most efforts to create a single customer view have been deemed only partial successes due to the ongoing fragmented technology landscape and inconsistent outcomes when building integrated workflows into existing systems. These traditional challenges remain; however, the Client Data use case is more encompassing, as the touch points are wider given the financial institution acts in various roles – third party, supplier, issuer, market maker, beneficiary owner etc – in its interactions with its customers. This additional complexity is calling out for the creation of a new, flexible, organisation-wide entity master to connect the wider data landscape and to unlock value.

Reference Data: Reference Data is key to providing a connected data strategy and facilitating the breakdown of data siloes, and is critical for data aggregation and reporting. A strategy should focus on the democratisation of the data through a dedicated focus on provision and consumption of critical reference data such as Product Taxonomy, Instruments, Books, Trading Agreements, Ratings, Country and Calendar Data. The strategy needs to be comprehensive in rationalising data sources, managing mappings between different views and providing a consistent aggregable view.

Market Data: Banks are moving towards a more centralised, enterprise-wide corporate adoption of Market Data to allow a reduction in costs for overlapping demand. This also provides more control over data redistribution, the monitoring of supply and demand in the bank, and allows for a centralised view of licensing and costs. As the bank becomes more data-driven, market data requirements will continue to rise and there will be additional new alternative data sources and needs – e.g. to support ESG initiatives – which means the challenges will only increase in complexity.

Transaction Data: There has been significant focus to date on creating common trade messages and attempting to standardise across products for the purposes of aggregation. However, there also needs to be a focus on traceability of front-to-back transaction flows to support management decision making and reporting. Being able to reconstruct a trade through the lifecycle, understanding its touch points, adjustments, and changes, provides material insight to support risk and finance processes. A lack of traceability affects trust in the data, leads to regulatory adjustments to capital and liquidity ratios, and provides a significant cost in operational processes that have often built in substantial manual processes to provide compensating controls.

CONNECTED DATA STRATEGIES

Dedicated strategies on foundational data still present significant value opportunities to the enterprise, even in the context of previous attempts to address fundamental challenges in these areas. However, to become data enabled, enterprises also need to be thinking about Connected Data strategies and digital twins. Enterprises must harness connected and quality datasets to truly unlock value from enterprise data. Examples include operational resilience or fraud and financial crime network problems. A deep dive shows how a more sophisticated connected data strategy can be used to provide an enhanced solution for operational resilience.

Operational Resilience Use Case: Operational Resilience is a measure of an organisation's ability to continue to operate its business in the event of disruptive events. Connected Data has a key role in addressing this concern given the speed, scale and complexity involved. For example, Connected Data can help to map how the network of actors, systems, hardware and processes operate and interact within the bank – akin to a Digital Twin. Modelling this spatial-temporal network in a graph database as an alternative to traditional documentation is more efficient and effective. It also allows graph robustness stress testing (using random error methods and modelled systematic attacks), which enables the bank to efficiently identify those vulnerabilities (key nodes, points of failure) in the network that, if removed or affected, would cause the network significant damage or, worse, to collapse. This identification of stress points allows the organisation to add additional controls and stabilisers (e.g. new nodes) that make the network more robust in preparation for disruptive events. Data can also be used to provide an early warning system of incidents or rising risk.

CONCLUSION

The value of the data asset is growing rapidly on the back of increasing volumes and improved technology capabilities. Financial institutions need, now more than ever, to get data right across the enterprise in order to compete. Data can serve as a key differentiator for Capital Markets industry participants, whether an organisation is providing client focused services and insights, eliminating manual work, integrating external services, enabling decision making, or reducing time spent on low-value high-frequency tasks. Furthermore, regulatory scrutiny around data – which is now resulting in material fines, as recently as 2020 in some cases – is likely only to increase in intensity until the industry has addressed core concerns.

Becoming data driven is not an easy transition. It requires a foundation of Data Management, Data Architecture and Data Literacy, the creation or maintenance of which is challenged by today's fragmented data and technology environment. Legacy and siloed infrastructure, along with unstructured and inconsistent datasets, present a challenge and also mean increased costs for organisations if they are to extract value. However, it is a necessary transition and those financial institutions that move first towards embracing data-enabled value chain operating models can gain a significant competitive advantage.

We see five core trends:

1. Banks are placing data at the core of their client facing electronic platforms to further increase their value proposition. There will be ongoing investment in this area to deliver differentiation.
2. Data is a key focus of regulatory efforts, and being able to prove quality and provenance is critical. There will be material investment to ensure quality, including reference data strategies – e.g. product taxonomies and master data strategies – to cultivate and maintain a single source of client and transaction data. Data analysis can also be used to help with compliance in post-trade regulations and operating model changes, such as CSDR.
3. Leading banks will be investing heavily in data sourcing, analytics capability and use of external data sources (for activities such as automating KYC reviews).
4. Data Literacy is a critical enabler given the value of data and the ability to deliver key tooling to the frontline end user will provide further advantage. Data functions will offer increasingly important career journeys, with dedicated learning pathways, for employees.
5. Using and understanding data to manage ESG considerations and provide the required transparency. This is likely to require a material revamp of the data captured from external sources such as suppliers and the granularity of the data model at the transaction, product & client levels.

Capco has deep expertise in data strategy and execution in Capital Markets. Let us help you to develop an enterprise data strategy, transform your data capabilities and make data work for your enterprise. If you would like to share ideas, please reach us at charles.evans@capco.com, chris.probert@capco.com, david.kay@capco.com, george.black@capco.com and owen.jelf@capco.com.

AUTHOR

Charles Evans, CFA
Managing Principal (UK)
charles.evans@capco.com

CONTACTS

Owen Jelf
Partner, Global Head of Capital Markets
owen.jelf@capco.com

George Black
Partner, Capital Markets (US)
george.black@capco.com

Chris Probert
Partner, Data (UK)
chris.probert@capco.com

David Kay
Partner (UK)
david.kay@capco.com

ABOUT CAPCO

Capco is a global technology and management consultancy dedicated to the financial services industry. Our professionals combine innovative thinking with unrivalled industry knowledge to offer our clients consulting expertise, complex technology and package integration, transformation delivery, and managed services, to move their organizations forward.

Through our collaborative and efficient approach, we help our clients successfully innovate, increase revenue, manage risk and regulatory change, reduce costs, and enhance controls. We specialize primarily in banking, capital markets, wealth and asset management and insurance. We also have an energy consulting practice in the US. We serve our clients from offices in leading financial centers across the Americas, Europe, and Asia Pacific.

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