

DATA MANAGEMENT UPDATE 2010

INTRODUCTION

As industries everywhere were impacted by the credit crisis, so too was data management. The number, scope, and pace of data management technology and operations projects decreased in 2009. Despite this, Aite Group believes the data management market is poised for growth. Various projects have continued through the financial crisis and more are on the way. Technical staff with a knowledge of data operations and vendor offerings are being recruited, and industry efforts to improve operations and governance continue to progress.

As in the early days of this market, business drivers are aligned in a way that enhances the value proposition provided by a data management infrastructure, whether internally built or vendor-sourced. Challenges remain, however, especially around how to convince a cost-weary executive suite that these projects can truly deliver the business value suggested.

This Impact Note, based upon Aite Group conversations with industry executives and analysis of recent market conditions, will focus on the reasons that growth is at hand for the global data management industry:

- Well-established business drivers and benefits;
- Maturation of technology and process;
- Business-sponsored projects;
- An emphasis on transparency;
- Evolved third-party vendor offerings;
- Data vendor changes; and

Fritz McCormick
617.338.6001
fmccormick@aitegroup.com

101 Arch Street
Suite 501
Boston, MA 02110
Tel: 617.338.6050
Fax: 617.338.6078
info@aitegroup.com

IMPACT NOTE

- Emerging functionality.

DEFINING THE MARKET

Data management is focused on support for a variety of data types inside financial services firms: identifiers such as CUSIP, ISIN, and SEDOL; entity information regarding the issuer of the securities; ratings; end-of-day pricing; and corporate actions. Terms and conditions, contract terms, standard settlement instructions (SSIs), positions, and transactions data are also supported to varying degrees. Additionally, more and more market data (time series, valuation, historical, and analytics) is being included in this process (see Table A on page 2).

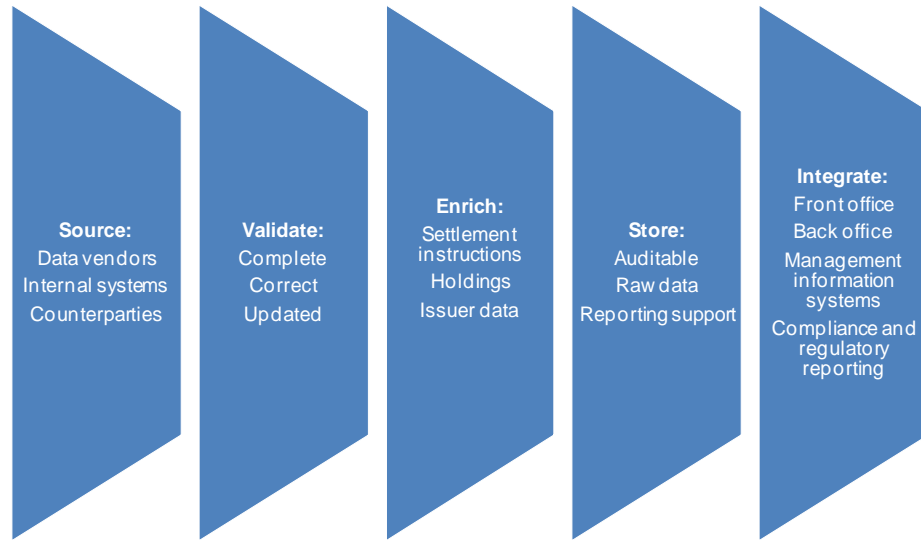
TABLE A: DATA MANAGEMENT BREADTH WIDENS

Types of Data		
Identifiers	Entity data (name, address, place of registration)	Positions
End-of-day price	Terms & conditions	Ratings
Corporate actions	ISDA documentation	Margin details
Asset class-specific (i.e., fixed income: coupon, maturity, payment frequency, accrual, etc.)	SSIs	Collateral details
Time series	Analytics	Valuations

Source: Aite Group

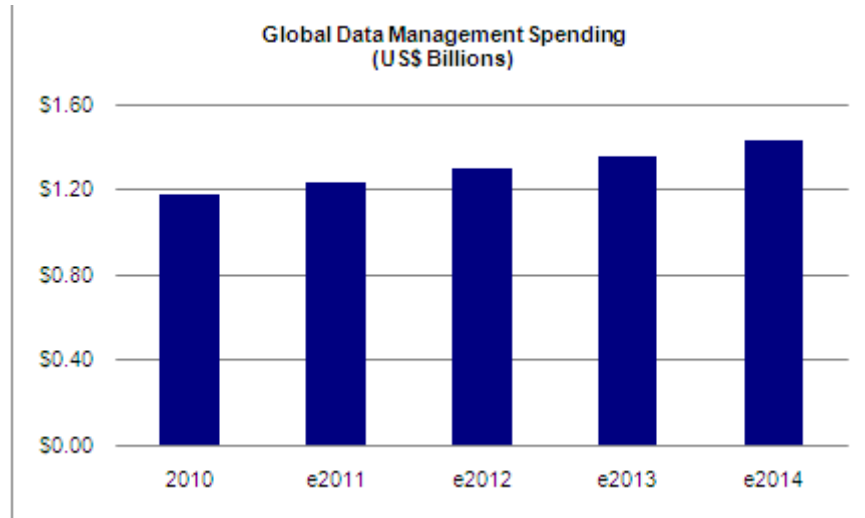
What does the industry do with the types of data above? At its simplest, data management technologies support the sourcing (from internal systems or data vendors), validation, enrichment, storage, and application integration of the types of information mentioned above.

At their best, these processes result in data that is accurate, consistent, and timely. Many opinions exist as to the best way to accomplish these goals from both operational and technological perspectives, and organizational and governance techniques have emerged to ensure as much consistency and data quality exist as possible (Figure 1 on page 3).

FIGURE 1: CORE DATA MANAGEMENT FUNCTIONS

Source: Aite Group

Brokers and securities services firms (custodians, fund administrators, etc.) tend to invest more on data management technology and staff than other segments do. Buy-side firms also invest, and larger firms deploy various staff to data management. Aite Group estimates that spending on data management technology and operations will reach approximately US\$1.2 billion in 2010, and grow to US\$1.43 billion globally in 2014, a compound annual growth rate (CAGR) of approximately 5% (Figure 2 on page 4).

FIGURE 2: DATA MANAGEMENT SPENDING

Source: Aite Group

Several points underpin Aite Group's estimates for this report:

- **Data management is a focused discipline.** Our estimates are based on the processes and technology dedicated to the data types we discussed earlier in this section (reference data, positions, corporate actions, etc.). We do not include support for market data infrastructure, such as low latency data feeds or high performance databases, in this analysis.
- **Internal development comprises the majority of technology expense.** The competition for third-party vendors is primarily made up of development teams inside brokerage, and asset management and securities services firms, which support new and existing data management technology and process. Though firms acknowledge that an increasingly sophisticated set of products is available on the market, many maintain a desire to develop their own.
- **Operational staff are dispersed.** Philosophies abound regarding where and how to staff data management groups. Some firms, confident in their offshore capabilities, look toward those geographies as a potential cost benefit. Others, which consider data management strategic and a potential competitive differentiator, will keep their staff near major trading locations and pay the premium to do so. Others leverage a hybrid approach.

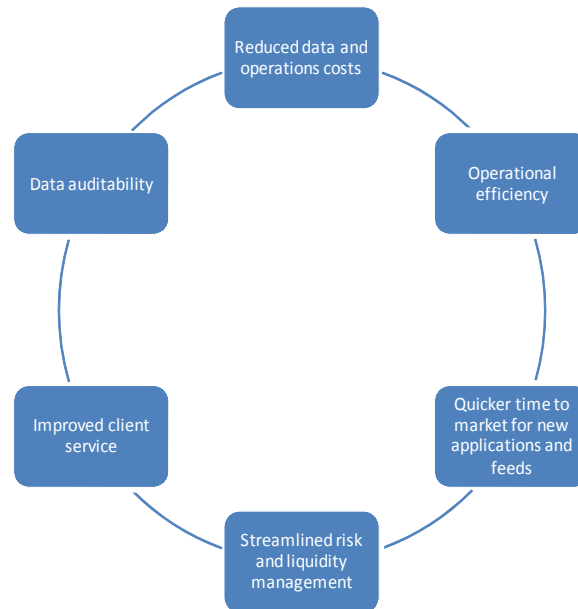
DATA MANAGEMENT DRIVERS AND BENEFITS

A set of well-defined and battle-tested business drivers now underpins this aspect of the financial technology industry. While these drivers have not always been readily apparent to the marketplace, time and the benefits of a disciplined data management practice that produces standardized, consistent, and high quality data have made them more apparent. These drivers include the following:

- **Operations support.** Data is a precursor to exceptions-based workflows for both listed and over-the-counter (OTC) products. The entire trade workflow process, from pre-trade to trade notification to settlement to ongoing collateral and margin support, is dependent upon high quality data.
- **Vendor cost rationalization.** Leveraging a single point of acquisition and focusing attention on data usage leads to data content cost reduction.
- **Regulatory support.** Firms are using data management projects to support new regulatory or compliance system implementations. Their assumption is that regulatory obligations will increase, further validating executive management's need for a strong data management infrastructure.
- **Client and counterparty communication.** As with regulatory obligations, firms are increasing the frequency and complexity of interaction with outside parties — clients and counterparties. Whether client onboarding, post-trade communication, or operational or risk reporting, supplying consistent data will speed these processes up. Improved communication boosts client service levels and is an avenue to compete for additional client commissions or assets
- **Liquidity management.** Firms are trying to establish centrally held pricing on their positions and holdings across the organization. Data management is a crucial aspect of this endeavor, providing a view for executive management that has been missing in this traditionally silo-oriented industry, and enabling more sophisticated risk management and capital allocation.

Along with the drivers for implementing a strong data management practice, various benefits exist: reduced data and operational costs, improved client service, and increased auditability, for instance. (Figure 3 on page 6).

FIGURE 3: DATA MANAGEMENT BENEFITS



Source: Aite Group

KEY TRENDS

DEDICATED DATA MANAGEMENT GROUPS AND INDUSTRY REPRESENTATION

The existence of a dedicated function within most firms (no longer only the large sell-side firms) is proof that data management has established a long-term presence within our industry. Though the staffing numbers vary — some firms have a dedicated function, if not necessarily a dedicated staff — these groups continue to thrive.

The EDM Council is an organization dedicated to data management within financial services. It provides support to the data management function and continues to mature. It launched workstreams to benchmark the process of data management, standardize the semantics used in the industry (Table B on page 7), and optimize the organizational structure necessary to support it, all in an ongoing effort to consolidate the industry's gains and make new inroads.

TABLE B: EDM COUNCIL SEMANTICS SAMPLE

Term	Definition
Funds SPV	A special purpose vehicle (SPV) is set up specifically to create an investment fund. It is set up by a company or a group of companies for this purpose. The SPV is formed for a specific reason, exists for a specific period of time, and is then disbanded.
Purpose	The purpose for which the SPV is set up. In this case it is set up in order to create and embody an investment fund.
Intended Liquidation Date	Intended or scheduled fund closing date — date of final Net Asset Value (NAV).
Government Body	An individual organization that forms part of the mechanisms of government, and through which a government (which is a relative entity) discharges its duties.
Joint Stock Company	A joint stock company (JSC) is a type of business entity; it is a type of corporation or partnership between two companies.
Legal Entity	Any business entity which can incur debt and legally be sued.

Source: EDM Council

The council also acts as a regulatory and legislative liaison — a crucial role in this volatile climate. It has been a key player in helping promote the National Institute of Finance (NIF) in the United States, a group designed to address systemic risk data issues. In Europe, the EDM Council is currently collaborating with the European Commission's efforts around a reference data utility.

The organization has taken a loosely affiliated group of professionals and created a hub around which they can communicate, share best practices, and maintain a sense of community in their chosen field.

BUSINESS-SPONSORED PROJECTS

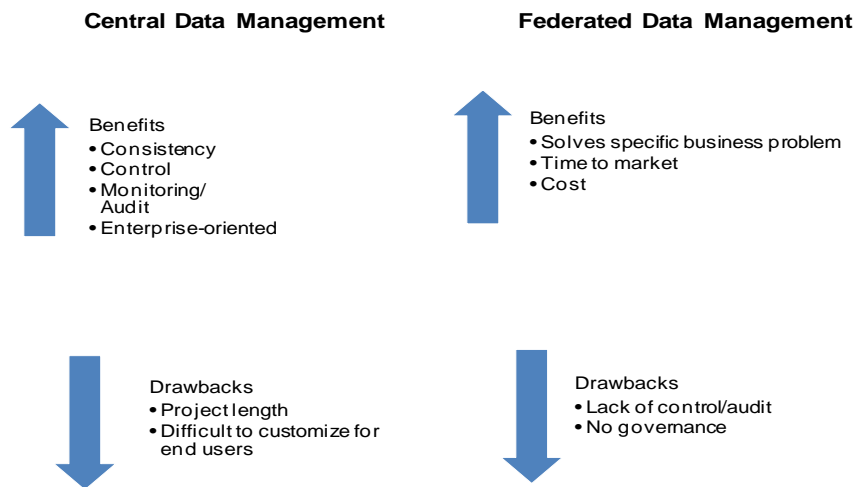
Conversations with professionals inside firms and software vendors inevitably turn to how much more engaged the business side of the firms is when it comes to data management projects. While projects have rarely been approved and funded simply on technical merit, executive sponsors now place more emphasis on how the project meets a specific business rationale. Projects include implementing a new trading, risk or compliance system; supporting a new analytics system or data feed; centralizing positions and holdings information more centrally for liquidity risk management; or providing central management for standard settlement instructions to expedite the post-trade process.

This focus on singular business drivers is good and bad for the marketplace. On one hand, it forces a discipline with regard to scope, cost, and anticipated return — each a great boon to those that want to see data management become more

institutionalized. On the other hand, it can threaten what was once a core tenet of data management projects: For this use of technology and process to be truly beneficial across the organization, some degree of centralization is necessary in the production of consistent, high quality data.

Data management professionals never reached real consensus on the technical approach necessary to create this centralization, but held onto it as the way to achieve a high-quality data management practice. This notion is no longer completely accepted; as a result, data management projects have gotten substantially smaller and more devoted to a particular line of business. This has given rise to both central and federated approaches (see Figure 4 on page 8).

FIGURE 4: CENTRAL VS. FEDERATED DATA MANAGEMENT



Source: Aite Group

The challenge will be for professionals and vendors to step in and provide the business rationale and tools to extend these narrower projects, creating a more cohesive data management whole across the enterprise. First and foremost, these projects must be completed on time and with the promised functionality; whether internally built or sourced from a third party, the best validation a project can get is a client endorsement.

EMPHASIS ON TRANSPARENCY

The credit crisis has brought the need for transparency to the forefront. U.S. legislative efforts regarding financial regulatory reform are gathering momentum,

and substantial changes are expected. Effective data management will be especially crucial in two areas:

- **New systemic risk regulation.** As currently proposed, financial services regulatory overhaul legislation will include a Financial Stability Oversight Council to regulate systemic risk, instead of concentrating this function within the Federal Reserve. While this new group would not be responsible for direct supervision, it would write rules and assign regulators to those firms it suspects of posing systemic risk. In short, this new council will have power and require significant data, only some of which is already reported. The NIF has made initial proposals into what kinds of risks will be reviewed (see Table C on page 9).

TABLE C: NIF RISK FOCUS AREAS

Forward-looking risk sensitivities
Leverage and capital adequacy for individual accounts and firms
Interconnectedness of investors, firms, and contracts within the system
Concentrations of exposures relative to a market's liquidity.

Source: NIF

If the recommendations of the NIF are brought wholesale into new legislation, the amount of underlying data needed to support oversight into the risk focus areas will be vast.

If, as many expect, the data demands focus more narrowly on entity data and interconnectedness between firms, data management groups are still in for a significant challenge. Firms will require standards and an underlying reporting and data management framework. Early discussions suggest that SWIFT's BIC code may evolve to support a new business entity identification system, for instance. Even with an established standard such as BIC, substantial effort will be required to maintain the information and hierarchical structures to support continuous reporting demands. How, for example, can a firm ensure corporate actions are applied on a timely basis when a set of relationships between entities may be changed?

- **OTC derivatives market transparency.** There are a slew of proposals included in financial services regulatory reform legislation on how to increase regulatory oversight in this marketplace. The topics of these proposals include

derivatives clearing requirements, trading requirements, capital adequacy, and margin and position limits, among others. Mandating processing, clearing, and eventually electronic trading of most OTC products will be needed to create an electronic audit trail of a firm's activity. The implication for data management functions is that a much more structured approach to supporting OTC derivatives data is necessary. High quality, scrubbed data will be needed to support post-trade and risk management processing. Pricing and valuation data integration with underlying instrument reference data will be crucial to supporting collateral and margin activities.

THE EVOLVING THIRD-PARTY MARKET

Some providers have been part of the market since the beginning, while others have newly arrived. Some are focused specifically on the financial services market, while others have an industry-agnostic approach. A more robust provider market is another factor contributing to the maturity of data management as a function, a process, and a technology.

- **Deal activity.** A market that pointed toward upward buying trends during the recent global economic turmoil is a strong market indeed, and there have been a variety of deals in this market in the last 18 months. These deals are not the same kind that existed three, four, or even five years ago — they tend to be smaller and more focused on scope. While a recent, informal Aite Group vendor survey suggests an increase of as much as 10% in deal size over the last year, overall levels are still lower than they have been in the past. The smaller size of these deals may reduce revenues in the short term for third-party solutions providers, but rationalizes the market in the long term, and promises to create a more favorable return on investment than it has in the past. According to our informal survey, Asia-Pacific regional growth has been especially strong.
- **Evolving approaches.** Vendors offer different philosophies to prospects. Some focus on how to quickly and precisely move data from source to target. This approach usually means a quick implementation and flexibility with regard to changing data requirements. Another approach is more structured: a schema is employed, providing the firm with a way to model instruments and match disparate data

attributes as they are brought into the firm from vendors or internal systems.

- **Segment focus.** Vendors have begun focusing on specific segments of the market, such as the buy-side or sell-side. The acknowledgement that requirements will differ across segments is another sign of maturity in this market — one that may increase market confidence in the vendor community's ability to provide robust solutions.
- **Implementation flexibility.** Virtually all the vendors in the marketplace have either deployed a Software as a Service (SaaS) offering or plan to do so. This is a sign that both the user and vendor communities have progressed, given that firms were once reluctant to hold their data outside their four walls. At this point, having a SaaS offering is seen as almost a necessity in the market. This also means that licensing terms have changed direction, away from the traditional perpetual pricing model and toward term (i.e., subscription-based) approaches.
- **Increased consultancy interest.** Traditionally the third party market has not generated sufficient professional services revenue to support significant investment by large consultancy firms. Now, though, a variety of consultancy firms are actively engaging staff to provide implementation services, and, in some cases, building broader solution capability. This is due in part to the renewed focus on risk management and other specific business drivers by many financial firms, which line up more squarely with consultancy practices. Among others, large firms in the space include Cap Gemini, Accenture, Polaris, and Headstrong. In addition many smaller U.S., European, and Indian firms are more aggressively pursuing these opportunities.

DATA VENDORS FACE MARKET ISSUES

Data vendors are currently in a state of change. Data management professionals must keep attuned to these changes, which may have a material impact on how much these professionals spend on data and what they get in return for their money. A variety of internal and external factors drive this change:

- **Cost cutting.** A major focus for firms in 2010 and beyond is how to cut costs across the board. A majority of CIOs at capital markets firms that responded to an Aite Group survey

on trends for 2010 are focusing specifically on data as a top area of cost reduction.¹ Financial services firms, still in cost-cutting mode, are reaching out to vendors of all sorts to do their share. How the data vendors respond to these requests will impact how they are treated as markets improve.

- **Identifier scrutiny.** Regulatory investigations into the licensing of identifiers has the potential to substantially alter the business models of the major data vendors. Thomson Reuters' RIC and S&P ISIN are fundamental data identifiers supporting the financial industry's trading and processing activities. Change based upon these developments has already begun, as Bloomberg moved last year to open access to its proprietary symbology and interfaces across the industry, an effort recently joined by NYSE Euronext. The exchange operator will distribute Bloomberg Open Symbology (BSYM) along with its standard security identifiers for New York Stock Exchange listed companies through all of its data products globally.
- **Competition from exchanges and others.** Major exchanges worldwide have created dedicated units to develop and sell a vast and expanding array of market data products. Some exchanges have begun bundling this data with offerings from other sources, looking more like consolidators every day. While this report does not look specifically into the low latency, high performance market data space, vendors of these services are challenging data vendors in the market. It is hard to think of a time when competitive pressures from peers and new market entrants have been so intense for the data vendor community.
- **Extended reach.** In response to these external forces, vendors are seeking ways to increase their client footprint. There are many ways to do this. The acquisition or development of offerings providing better analytics, market sentiment, or processing attributes is one avenue. Data vendors also bolster distribution platforms, enabling firms to more easily and quickly distribute data. In fact, some data management providers are beginning to see data vendors as both partners and competitors as the vendors begin to bid on data management projects.

1. See Aite Group's report, Top 10 Trends in Capital Markets for 2010, January 2010.

CONCLUSIONS

Aite Group believes that all of the trends and market activity in this space translate into a continued need for data management. The concept and practice is as strong as it's ever been, from organizational, operational, and third-party perspectives.

- **Challenges will continue to exist.** Any process or technology has to continually prove itself — even one that's earned respect over the last 10 years. It is tough for data management projects to prove themselves based on return-on-investment models alone. A mix of cost savings considerations and more qualitative factors, such as improved client service or reporting capabilities resulting from better data quality, are often brought to bear. On a large data management undertaking, this isn't a realistic way to gain executive support. This is why so many recent projects are smaller in scope — to enable specific business processes to bear out the benefits of a solution. Aite Group recommends mixing quantitative and qualitative factors into a business case for a data management project, portraying immediate cost or operational efficiencies in the context of greater data quality, timeliness, and control.
- **Data Convergence.** One area in which the market must evolve from a functionality perspective is support for data convergence. New projects require some amount of "non-reference" data — such as real-time market snapshots and valuations; analytics data, including curves and indexes; and need to be included on the data management platform — commingled with more traditional data. This convergence is growing to include news, unstructured data, analytics, and other areas not typically encountered. It remains unclear, though, whether any development team (internal or external) has fulfilled this requirement. The business driver behind it is simple: leverage as much data as possible to drive risk models (counterparty, operational, and liquidity, for instance) across the board. Along with the increased data scope, audit capabilities are required for this sourced data for regulatory and compliance purposes. Aite Group suggests that firms undertaking a data management project include this concept in their requirements collection. Will users looking for data to support a risk application also benefit from intraday prices taken from a real-time feed? Professionals scoping out a data management project should expand the requirements process and look to vendors, many

of which have begun expanding their offerings beyond traditional security master data types.

- **Return to Growth.** Aite Group expects a modest 5% CAGR on data management technology and operations spending, reaching US\$1.43 billion by 2014. This market will not see explosive growth, but grow it will, mainly due to the ever-changing set of market challenges to which it must adapt. Industry practitioners and vendors must continue to address narrow, business-oriented pain points and provide solutions in a compressed time frame. At the same time, these projects must be positioned as a means to another end — the availability of high quality, consistent, and timely data across the organization.

RELATED AITE GROUP REPORTS

Smart Regulation: Is It Possible?, February 2010.

Top 10 Trends in Capital Markets for 2010, January 2010.

2010 Capital Markets Technology Spending: Tight Budgets, High Expectations, January 2010.

Pricing and Valuation Services, The Search for Transparency, November 2009.

Chasing Compliance: Things That Go Bump in the Night, November 2009.

Asset Management Business and Technology Priorities: Survey 2009, September 2009.

Market Data Infrastructure Challenges, April 2009.