

ENTERPRISE DATA MANAGEMENT VISIONS AND TRAJECTORIES 2025

Strategic change motivators and emerging capabilities

Cubillas Ding

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Rimes Insights: Managing risk and performance in the age of data explosion

Rimes Technologies is delighted to provide you with this complimentary copy of Celent's new report: "Enterprise Data Management Visions and Trajectories 2025." The report provides a deep dive into the business drivers behind EDM investment at this critical time in the industry, and we hope you enjoy the read.

Managing risk in the age of data explosion

We are currently seeing a data explosion play out in real-time, as the volumes of existing data grow exponentially, and new datasets are introduced. In some areas, such as in the ESG and ETF markets, asset owners and managers must come to grips with entirely new sources of data requiring different approaches to data management as well as evolving investment mandates and regulatory requirements.



...Data enablement practices continue to gain renewed leases of life, with strong imperatives to achieve sharper insights and optimal data costs. For asset owners, enhanced competencies in data management, proprietary insights, and improved decision support are critical to navigate the opportunities, risks and demands borne from evolving digital investing paradigms, private markets, sustainability/ESG themes, and massive structural reverberations from the prevailing turbulence worldwide...

Cubillas Ding
Market Intelligence Research Director,
Celent

To efficiently manage risk in the age of data explosion, asset owners need to streamline their data sourcing, enrichment, and internal distribution processes. As Celent points out in its report, doing so will also enable firms to make the most of emerging marketplaces like Snowflake and AWS Data Exchange, and ensure

that internal EDM assets are optimized through strong data governance and quality assurance.

With a strong data foundation, firms can fuel their portfolio management and front office functions with powerful analytics. This helps investors make sense of new markets and opportunities, such as ESG investing, and make the best decisions with the highest quality and most up-to-date data on past performance and future scenarios.

Rimes - supporting asset owners' data management models

The challenge is that asset owners often lack the tools they need to manage data and de-risk their investments. Lacking custom-made data management capabilities, firms must rely on systems developed with asset managers in mind. These systems do not cater to the unique needs of asset owners or consider how these firms look at risk and performance.

Rimes empowers asset owners to rebalance strategic asset allocation incorporating full look-through capabilities across public, private, and derivative assets in one platform. With Rimes' industry-leading, cloud-based platform, asset owners can leverage the granular decomposition of complex investment structures many levels deep, enabling users to see the true exposures and "slice and dice" complex funds or products as easily as individual portfolios.

Rimes provides a complete Managed Data Service to help asset owners tame the data explosion, with features including securities processing, data testing and quality assurance, data loading and distribution, and data audit and lineage. With Rimes, data at scale is transformed from a management burden into a strategic advantage.

Rimes would be happy to talk to you to discuss how Rimes can make your data management processes more streamlined and agile while reducing the total cost of ownership and helping you to de-risk your portfolios. Get in touch to learn more about how Rimes is providing a differentiating data management model tailor made for asset owners and ready for the digital-first future.

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EXECUTIVE SUMMARY

In this report, Celent analyses the coming evolution of enterprise data management (EDM) and presents aggregated insights about prevailing trends, dynamics, and evolving trajectories across capital markets and investment firms. We believe that as we head towards 2025, the pursuit of successful EDM outcomes will center on the following themes:

- **Identifying the correct alignment of data characteristics with organizational owners:** Forward-thinking firms recognize and navigate the differences between enterprise-level/centrally managed datasets and those that are aligned by function or business unit to identify the appropriate operating models, processes, and data governance structures to undergird the characteristics of different data groupings.
- **Working to end the under exploitation of data:** Value-added data is often unorganized and underexploited. Firms that have established dedicated “baseline” functions/organizations for data management are looking to focus on how to optimally mobilize, scale, and institutionalize “data democratization” to include a broader set of stakeholders and user communities within their firms.
- **Evolving from tech-centric to business-entwined data enablement:** Progressive firms are flipping the traditional approach by taking a business-led approach to strike the right balance of technology capabilities, pragmatism, and business impact, combining a clear understanding of consumer value and high impact business use cases to create differentiated value propositions aligned with data, analytics, and organizational levers.
- **Moving toward more seamless, friction-free data governance and oversight:** Data governance functions will need to demonstrate that they can be timely, efficient, and effective in executing their procedures to maintain accountability and information accuracy. Firms could look to raise automation levels related to core oversight and validation functions to improve oversight, staff productivity, and process monitoring. Leading firms are proactively focusing on maximizing technology-enabled improvements rather than preserving suboptimal oversight functions.
- **Designing for privacy from the start, not as an afterthought:** One of the next frontiers around data is operationalizing privacy risk management programs in which data privacy needs are made a key consideration in the institution’s product and data strategy. Privacy groups will need to undertake collaborative efforts across data governance, information security, cyber risk management, and third-party risk management teams to manage the necessary interdependencies and linkages.
- **Increasing access and choice from data marketplaces will come with greater responsibility:** Driven (not least) by the uptake of open (but permissioned) APIs, growth in demand for differentiated/alternative datasets, and the digitization of business workflows, we expect these data marketplaces to facilitate friction-reduced interactions and enhanced levels of “fluidity” both within firms and externally.

In order to maximize the benefits from these changes, organizations need to streamline data discovery, onboarding, permissioning, and sunseting processes to handle and govern these interactions. Data marketplaces provide a faster channel to market for players seeking to capitalize on data monetization opportunities and will further accelerate the creation of global standards for data rights and obligations that will be embedded in the fabric of the internet through rules and protocols around data exchanges.

- **Integrating ESG and climate data:** Emerging themes such as climate and ESG more broadly remain top of everyone’s agenda, but under the bonnet, the pace of change is massive, with major advances in data, investment process integration, and climate analytics touching many aspects of capital markets and investment firms' internal and external value chains.

We anticipate that firms will need to invest not only to research, aggregate and integrate ESG dimensions. But the key here is to have robust data management and analytical capabilities to draw out actionable insights from a noisy information universe.

- **Seeking to unify front office and data enablement:** The front office remains a focus for technology investments that strive to deliver digitally-oriented “data-rich” front office propositions, embrace faster value-added data enablement, enable mass portfolio customization, and enhance iterative hypothesis/ideation testing capabilities. Significant opportunities remain to capitalize on modern technology approaches (cloud, data science, AI/machine learning) to enhance the ability to customize portfolios, improve performance, and deliver alpha.
- **Intertwining of data-centricity and cultural fabric:** For many firms, building a corporate culture enabled by data-centricity remains a tall order. Efforts to shape a data-centric culture need to be visible and re-enforced by the appropriate metrics, training, and tangible cultural incentives in a joined-up manner. Sustaining these efforts means also ensuring that data management stakeholders and constituents have access to flexible and business-friendly data/metadata management tools and applications across the data lifecycle to capture and facilitate the incentives framework being implemented and owned by the business.
- **Shifting the frontiers of data technology towards usability and accessibility of data:** In general, “experiential features” such as **usability of data tools rank very high** across buy side and sell side segments. This fits into the ongoing dynamic within many organizations toward facilitating **broader democratization of data and insights for business and/or less-tech savvy end-users.**

Features such as intuitive UI/UX, business-friendly/self-assembly methods, self-service data analytics approaches, low code/no code, and collaboration features are highly valued for functions such as data discovery/search, data preparation, and (automated/smart) data classification.

Looking forward, Celent expects pioneers in the industry to intensify and pursue ambitions to manage and transform data as a strategic asset. We expect that progressive firms will **remove subscale “pockets of excellence”** around data and analytics to **create larger economies of scale and scope** that can ultimately drive enterprisewide change and achieve strong enterprise data management competencies and deliver timely, fit-for-purpose insights. Opportunities to monetize data and create new revenue streams will then become a realistic prospect.

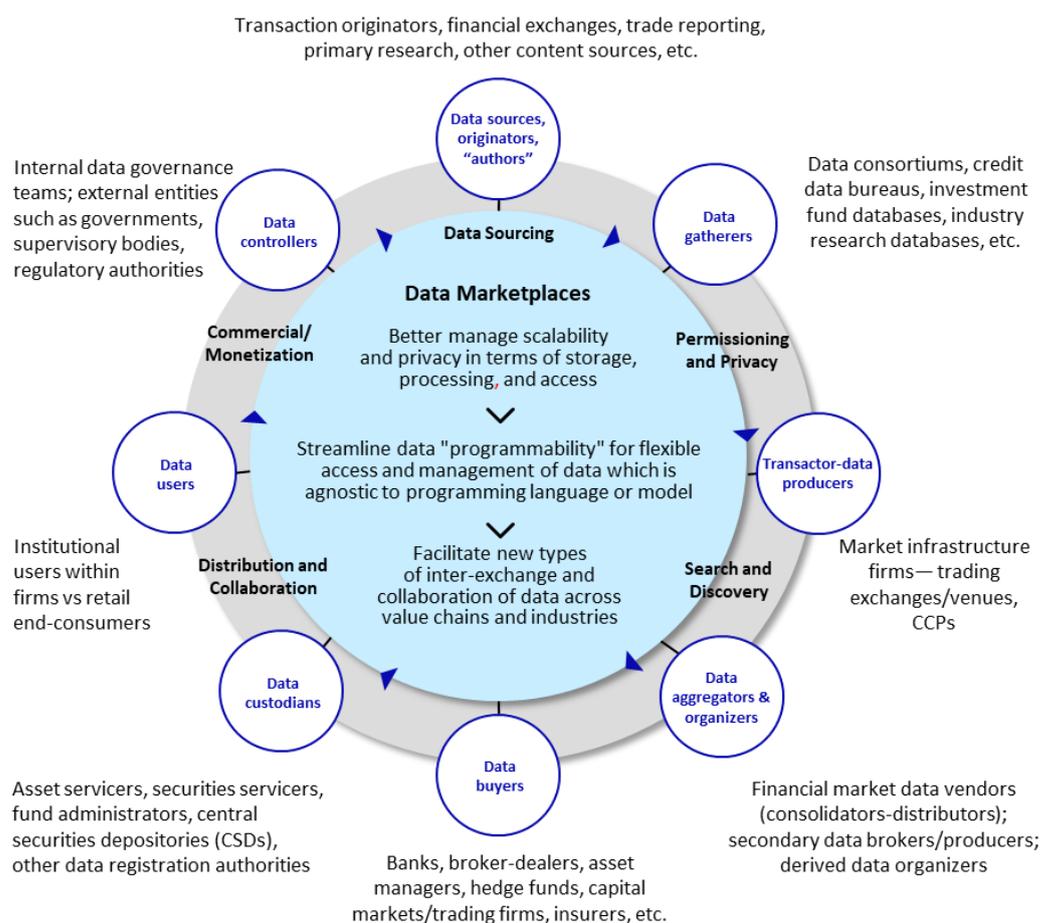
The vision and trajectory for enterprise data management by 2025 will entail reaping the rewards of superior data enablement capabilities: *an empowered organization with highly usable knowledge to move faster, stay leaner, and get ahead.*

RENEWED BUSINESS DRIVERS AND IMPERATIVES FOR EDM

Increasing access and choice from data marketplaces will come with greater responsibility

Data marketplaces that are based on cloud-enabled features are emerging as online transactional locations (or "storefronts") that facilitate the buying and selling of data, connecting buyers, producers, and sellers. As institutions seek to augment or enrich internal data sets with external data, cloud-based data marketplaces (e.g., Snowflake, AWS Data Exchange, Open:FactSet) are looking to match data consumers with the right data sellers.

Figure 1: Data marketplaces: Aiming to facilitate more friction-less, data-centric collaborations



Source: Celent

Driven (not least) by the uptake of open (but permissioned) APIs, growth in demand for differentiated/alternative datasets, and the digitization of business workflows, we expect these data marketplaces to facilitate friction-reduced interactions and enhanced levels of fluidity within firms, but also across organizational boundaries and industry in the medium term. However, to **maximize the benefits from these changes**, organizations need to

streamline data discovery, onboarding, permissioning, and sunseting processes to handle and govern these interactions.

For firms that have data assets that can be commercialized, these data marketplaces provide a faster channel to market to capitalize on monetization opportunities.

Overall, we see this as the next stage of evolution of Big Data paradigms, in which where the explosion of data variety, volumes, and velocity is enhanced in terms of digital connectivity/collaboration across organizational entities. Looking forward, we anticipate the **quicker acceleration of global standards for data rights and obligations** will be embedded in the fabric of the internet through rules and protocols around data exchanges through these data marketplaces, platforms, and other information-sharing initiatives.

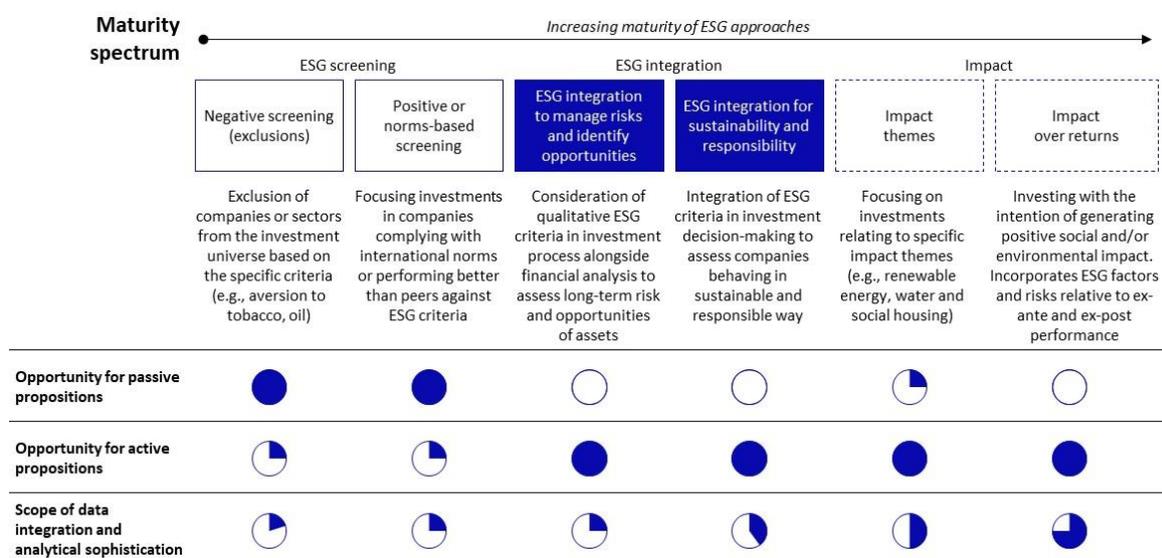
Integrating ESG and climate data

A number of trends will continue to increase the demand for ESG data and analytics in the coming years. These includes an increase in investor demand for sustainability-oriented solutions as wealth is transferred to the next generation, which is three to four times more likely to invest in sustainable assets. Regulatory and policy intervention to drive market evolution and awareness is another major macro trend, with global policy drives and national policy and regulatory intervention around disclosure, risk quantification, incentivization, and standards.

For capital markets and investment firms, emerging themes such as climate and ESG more broadly remain top of everyone’s agenda. But **under the bonnet, the pace of change is massive**, with major advances in data, investment process integration, and climate analytics **touching many aspects** of their internal and external value chain.

For example, on the buy side, from a portfolio management standpoint, ESG is becoming a lens through which all investments are assessed rather than a discrete strategy or asset class. The challenge for investment managers is to overcome what might be called a deficit within the data: *how to draw actionable insight from a noisy information universe?* Robust data management and analytical capabilities will be required to find success here.

Figure 2: ESG investment approaches and evolution (buy side example)



Source: Oliver Wyman, Celent analysis

As ESG as a discipline and practice evolves, there are still ongoing challenges in terms of timeliness, integrity, and coverage of ESG market data and around transparency of frameworks to assess impact and materiality, as well as the subjective assumptions associated with how data is applied in investment decisions, risk budgeting, and impact modeling.¹

In relation to investment technology, we anticipate that front-to-back providers of technology vendors and managed service providers will play an important role as consolidators/aggregators by providing operational access, structure, and integration of ESG data and analytics into the investment value chain (currently characterized by a fragmented supply chain and ecosystem of providers and advisors). The implications and the levels of integration and sophistication are potentially significant—from research to portfolio construction to reporting and monitoring.

Seeking to unify front office and data enablement

In the front office, there is significant interest in technology investments that enable the use of value-added data such as alternative datasets (satellite, social, company filings) and big data infrastructures to generate investment ideas and allow firms to test their ideas more quickly. This is taking place alongside ongoing **digital efforts to assemble and enable “data-rich” front office propositions.**

Firms must be clear about which use cases are the highest priority and what success looks like for front office constituents. We encourage investment managers to consider their front office data architecture specifically alongside the firm's enterprise data strategy and front-to-back investment technology approaches.

Orders and transactions aside, front-line analysts and portfolio managers often consume data in a less formal, less structured manner, possibly “off-system,” when executing asset allocation and portfolio construction tasks. They may need to interact with existing, new, and emerging data sets in a more ad hoc and exploratory way, involving what-if simulations and testing. This requires data to be sourced, set up, managed, and enabled more quickly.

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“From a data process and tooling standpoint, we make a distinction between data enablement approaches for less formalized, ad hoc activities where speed is important (such as front office research, quantitative analysis) versus data management for more formal trade and reporting functions.”

Head of Data Enablement
Tier 1 European global asset manager

One large/Tier 1 investment firm Celent interviewed has **adopted a different pathway to cultivate a separate EDM approach specifically tailored around front office needs** such as qualitative and quantitative investment research, portfolio modelling/what if simulations, and client-facing portfolio design/construction to support their institutional and outsourced CIO propositions. While their data and IT approach involves developing their own proprietary front office platform, it is comprised of a collection of open source tools and internally developed

¹ For more perspectives, please refer to the following Celent studies: (1) [Sustainability in the Capital Markets](#) (2) [ESG in Portfolio Management: From Data to Deployment](#) (3) [ESG Integration Solution: Simplifying ESG Portfolio Construction](#) (Celent Model Award Case Study)

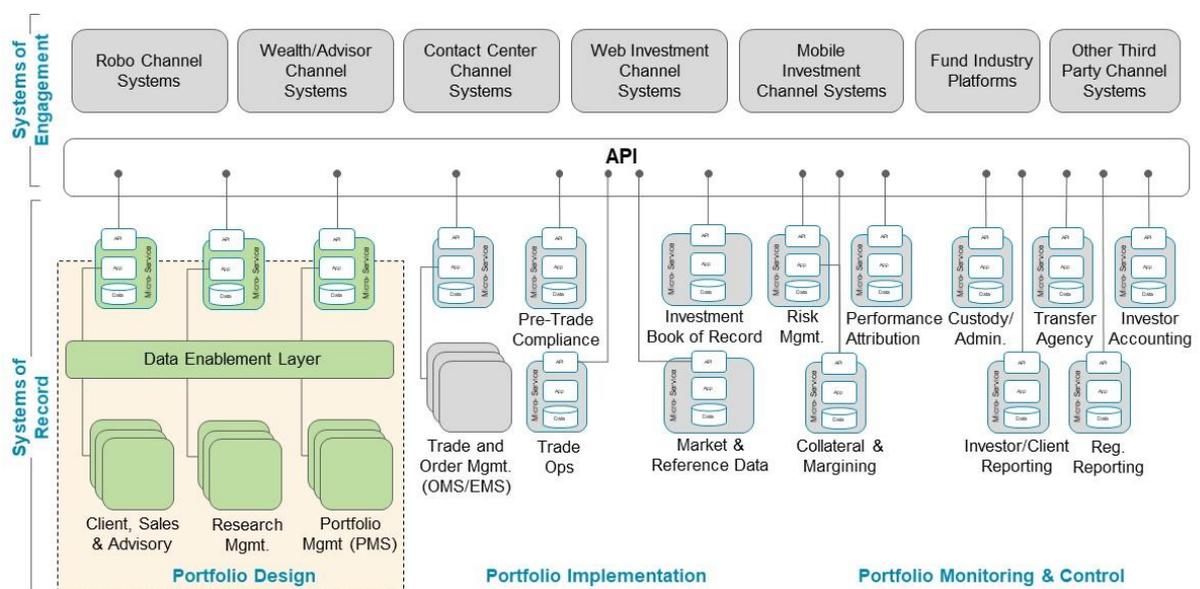
application capabilities, which are integrated with conventional downstream investment/trade lifecycle and reporting.

Here, different approaches are possible, and for front office portfolio design functions, forward-thinking capital markets and investment firms look to:

- **Modularize and decouple the application architecture with modern standard interfaces so that functionality can be easily substituted and/or consumed.** Modern APIs (web-based, microservices) are allowing more dynamic interoperability and data exchanges across technology applications, reducing costs of integration; this allows firms to incorporate integrated "satellite best-of-breed apps" even if they have an overarching "front-to-back" core investment infrastructure.

Some firms are remapping/rethinking what they need from the front first, then looking to provision and enable the delivery using dynamic APIs as required from core middle and back office operational systems.

Figure 3: Focus on front office data enablement and differentiated alpha



Ensure front office data environment can enable differentiated alpha

- Enhanced digital approaches for investment research, signalling, and insight generation
- Big data and "quantamental" techniques using new alternative, sentiment and ESG data
- Greater use of algos and AI/machine learning for security selection, portfolio construction, optimization, and trading decisions
- Quantitative workbench with AI facilities for quick portfolio modelling, simulations, and algorithm development
- Necessary /selective dynamic API integration (e.g., for decision support) with legacy middle and back office apps

Source: Celent analysis

- **Ensure that front office capabilities can enable mass portfolio customization and co-creation.** Front office tools should enable mass customization of portfolios and be designed to facilitate investment ideation, research, screening, portfolio construction, assembly, and rebalancing tasks in a streamlined way. They should draw ideas from high usability, persona-based customer experience (CX) design and low code/no code paradigms. This portfolio design environment should join up data flows and facilitate collaboration between researchers, analysts, data scientists, portfolio managers, and investment committees.

Ideally, application and data approaches should also offer **data lineage and transparency into the investment process** around ideation/rationale, asset selection, risk budgets, and performance forecasts, not merely the decided outcomes of investment deliberations.

- **Shift to standard strategic investment products and services that lower the cost to operate and reduce operational risk associated with apps and data management.** Business architects and data strategists may engage the business and front-line stakeholders to rethink and reconsider difficult decisions about what to focus on and invest in, as well as what to stop doing (and who to stop paying).

Overall, we see opportunities for firms to explore approaches to better exploit and deliver insights to drive front-line sales intelligence and portfolio decision support—where **robust discipline around data management is still required**— using next-generation technologies.



"[In terms of data permissioning and entitlement] the front office needs to understand that flexibility and getting it wrong is not a value proposition. This is where [data] reliability becomes an issue."

COO, North American pension fund

Employing fit-for-purpose data strategies, firms can pursue a “total portfolio” approach to support asset research, asset allocation, risk budgeting, portfolio construction, and investment decision analysis/support. Portfolio construction, optimization, and implementation decisions can take into account performance implications for and risk effects on the entire portfolio (in terms of diversification, issuer concentrations, market and funding liquidity, etc.), all of which can be based on “clean” historical and live market data.

Embedding data-centricity in the cultural fabric

Corporate culture is the whole of **the organization’s values**, ethics, vision, behaviors, and work environment, essentially the aggregate of employees’ behaviors across the enterprise, or “**the way things get done.**” Across our study, data-centricity and a data-driven culture are recognized as overarching pillars of the success of a firm’s data initiatives. The end-state is to have **every employee recognizing and operating by principles of accountability, integrity, and transparency that build trust in the organization’s data as being fit-for-purpose.**

However, achieving the benefits of enterprisewide data strategies and data governance, undergirded by effective culture, requires overcoming significant existing data management challenges. In our recent conversations with chief data offices and data management leaders, most believe cultural changes are one of the key determinants underpinning the success of their organization’s data enablement programmes. Most also identified a need to shift the mindset of their employees by fostering the emergence of a data culture. This requires all employees to understand the importance and benefit of strong data management and to be aware of their roles and their impact in helping the organization seize the data opportunity.

Tactically, as it stands today, achieving these objectives remains a tall order, and at many firms, old habits die hard. The **cultural journey** is likely to be the **most critical roadblock to successful transformation**—and it is a journey rather than a fixed outcome. In many cases, these challenges and issues are rooted in inappropriate employee behaviors and a lack of clear data governance and strategy. Organizations also stumble in overcoming major hurdles, especially with regards to delivering enhanced data quality and governance.

On the flip side, successful organizations get common elements right, including (a) the organizational set-up and mandate for the data organization, (b) the leadership and organizational buy-in required to drive cultural change, and (c) the right incentive structures. Most organizations have set up new data organizations to initiate their data transformation. While the chief data office (CDO) function is now quite common amongst large organizations, we can see trends in the way data capabilities are organized, with a move towards more integrated organizational models steered by the following guiding principles:

- Data governance is a key organizational capability that is an inherent part of the company's value proposition.
- Achieving effective data governance requires a transformational effort with sustained focus from all levels and business/functional areas of the organization.
- Stakeholders must adopt a mindset that centers on data governance being everyone's responsibility (rather than viewing data governance as just "compliance's responsibility" or "IT's responsibility")
- Efforts to shape a data-centric culture need to be visible and re-enforced by the appropriate metrics, training, and tangible cultural incentives in a joined-up manner. Sustaining these efforts means also ensuring that data management stakeholders and constituents have access to flexible and business-friendly data/metadata management tools and applications across the data lifecycle to capture and facilitate the incentives framework being implemented and owned by the business. Examples of these are shown in Figure 4.

Figure 4: Cultural incentives - Examples



Source: Oliver Wyman, Celent

In more advanced journeys towards mature data-centricity, cultural dimensions and discipline will result in increased mindfulness, fewer quality issues, and ultimately, greater confidence in data for strategic decision-making and business-as-usual reporting.



"People think that they can buy data tools, and it's all going to be solved. In most cases, the exploitation of data is a business and cultural problem that we are dealing with."

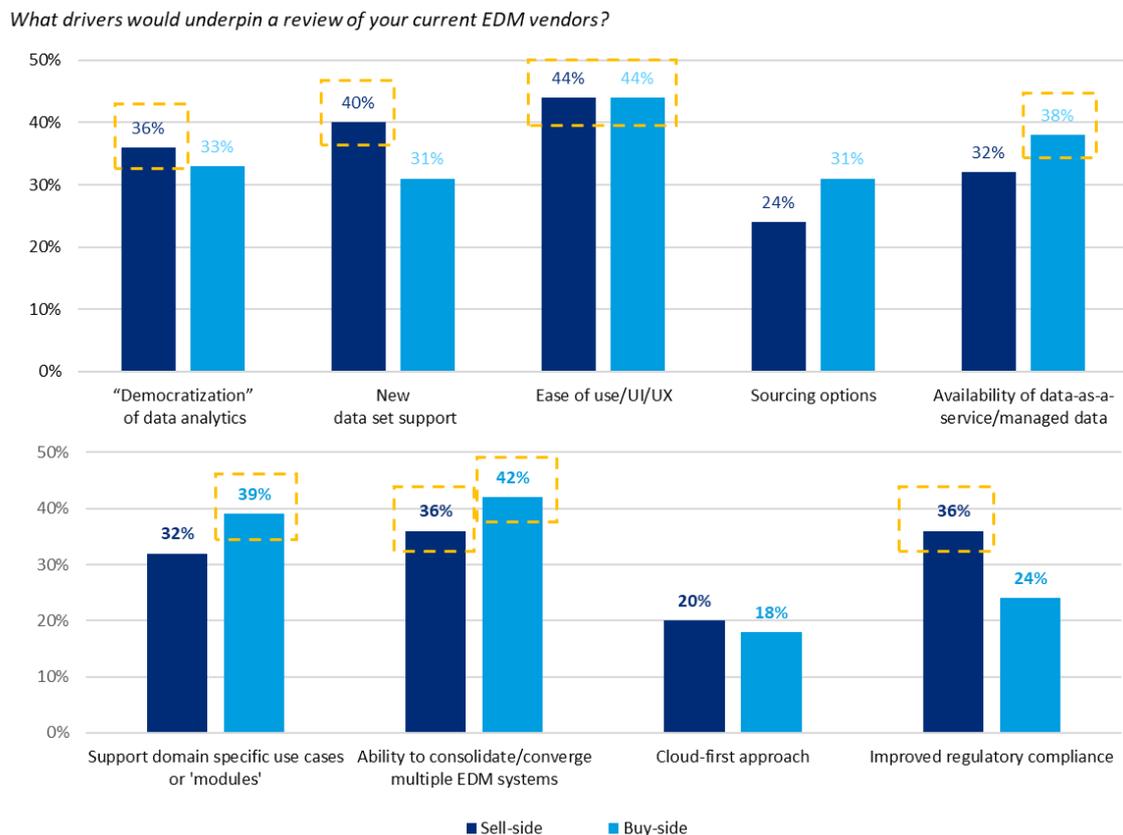
Head of data strategy

Global investment and advisory firm (\$300bn+ AUM)

Shifting the data technology frontier towards usability and accessibility of data

Celent's recent EDM market interviews and survey reveal where/how end-buyer and users of EDM technologies are evolving, as shown in Figure 5:

Figure 5: Factors that underpin reviews of incumbent EDM vendors



Source: Celent Enterprise Data Management Survey and Interviews H2 2021 (n=125)

- In general, **usability** of data tools ranks very high across buy side and sell side. This fits into the ongoing dynamic within many organizations that are working toward **facilitating broader democratization of data and insights for business and/or less-tech savvy end-users**.

Features such as intuitive UI/UX, business-friendly/self-assembly methods, self-service data analytics approaches, low code/no code, and collaboration features are highly valued for functions such as data discovery/search, data preparation, and (automated/smart) data classification.

- **A cloud-first approach in EDM solutions, although important, is seen as table stakes.** Across all segments, this isn't seen as a differentiator or a high priority. The implications here are that technology providers must approach the cloud-first model within the context of a compelling value proposition and benefits for the business, **not tech for tech's sake.**

For the sell side:

- The focus on EDM revolves around supporting **new data sets** (ingesting different unstructured formats, onboarding, QA, data/metadata classifications/ease of use, etc.).
- Data related to **regulatory compliance** is a significant focus for sell side firms due to continued regulatory scrutiny on data transparency, data quality, and reporting quality.
- The priority of **converging EDM systems** is also due to ongoing efforts towards centralizing and standardizing data management operations and (market) data usage monitoring. This is particularly relevant for Tier 1 banks/sell side institutions for which data costs are escalating.

For the buy side:

- Firms are looking to **consolidate fragmented MDM/EDM applications** where possible across different dimensions: asset classes (EQ/FI, derivatives, private markets), functional use cases (risk, performance, accounting), and geographical business lines. Consolidation is also driven by efforts to deliver a holistic picture for investment decisions and downstream reporting operations (especially when growing ESG integration is required and the data employed cuts across portfolio construction, risk, and reporting activities).
- The **ability to support domain-specific use cases** is important when looking at EDM solutions (e.g., CRM/client data, private markets data hubs).
- Buy side firms are more open to exploring the most **cost-effective sourcing options** and data-as-a-service (DaaS)/managed data services, although this is still largely nascent (based on our anecdotal conversations).

LOOKING FORWARD

Looking forward, Celent expects pioneers in the industry to turn their focus purely on the regulatory and efficiency requirements for pursuing ambitions to manage and transform **data as a strategic asset**—and where viable, a commercial proposition.

To effectively compete, capital market and investment firms will need to keep up in the arms race for spending on advanced technology, data, and quantitative talent via organic or inorganic routes or through outsourced and managed services run by third party partners.

Progressive firms will **remove subscale “pockets of excellence”** around data and analytics— to create larger economies of scale and scope that can ultimately drive enterprisewide change to achieve strong enterprise data management competencies and deliver timely, fit-for-purpose insights.

With the stronger foundations of data operations at scale, this may enable firms to transition into entities that can monetize their data and create new revenue streams.

Whichever route firms take, winners will be those that possess (or can orchestrate) superior organizational data enablement, which can empower them **to move faster, stay leaner, and get ahead**.

“

"I am expecting a redeployment and a shifting of resources from ops to data-related capability development in the coming years through our captives in India. We are building this out, and we're adding capacity, and they are pretty significant."

COO, global asset manager

LEVERAGING CELENT'S EXPERTISE

If you found this report valuable, you might consider engaging with Celent for custom analysis and research. Our collective experience and the knowledge we gained while working on this report can help you streamline the creation, refinement, or execution of your strategies.

Support for Financial Institutions

Typical projects we support related to policy administration systems include:

Vendor short listing and selection. We perform discovery specific to you and your business to better understand your unique needs. We then create and administer a custom RFI to selected vendors to assist you in making rapid and accurate vendor choices.

Business practice evaluations. We spend time evaluating your business processes, particularly in policy administration, rating, and claims. Based on our knowledge of the market, we identify potential process or technology constraints and provide clear insights that will help you implement industry best practices.

IT and business strategy creation. We collect perspectives from your executive team, your front line business and IT staff, and your customers. We then analyze your current position, institutional capabilities, and technology against your goals. If necessary, we help you reformulate your technology and business plans to address short-term and long-term needs.

Support for Vendors

We provide services that help you refine your product and service offerings. Examples include:

Product and service strategy evaluation. We help you assess your market position in terms of functionality, technology, and services. Our strategy workshops will help you target the right customers and map your offerings to their needs.

Market messaging and collateral review. Based on our extensive experience with your potential clients, we assess your marketing and sales materials—including your website and any collateral.

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