VISION

Data Innovators

The Innovator's Journey

Pathways to Data Dexterity

EXECUTIVE SUMMARY

Data Movers

Data Starters

STATE STREET®

Featuring the findings of the State Street 2014 Data and Analytics Survey.

81%

of investment firms view
data and analytics as
one of their top strategic
priorities for the
years ahead

Advanced data tools and practices will be one of the most powerful drivers of change in the investment industry over the next decade.

This is a bold claim given the many other disruptive trends affecting invest-ment firms — ranging from emerging investment strategies, the opportunities created by globalization, and a rising tide of regulation. But data's key role in transforming the industry is highlighted by our new research.[1] Our survey of 400 investment firms reveals that more than four out of five

organizations (81 percent) view data and analytics as one of their top stra-tegic priorities for the years ahead.

Mastering data is both a huge challenge and opportunity for today's investment firms. Companies in the survey with the most advanced data practices believe they already have a significant compet-itive advantage. They can analyze risk and performance across today's complex multi-asset portfolios. They have sys-tems that streamline compliance and allow them to adapt to new stakeholder demands. And they have the flexible infrastructures and data skills to keep pace in a fast-changing environment.

[1] State Street 2014 Data and Analytics Survey conducted by Longitude Research.

Our earlier survey in 2013 identified a group of "data leaders" — firms that are turning advanced data capabilities into a source of commercial edge.[2] Our new research deepens this analysis. We explore the journey that many companies have embarked on to achieve a higher level of data capability that we call *data dexterity*. We set out the stages of that journey, the qualities and challenges of companies at the different stages, and their next steps in developing and honing their data capabilities. The ultimate goal is to become agile — harnessing a broader range of data sources, mining that data to uncover new investment opportunities, and using those insights to accelerate their company's business performance.

Benchmarking Methodology
Respondents in our survey were to self-assess their confidence and progress across six capabilities:

- **Infrastructure** — the hardware and software systems that handle a firm's data collection, storage, aggregation, analysis and other operations

- **Insight** — the ability to generate insights into investment performance and risk, ultimately in an integrated fashion across entire portfolios

- **Adaptability** — the extent to which data systems can react to changes in investment strategy

- **Compliance** — in addition to meeting existing regulatory requirements, the ability of data systems to adapt to changes in those requirements and across multiple jurisdictions

- **Talent** — hiring and developing the specialists who can generate investment insights from data and its analysis, and interact effectively with fund managers

- **Governance** — the standards, processes and leadership in place to ensure data accuracy, reliability and transparency

Cluster analysis allowed us to identify three distinct groups in the survey with similar capabilities and attributes.[3] The minority of survey respondents (36 percent) consider themselves to be relatively far advanced across each of these six capabilities. We term this group "Data Innovators." The majority consist of "Data Movers" and "Data Starters" (36 percent and 28 percent, respectively), who find themselves at intermediate and relatively early stages.

Of course, the journey to data excellence is a continuum, and our three groupings are simply a tool to help organizations understand how they might compare against their peers. But by identifying key stages on the route to data excellence, we aim to shed light on what it might take to become an Innovator in data practices.

[2] "Leader or Laggard: How Data Drives Competitive Advantage in the Investment Industry," State Street, November 2013.
[3] Cluster analysis is a technique for statistical data analysis that is commonly used to identify coherent groups (the "clusters") within a dataset.
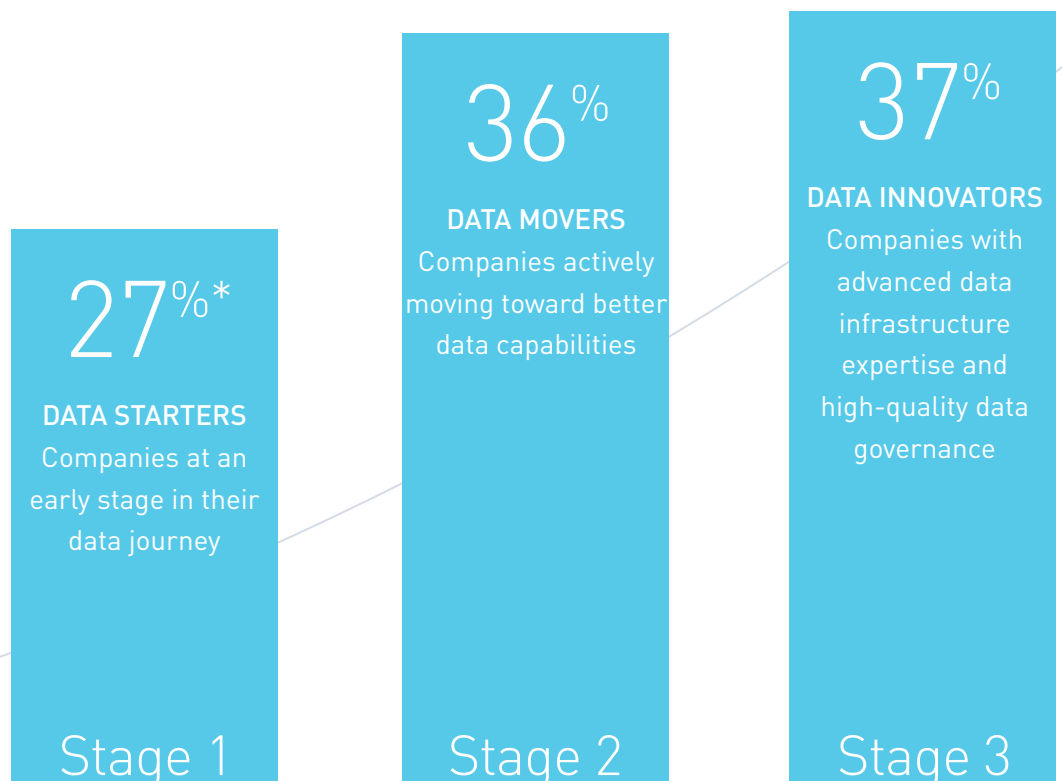
Our Survey Benchmarked Companies on Six Paths to Innovation

	Infrastructure	Insight	Adaptability	Compliance	Talent	Governance
Data Innovators	• Infrastructure and tools fully upgraded • Silos broken down • Seamless integration of unstructured data	• Ability to conduct scenario and stress testing across portfolios • Integrated view of risk and performance across multi-asset portfolios	• Capabilities can adapt quickly to support new products or investment strategies	• Excellent data quality and traceability back to source • Reporting systems adapt quickly to new requirements across global footprint	• Regular flow of insights; smooth interaction with fund managers	• Large degree of standard-ization across internal databases; external providers aligned • Strong leadership on data governance; policies and processes entrenched throughout
Data Movers	• Aggregation, visualization, other data management capabilities upgraded • Improved data integration across investment portfolio	• Rich, partly integrated performance and risk analysis in individual asset classes • Ability to analyze performance and risk of wide range of alternative	• Reduction in time to market for new product additions, or new asset classes	• Systems fully compliant with existing requirements, but slow to adapt to new rules	• Team can manage data collection and integration; some cap-abilities to perform and manage analytics	• Data gaps, errors identified; cleaning under way • Coherent, agreed framework for data governance

Three Steps Toward Data Dexterity
With advanced data capabilities emerging as a key success factor for investment firms, our research aims to benchmark the industry's progress in this area. To do this, we asked investment firms to assess their capabilities in the six areas highlighted on page 4.

Our benchmarking survey reveals major variations in investment firms' capabilities across each of these capability areas (see benchmarking methodology on page 3). In-depth analysis allowed us to identify three distinct groups of investment firms, each at different stages in the journey towards data dexterity.

27%*

DATA STARTERS
Companies at an early stage in their data journey

Stage 1

36%

DATA MOVERS
Companies actively moving toward better data capabilities

Stage 2

37%

DATA INNOVATORS
Companies with advanced data infrastructure expertise and high-quality data governance

Stage 3

* Percentage of Data Starters, Movers and Innovators in overall sample.
Source: State Street 2014 Data and Analytics Survey conducted by Longitude Research.

Outdated legacy systems make it difficult for Data Starters to get the full value from their data.
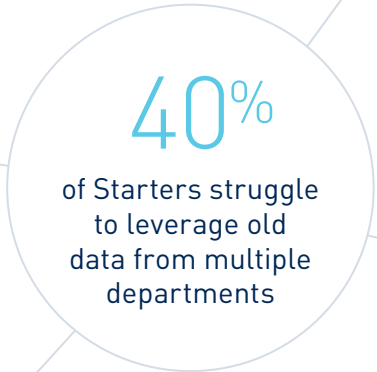
STAGE 1
Data Starters: Breaking the Legacy Trap

Data Starters are starting their journey toward more advanced data capabilities. Outdated legacy systems make it difficult for them to get the full value from their data, and leave them exposed to a range of risks and challenges. Priorities for Data Starters include finding ways to replace or integrate fragmented systems and implementing more flexible reporting platforms to support fast-changing regulatory demands.

- **Legacy IT issues are a major barrier to progress.** Starters find it more difficult than any other group to leverage old data from multiple departments — 40 percent of them struggle with this, versus only 25 percent of Innovators. Outdated systems make it hard for these organizations to adapt. Only 3 percent of Starters strongly agree that their data and analytics capabilities are keeping pace with the business, versus 39 percent of Innovators.

- **Starters are stuck on compliance.** The majority of Starters (65 percent) will struggle to cope with regulatory reporting requirements over the next three years. As new rules and reporting requirements arise, the danger is that these organizations will be overwhelmed. By contrast, only one-third (33 percent) of Innovators say the same, suggesting that the majority of them feel confident enough to move on.

40%
of Starters struggle to leverage old data from multiple departments

STAGE 2
Data Movers: A Focus on Data Integrity

Data Movers are making headway to more advanced data practices and capabilities. They're increasing their investment in data at a faster rate, and replacing systems with an architecture that allows data to flow more freely across the organization. They may have modern tools for analyzing investment risks and performance at the level of individual asset classes — although gaining a whole-fund view of risk may still be challenging. Regulatory issues are still a major problem for this group.

- **Movers are upgrading.** Movers are increasing their investment in data and analytics more aggressively than the Starters — a trend that signals their intention to overhaul key parts of their data infrastructures. Four out of five Movers will increase spending on data and analytics by more than 5 percent over the next three years. They are beginning to see the rewards too: 65 percent of them agree that their data and analytics capabilities give them a competitive advantage (although only 15 percent strongly agree, versus 44 percent of Innovators).

- **They must walk before they run.** When it comes to predicting trends that will drive changes in their data strategy, Movers are more concerned about regulation than any other group. But they are not investing as much in this area as the Innovators — despite the fact that almost as many Movers fear their systems aren't keeping up with regulation as Starters. Tackling the compliance issue has to be a priority before organizations start to adopt more ambitious data strategies.

- **Good data governance is the first step toward more advanced capabilities.** In addition to addressing the compliance risks mentioned above, companies need the right policies and controls to address data security — an issue that emerges as a top concern for 77 percent of firms in the survey. Improved data governance would help the Data Movers to address their data integrity issues, and create the right foundation for more sophisticated data analytics. Unfortunately, the survey indicates that for many firms, compliance and governance issues tend to be low on the list of priorities for investment.
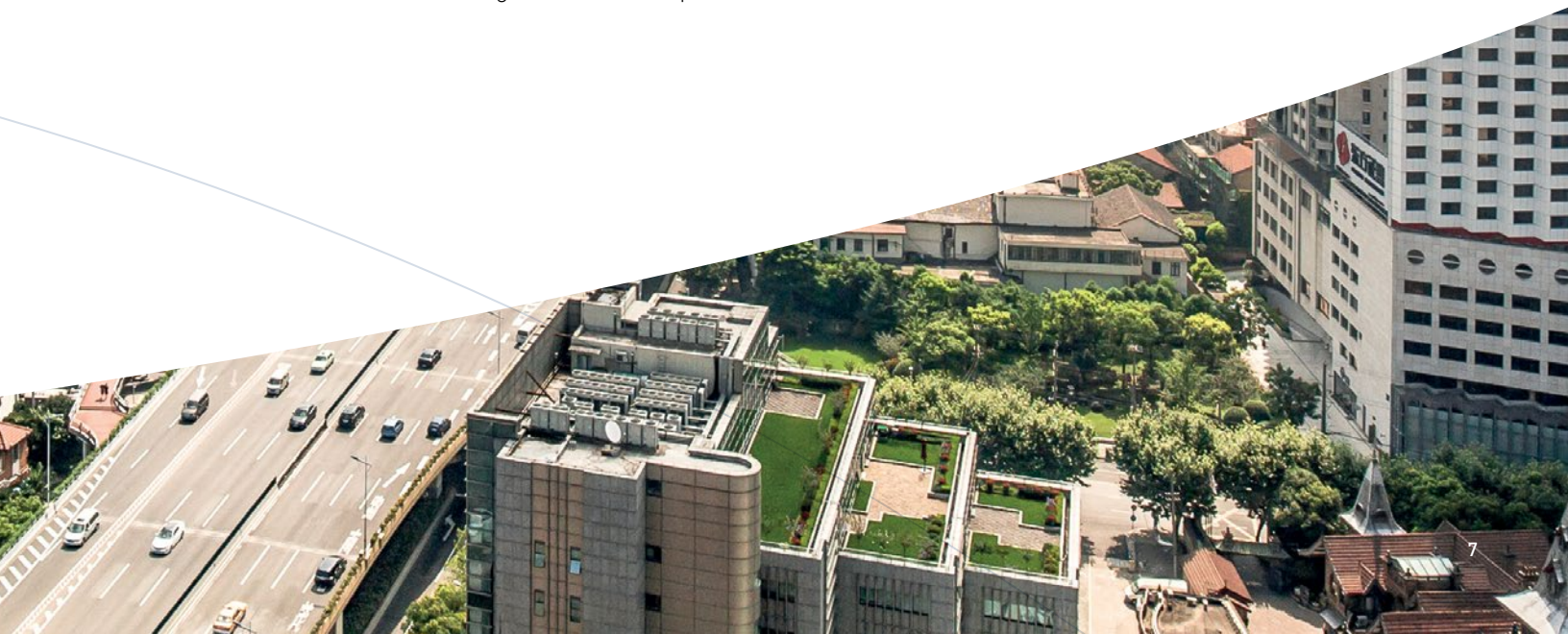
STAGE 3
Data Innovators: Ready for the
New Age of Investing

Data Innovators, as the title suggests, have the most advanced capabilities in our survey. Their superior technology resources are most likely to create a distinctive competitive advantage. Key differentiators for Data Innovators include:

- **Innovators prize data and treat it as their top strategic priority.** For nearly half (49 percent) of Innovators, data and analytics are their single most important strategic priority. Only 27 percent of Movers and 22 percent of Starters give data similar importance. This board-level backing will help ensure these organizations stay ahead in the world of data-driven investing. Innovators are also investing at a much faster rate in data and analytics (see "Investing in Data" on page 9).

- **Innovators are mastering a range of advanced data capabilities.** A look at specific types of capabilities reveals where Innovators believe their comparative strengths lie. Innovators are significantly more confident than the Starters and Movers across a range of areas including scenario-generation and stress testing, managing multiple external and internal data streams, optimizing electronic trading, and cross-portfolio analysis of risk and performance.

- **Innovators have the edge on electronic trading.** Innovators are substantially more active in electronic trading than the other two groups. Over half (55 percent) today conduct more than 70 percent of their trades electronically, compared with 38 percent and 39 percent, respectively, of Movers and Starters.

- **They know how to extract commercial insight from their data.** Data Innovators have the tools and capabilities to work their data harder. Indeed, competitive advantage accelerates the further you go along the data and analytics journey. For example, 44 percent of Innovators strongly agree that their investment data and analytics are a source of competitive advantage, compared with only 15 percent of Movers and 5 percent of Starters.

- **They can also adapt faster to new business needs.** More than three times as many Innovators (39 percent) than Movers (11 percent) — and 10 times more than Starters (just 3 percent) — strongly believe that their data/analytics capabilities are keeping pace with business growth.

22%

of Starters say
that data is their
No. 1 priority

Investing in Data

While most investment organizations are at least somewhat increasing their investment in data and analytics over the next three years, Innovators are investing much more aggressively. Over the past three years, 38 percent of Innovators have boosted their year-on-year investment by at least 10 percent — considerably more than the 22 percent of Movers and 17 percent of Starters who've done the same.

Which of the following statements best describes your organization's investment data and analytics capabilities in the past three years?

Investment has remained flat or declined each year
7%
4%
4%

Investment has been flat, or increased by less than 5%
26%
16%
12%
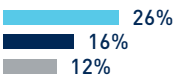
Investment has increased each year by between 5% and 10%
50%
59%
47%

Investment has increased each year by between 10% and 20%
15%
19%
28%
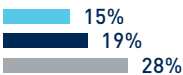
Investment has increased each year by more than 20%
3%
2%
10%
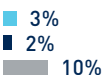
■ Poor/Starters
■ Medium/Movers
■ Good/Innovators

Source: State Street 2014 Data and Analytics Survey conducted by Longitude Research

The survey also sheds light on where these investments are being targeted:

- **Multi-asset investment strategies demand new technology.** The growing popularity of multi-asset investment strategies combining assets like equities and bonds with alternative asset classes have made it harder for companies to track risk and performance across the portfolio. Older technology systems were never designed to support such a wide range of assets. In our survey, investment firms cite expansion into new assets as the top driver of change in the way they manage their data.

- **Data talent is the top priority for spending.** Companies are upgrading their systems, but the top investment priority overall will be data talent. This is an increasingly competitive area, with the leading companies battling to attract and retain top experts in data science. Bringing data scientists into the organization and integrating them into the existing operations will be one of the key sources of competitive advantage for Data Innovators in the years ahead.

38%

of Innovators have
increased investment
in data by over
10% each year

The goal is to shift from competent data management to true data dexterity.

Making the Shift From Data Management to Data Dexterity

Companies are clearly at different stages of the data journey. Starters are in the early stages of implementing the infrastructure to support the new data-driven investment model. At this level, progress depends on being able to address the fundamentals by improving their governance, enhancing their skills and implementing a more modern technology infrastructure. Further along in their journey, the Data Movers have stronger capabilities in data management, although compliance remains a significant concern. They're generally proficient with data, but they still have a long way to go in developing some of the advanced capabilities that characterize the top-performing companies in our survey.

For some companies, solid capabilities in data management may be enough for them to compete and survive in the emerging investment environment. But the leaders of tomorrow harbor greater ambitions. For them, the goal is to shift from competent data management to true data dexterity.

By doing this, Innovators are able to outperform their competitors in a range of areas:

- Empowering business users to extract more insight from their data, faster than ever before

- Enriching their investment decisions with new sources of insight, including unstructured data

- Harnessing multi-disciplinary teams, including data scientists, to "join the dots" on new business risks and opportunities

- Analyzing risk and performance at a whole fund level, while also looking through the portfolio at a granular level

- Reducing the costs of compliance and reporting tasks across their global operations

- Protecting and enhancing their data assets, with a strong approach to data governance that strengthens security and compliance

These skills and capabilities will come to distinguish the winners of tomorrow. No one should underestimate the challenges on the road ahead, or the speed with which the landscape around them is changing. But by acting now, companies at all stages in the journey can get ready for a world where data skills and capabilities increasingly define your destiny.

About the Research

This report is based on a global survey of 400 senior executives at investment firms, conducted by Longitude Research in October and November 2014. We asked respondents to self-assess their confidence and progress across six data capabilities, including infrastructure, insight, adaptability, compliance, talent and governance. The respondents were drawn from 11 countries, with the majority from the US, China, France, Germany and the UK. The full survey sample is split evenly between asset managers and asset owners.

Half of the asset management firms represented use mostly equities and fixed-income strategies, and the other half pursue highly diversified (36 percent) or alternative asset (14 percent) strategies. Among asset owners, half of the respondents are from insurance companies, 11 percent from private pension funds, and the remainder from a variety of funds and other institutions. To complement the survey, we conducted in-depth, one-on-one interviews with investment industry executives and other experts.

For more information on the trends identified in this research, email: contactssgx@statestreet.com

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