Deloitte.

InFocus

Alternative data adoption

Collective intelligence investing creates new rewards and risks

Top takeaways

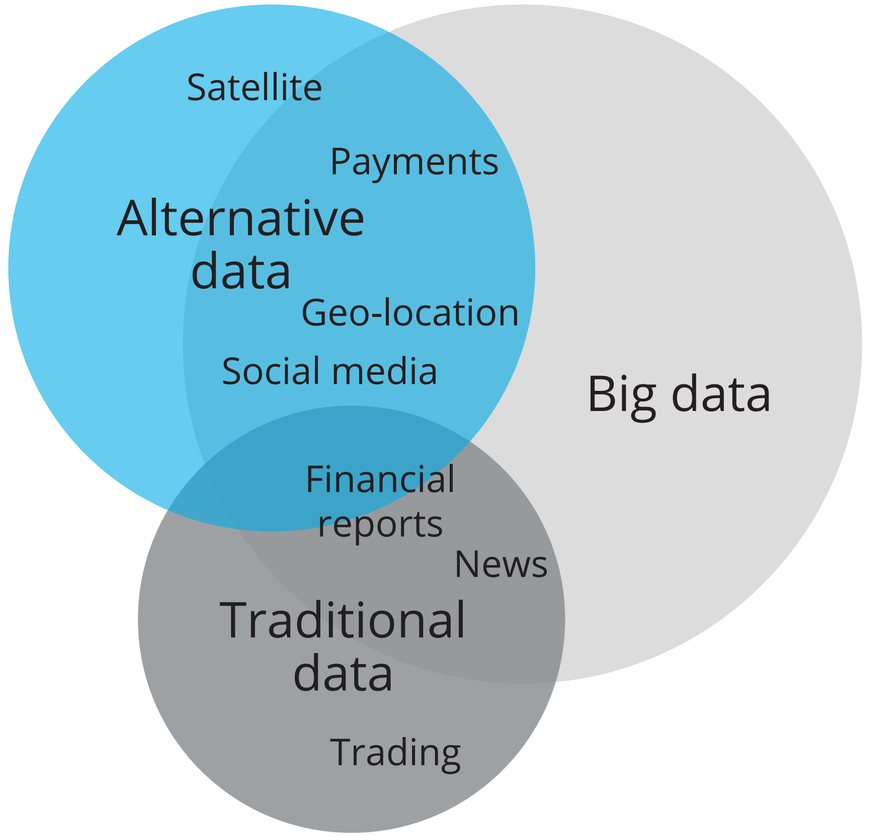
Alternative data have become valuable tools for investment management firms seeking alpha. Collective intelligence investing (CII)—deriving market insights from online communities and crowdsourcing platforms—continues to increase in popularity, creating new growth opportunities as well as new risks.

Hedge funds were the innovators in this space, but they are being joined by private equity (PE) and long-only managers today. Alternative data's adoption is reaching a tipping point and their use is growing exponentially.

Estimating the risk-and-reward equation for alternative data may be more of a challenge than for established data sources, but there are steps IM firms can take to minimize operational risks and capitalize on its benefits.

Information advantage can be hard to come by in current markets. Any edge, even a narrow timing advantage, may yield a more effective trading signal, algorithm, or investment model. Enter alternative data, which are valuable tools for investment management (IM) firms seeking that edge. A subset of big data, often nonfinancial and unstructured (text and imagery), alternative data are drawn from a variety of sources: news feeds, social media, online communities, communications metadata, satellite imagery, geo-spatial information, and others (see figure 1). By using Web 2.0 technologies and advanced analytics, investment managers can derive market insights from these sources.

Figure 1. Sources of alternative data



What is collective intelligence investing?

As some investment managers increase their use of alternative data sources, they are looking to the wisdom of the crowd for potential alpha advantage. We refer to this process of generating market insights from online communities and crowdsourcing platforms as collective intelligence investing (CII).

Web 2.0 technology has enabled online users to generate and share content on a diverse array of platforms. And the rise of advanced computing and analytics capabilities has allowed investment managers and information support vendors to generate real-time market insights from vast quantities of data.

Insights gleaned from CII cover a range of information—from trading signals, investment themes, and investment research to earnings estimates, quantitative algorithms, and asset allocation strategies—with each data set contributing to an investment-decision mosaic.

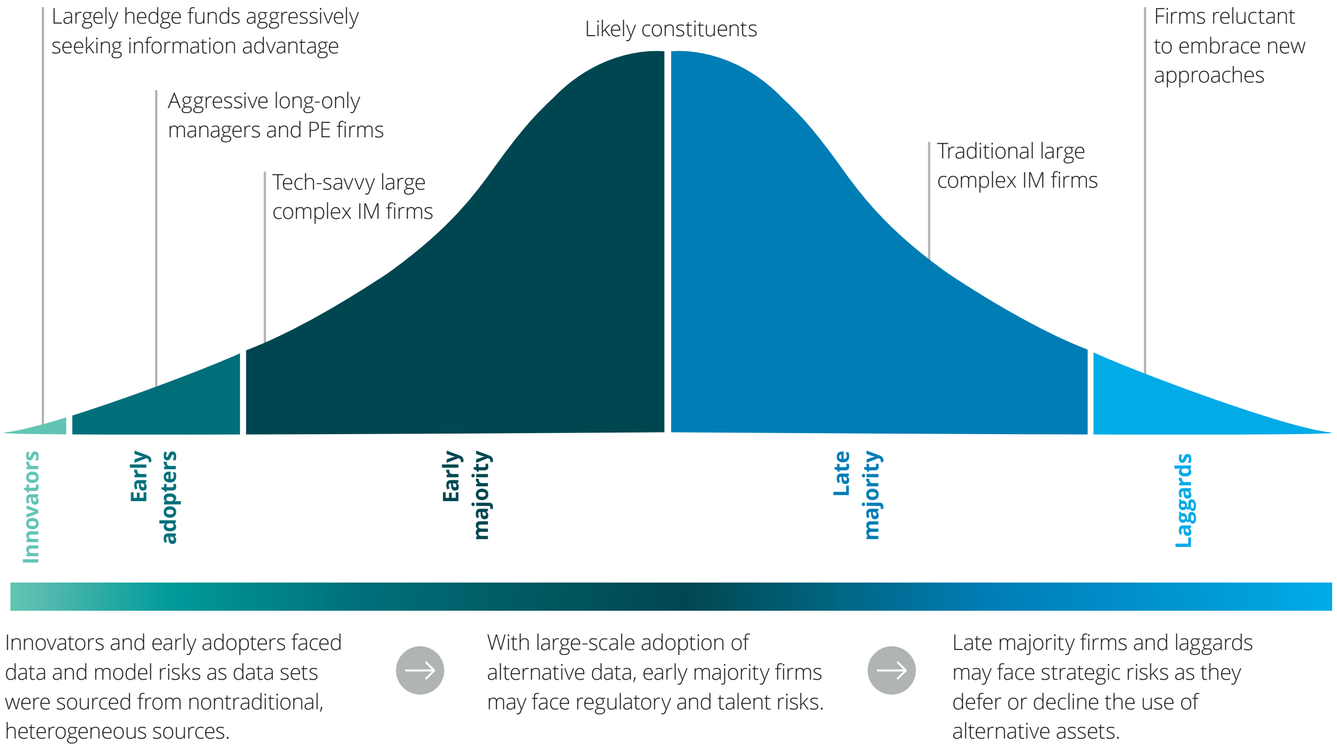
But not all investment-related chat rooms, online communities, and crowdsourcing platforms are created equal. Research indicates that smaller closed communities (compared to open communities) could be better positioned to provide alpha-generating ideas, as they tend to boast a better signal-to-noise ratio.[1,2] The challenge for investment managers is to concurrently identify and sort the useful and dependable signals from the noise across different platform types as they carefully negotiate the risks that online communities and crowdsourcing platforms can present.

Source: Collective intelligence investing: Alpha generation via alternative data brings new risks, Deloitte Center for Financial Services, 2018

The appeal of alternative data is largely the potential for an information advantage over the market regarding investment management decisions.[3] Hedge funds were the innovators in the alternative data space—they tend to take more risks in their pursuit of alpha—but, as seen in figure 2, they are being joined by more conservative PE and large IM firms as adoption slowly inches to the right. Today, alternative data's adoption is at a tipping point and their use is growing exponentially:

- The amount of data generated globally is expected to grow tenfold to 163ZB by 2025.[4]
- JPMorgan estimates $2 billion to $3 billion in spending by asset managers on alternative data (2017).[5]
- The number of alternative data analysts has more than quadrupled over the last five years.[6]

Figure 2. Alternative data adoption curve: Investment management constituents by phase



Alternative data-gathering through CII—deriving market insights from online communities and crowdsourcing platforms—is increasing in popularity, creating new growth opportunities in active investment management.

Alternative data are also producing risks at both ends of the adoption curve: they may carry greater risk than traditional data, given the content of the data fields and the various ways they are sourced and handled. If the risk-control processes at alternative data providers are immature, they may increase extended enterprise risk at IM firms through the incorporation of invalid or noncompliant data.
On the other hand, firms that don't update their investment processes to incorporate alternative data could face the strategic risk of being outmaneuvered by competitors that effectively incorporate big data investment into their securities valuation and trading signal process.

Estimating the risk-and-reward equation for alternative data may be more of a challenge than for established data sources, but there are actions IM firms can do to minimize operational, get-it-right risks while capitalizing on its benefits.

New improvements, new risks

Alternative data are likely to transform active investment management over the next five years[7] as CII goes mainstream. Already, case studies are demonstrating how the combination of analytics and alternative data can provide end-to-end improvements to the process of idea generation, investment evaluation and validation, portfolio construction, and portfolio management:

Online price = inflation. A global FSI firm employs technology to track prices of five million products online to understand price shocks and to monitor shifts in inflation across 70 countries.[8]

App + credit card = performance. A hedge fund looks at combinations of alternative data including credit card transactions, geo-location, and app downloads to analyze burger chain performance.[9]

Social + search = earnings. A $90 billion AUM global asset manager mines search engine data combined with social media data to predict results of corporate events like quarterly earnings.[10]

Mobile foot traffic = economy. Hedge funds are using location data pulled from mobile devices to predict outlook on the economy and REIT values.[11]

Satellite + ships = mispriced security. A hedge fund is using satellite intelligence on ships and tank levels to identify the upcoming impact to oil producers and commodity prices.[12]

Web + Twitter = market-moving event. A data provider is using 300 million websites and 150 million Twitter feeds in combination with analyst presentations and FactSet reports to highlight potentially market-moving events.[13]

These and other use cases are generating considerable industry interest: When Deloitte asked IM firms' opinion about the impact of alternative data on the investment process, the majority said that adoption would be advantageous either in the short or long term.[14] Most poll respondents also said they were considering adoption but have not taken any steps in this direction. Finally, nearly half stated that a fresh look at associated risks is warranted, indicating the novelty of alternative data's risks may be cause for exercising caution.[15]

Indeed, early adoption of alternative data may introduce exposure to newer risk types (figure 3)

Figure 3. Risk exposure (for firms that act early)

Alternative data carry greater risk than traditional data and these data sets may also introduce newer risk types.

Risk exposure due to early adoption of alternative data

Data risk: Firms may face these types of data risks due to immature risk-control processes at data providers:

- ***Data provenance risk:*** Violation of the terms and conditions from the data originator while scraping websites
- ***Accuracy/validity risk:*** Data may prove unreliable or produce an inaccurate trading signal
- ***Privacy risk:*** Personally identifiable information could be included in a data set received from a source
- ***Material non public information (MNPI) risk:*** Receipt of a data set containing MNPI could result in risk events

Model risk: The potential of new data sources to impact the investment models and perhaps decision making, if:

- The data is incorporated in the model incorrectly
- The trading signal generated is irregular or inconsistent under certain conditions
- The output of the model is improperly linked to trading process

Talent risk: IM firms may face the following risks due to the rise in demand for data science and advanced analytical skills to process alternative data:

- Loss of intellectual capital through talent turnover
- Impact on alternative data utilization ability due to delayed training for existing employees

Regulatory risk: Regulations governing the use of alternative data is still in the early stages of maturity. There are open questions about acceptable practices with respect to the use of alternative data.

However, the risk impact for late majority firms and laggards may be much higher (see figure 4).

Figure 4. Risk exposure (for firms that act late)

The risk impact and vulnerability for late majority firms and laggards may be much higher as compared to early adopters of alternative data.

Risk exposure due to late adoption of alternative data

Strategic positioning risk: Late adopters may not be well positioned to create value for their clients because:

- The "wait and see" approach is likely to create an information disadvantage
- They may mistakenly see alternative-data-driven price changes as opportunities

Strategic execution risk: Firms that choose to delay the adoption may find it difficult to execute the strategy because:

- Securing the already scarce talent could have adverse consequences
- Firms that have the right talent, capabilities, and infrastructure in place can stay a step ahead of the late adopters

Strategic consequence risk: Not using alternative data as an input for investment decision could result in:

- Inability to keep up with the innovation and getting outmaneuvered by peers with the alternative data edge
- Reputational risk
- Capital flight as a result of tarnished reputation

Technology + talent needed

Implementing and deriving insights from alternative data is a highly complex process that cuts across the operating model and requires a symbiotic combination of technology and talent. Data modernization, curation, and industrialization are typically the heavy tech lift—the trick is getting the data into a useful state for algorithms.

Alternative data also require a diverse talent pool—a cultural mix of IT/data scientists and security analysts/portfolio managers. These professionals have very different mind-sets and it can be difficult to meld them. Hiring multiskilled professionals with both data science and security analysis expertise is a preferred solution; however, few people possess this dual skill. Many firms will need to find a middle ground, finding a compromise: One suggestion is to hire investment-savvy professionals who also understand data and alternative data sets, even though they are not data scientists.

How can IM firms minimize the operational, get-it-right risks of alternative data and capitalize on their benefits? It begins with the adoption approach. The path forward requires revamping processes and infrastructure across business functions (see figure 5).

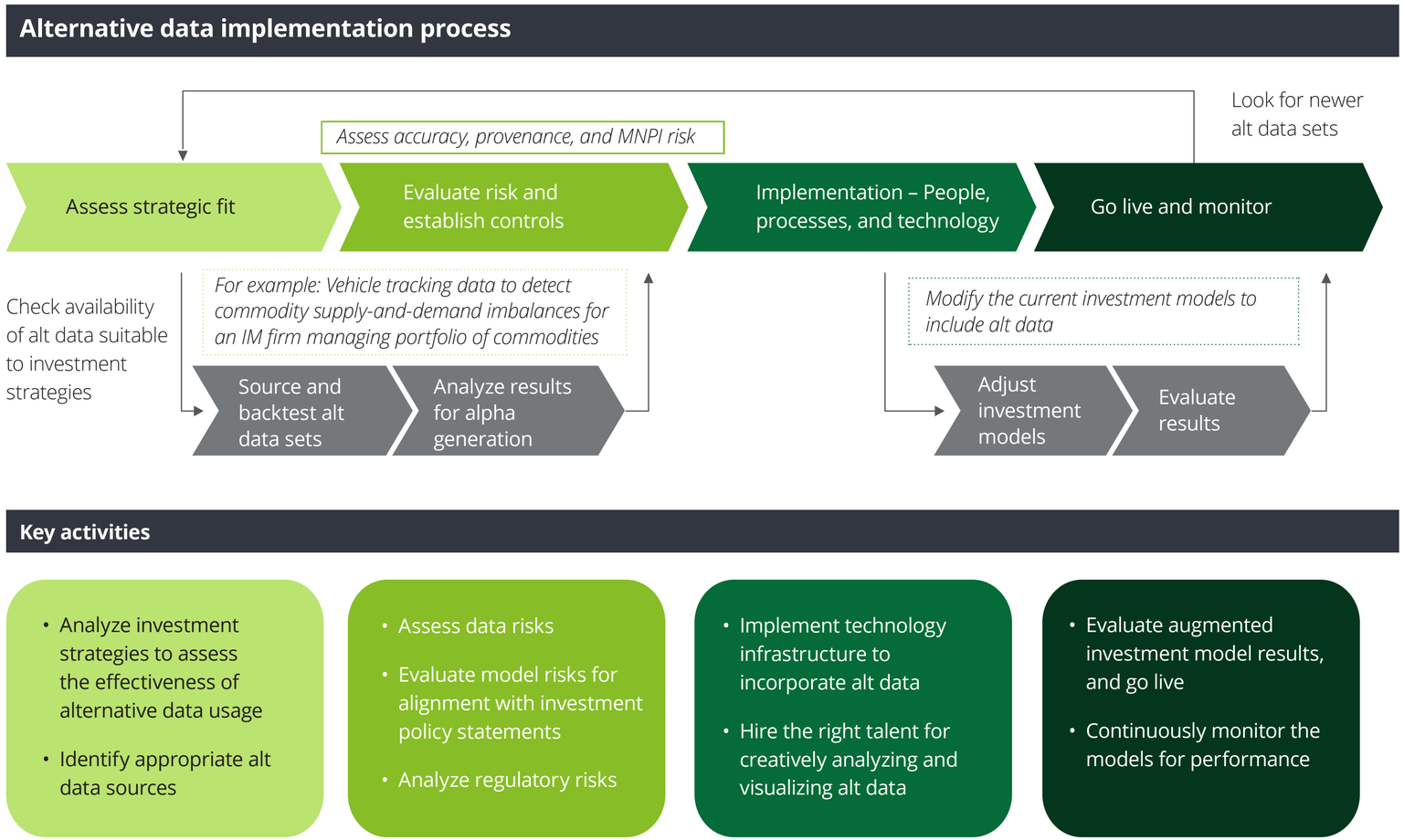
Among points to consider:

- **Identifying right data type** and having quick access is important for integrating within the investment decision-making process. Also, regular efficacy testing of the data set signals could also be required to test for alpha decay.
- **Having an integrated analytics platform** for undertaking different analytics promotes idea-sharing and generates greater efficiency. Combining this with traditional financial data can lead to differentiated market insights.

- **Establishing a fluid data architecture** is required to manage vastly different technology, storage, and computing requirements for varied alternative data types. The system should handle multiple data feeds via application programming interface (API) along with scalable processing power.
- **Building a well-rounded, collaborative insights team** composed of data scientists, engineers, behavioral economists, consumer experts, finance professionals, and analysts could help the organization derive new insights from alternative data. Also, cross-functional training could prepare the insights team for handling new data sets quickly.[16]

Figure 5. Alternative data: Path to successful adoption

Alternative data adoption requires revamping of processes and infrastructure across business functions of an IM firm.



What's next?

Our research on the future adoption of alternative data finance by investment managers shows a mixture of interest and uncertainty. The important question may not be whether, but how quickly alternative data—and CII—could go mainstream. While there are certainly risks associated with incorporating these new, alternative data sources into investment-decision processes, there may also be strategic risks associated with not doing so.

If you want to learn more about the rewards, risks, and adoption of alternative data and collective intelligence in investment management, we should talk. In the meantime, download our reports.

Endnotes

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Contacts

Patrick Henry
Vice chairman
US Investment Management leader
Deloitte & Touche LLP
+1 212 436 4853
phenry@deloitte.com

Doug Dannemiller
Research leader, Investment Management
Deloitte Services LP
+1 617 437 2067
ddannemiller@deloitte.com

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