



# Information *overload?*

Mining data using new technologies such as artificial intelligence (AI) has revolutionized the way in which investors analyze corporate financial information. But there is still much that could be done to optimize data for users, as *Tim Cooper* discovers.

**Today, technology is** enabling investors to analyze corporate financial information in ways that were previously unthinkable. The Financial Reporting Lab project, which has researched investors in 14 countries, has found widespread use of such technology.

Thomas Toomse-Smith is the Director of the project, which is run by UK regulator the Financial Reporting Council (FRC). He says: "Many investment companies are experimenting with AI in the back and middle office for a wide range of uses, from placing trades to analyzing sentiment. One large global investor told us that it is using AI as a first reader of almost every piece of company information in its process.

"This investor uses natural language processing to read and interpret structured and unstructured data released by companies – and by others about companies – and flags relevant items for the analyst to look at."

Todd Castagno, an equity strategist covering accounting and tax policy at global financial services giant Morgan Stanley, explains some of the cutting-edge techniques that have been adopted. "Investors are becoming more systematic and using more automation in the investment process to gain efficiencies," he says. "For example, they are using technologies such as AI on traditional corporate reports, and also on alternative data – anything that falls outside traditional reports."

Castagno says most of this AI is used to structure data, which means enabling computers

to recognize and sort it by using data tags.

"The downfalls of using structured data formats such as eXtensible Business Reporting Language (XBRL) are mis-tagging and poor data quality in preparer submissions," he explains. "We are working with vendors who are taking XBRL or alternatively sourced data and applying machine learning to structure the data and solve quality issues. Their automated techniques read filings and capture relevant data in the financial statements systematically.

"This is a substantial improvement over the traditional manual brute force, enabling us to solve data collection and quality issues in hours. Just five years ago, it could take weeks."

## **FURTHER TO GO**

Despite these advances, CFA Institute, which represents investment professionals around the world, believes that today's financial reporting system has a long way to go in adopting technologies that will make data more helpful to users.

It says current reporting requirements still presume that humans consume the information, and much of the annual report is not in a machine-readable format, which would be more useful. One major improvement, it suggests, would be for preparers to structure data at an early stage in the reporting process, rather than adding tags later.

Mohini Singh, CFA Institute's Director of Financial Reporting Policy, says she welcomes regulators' emerging support of inline XBRL (iXBRL), a

process that supports early structuring by allowing preparers to incorporate XBRL tags into an HTML-formatted financial statement, rather than filing a separate XBRL document.

But she adds that there is still an urgent need for education. “We surveyed our members in September 2016 and 90% said they were not familiar or not up to date with XBRL,” she says. “I think they are using the data, but they just don’t know it is XBRL data.

“Often, that is because of the many problems with the quality of data being filed [in some countries]. Where the data isn’t clean, data providers are having to clean it, which makes it costlier.”

Toomse-Smith adds that the introduction of the European Single Electronic Format will also have a major effect. From 2020, this will require all European Union listed companies to produce their annual reports in Extensible Hypertext Markup Language (XHTML) with tagged primary statements. “This will mean that data is more accessible and usable, and could lead to innovation in this space,” he says.

### MAXIMIZING EFFICIENCY

Use of electronic platforms where data sources can be married together effectively is also increasingly important, according to Castagno. “For example, I use a program called AlphaSense, which locates filings and transcripts extremely quickly,” he says. “And we are increasingly using technologies such as Tableau, Spotfire or QlikView that can handle extremely large data sets much more efficiently than an Excel spreadsheet can.”

Jeff Casson, Investment Director, Global Emerging Markets, at Martin Currie Investment Management, agrees with Singh that regulators should require more standardization of data.

“Without standardization, individual companies will report different information to the extent that it becomes too much to process, materiality is lost and transparency is reduced, not enhanced,” he says. “Standardization also allows companies to engage more proactively with management on nonfinancial aspects of their business, such as environmental, social and governance (ESG) issues and strategic planning.”

### INTERACTIVE REPORTING

Professional body Accountancy Europe has also carried out research with users. Deputy CEO Hilde Blomme says it agrees with the need for more structuring of financial and nonfinancial data, and that the current paper/pdf-based system that many companies use is “underwhelming.”

Accountancy Europe wants to encourage a more interactive approach to reporting through a so-called “core and more” concept. Blomme recommends that companies produce “a core executive summary, with key information that all

users need, as quickly as possible. This would then connect to more detailed information for those who are interested.”

She says that innovative companies are currently experimenting with making reports more interactive, enabling investors to tailor pieces of information for their needs, which would require more use of structured data.

The US regulator, the Securities and Exchange Commission, is also starting to encourage companies to provide more interactive financial statements.

### BETTER NONFINANCIALS

Singh says that technology can also enable better reporting of nonfinancial information, again through the use of machine readable data. Many investors are calling for this as the amount of external information about companies that is available grows.

For example, Josh Kendall, ESG analyst at Insight Investment, says: “We integrate ESG factors into fundamental evaluations, as we believe it can impact long-term risks and performance, and we expect ESG issues to be disclosed alongside regular financial reporting. But there is huge variability in the quality of ESG disclosures, which can make them challenging to use effectively.”

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**Jeff Casson, Martin Currie Investment Management**

Investors and providers are also finding their own solutions to improve the usefulness of nonfinancial data. Jens Peers, CIO and Portfolio Manager at Paris-based asset management company Mirova, says: “As asset managers increasingly seek data on ESG performance, the number of providers of this data are swelling, and the sophistication of delivery and depth of analysis is developing.

“Mirova is developing an interface between [research tool] FACTSET and an internally developed database, allowing us to analyze investment opportunities comprehensively across market, financial statement and ESG data.”

Castagno explains that Morgan Stanley has analyzed gender diversity by looking at the composition of female executive roles. It found a significant relationship between long-term performance and gender diversity. “That is a good example of using quantitative techniques to leverage value from ESG data,” he says.

### ALTERNATIVE DATA

The amount of alternative data available to support investment decisions has grown rapidly over the

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Todd Castagno, Morgan Stanley

last few years. This includes information from corporate websites and social media, and from other websites.

According to a blog by US-based consultant Opimas, the explosion of available information is leading to a fundamental change in asset managers’ models. To stay competitive, managers increasingly need to incorporate new, alternative data that stretch well beyond traditional market intelligence.

“These alternative data sets come from a bewildering array of sources, including satellite and drone imagery; GPS tracking for cars, trains and mobile phones; transactional data for credit cards and other payments; sentiment analysis for social media; and news feeds,” says Opimas.

Justin Zhen, co-founder of Thinknum – one of the growing number of alternative/big data providers that index information about companies from a large number of websites – says: “The amount of information online is impossible for a human to track and grade. For example, there are now huge amounts of data on social media, such as how many people are booking restaurants, talking about a brand on Facebook or following a company’s Twitter handle. This can tell you how well a company is doing before everyone else knows.”

Zhen emphasizes that big data is not making traditional corporate reports obsolete. But it should lead to fewer earnings surprises and force companies to be more transparent, since it is easier to verify their claims. It should also enable investors to ask companies more informed questions about performance.

“Investors that have worked out how to use this data are greatly outperforming their peers,” he says. “So alternative data analysis is already becoming a major trend in most investment firms, and understanding big data is a prerequisite for new hires.”

But alternative data analysis has its limitations. Blomme says that, in her research with users, “there is some doubt about the integrity and reliability of this data. It was only meaningful with interpretation.

“In contrast, financial statements have a clear and structured framework. Big data is much looser, with thousands of ways to present the information,” she

explains. “What benchmark or framework is used for each piece of information? How does it link to the financial reports? What assurance do we have in that information?”

Castagno says: “These days, investors will take any data set and test it for significance in producing returns. It’s a data arms race. But even data sets with return signals could be difficult to trade on practically. Also, if everyone has the same data, the advantage will arbitrage away.”

Casson suggests that the increase in alternative data is a positive development, but that it also challenges users. “It goes back to the need for standardization and understanding what is material to the business,” he says. “Not all information is material, and it can create noise.”

### MORE TIMELY REPORTS?

As users of financial information can now get so much real-time data, some also are demanding more timely reports from companies. Blomme says that most want material information released as soon as possible, not just in quarterly reports.

But there are drawbacks to this approach. Casson says: “Increasing reporting frequency is not a benefit of the adoption of technology, as it would further exacerbate a short-term focus.”

Toomse-Smith agrees. “Long-term investors and analysts have not been keen on getting information more quickly, as constant reporting would create the need for constant monitoring, trading and market rebalancing,” he says.

Investors today have the technology to sift through the large amounts of information they receive to improve analysis, and their uses for such technology are likely to keep growing.

The consensus is that investors want regulators to require better quality data as standard, which would open a trove of valuable data for all. Though some say that better quality data can be expensive to achieve, it would increase efficiencies for companies and investors, and would ultimately be likely to make capital markets stronger. ■

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