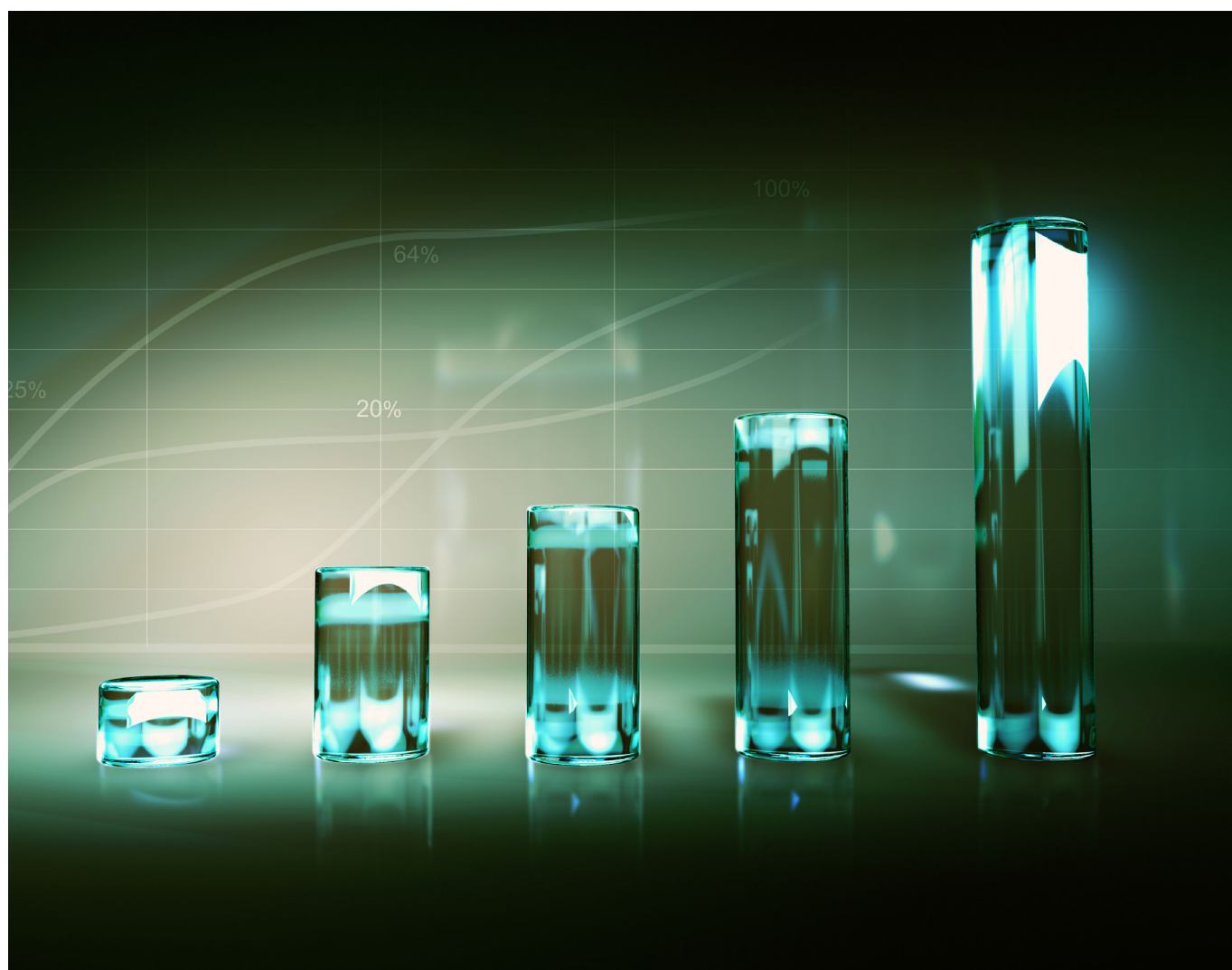


Survey Report

Data Analytics Tools Transparency and Granularity Where They Are Needed Most

October 2021



waterstechnology

Sponsored by



DEUTSCHE BÖRSE
GROUP

Contents

Executive Summary	p 2
This Whitepaper at a Glance	p 3
About this Survey	p 4
Status Quo	p 5
Skills Shortage	p 6
Premium	p 9
Conclusion	p 12
About Deutsche Börse	p 12

© This document is the property of Infopro Digital Services. Reproduction and distribution of this publication in any form without prior written permission is forbidden.

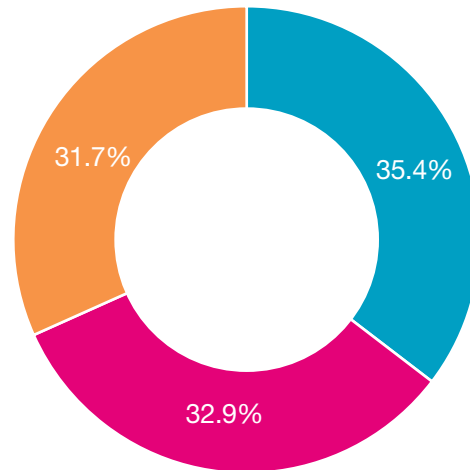
Executive Summary

There have been many changes across the capital markets over the course of the past decade, but none more impactful than the extent to which data—and, more specifically, the tools available to market participants to interrogate large, complex and opaque datasets—has been harnessed by firms on both sides of the industry to enhance decision-making. Front- and middle-office functions such as trading and execution—including transaction cost analysis and pre-trade modelling—and risk management have been positively impacted as firms have sought to understand and systematize the variables impacting these processes to make more informed, accurate and repeatable decisions. This trend has, in turn, trickled down to their clients and end-investors by way of improved levels of all-round service, granularity and transparency, while regulatory mandates have been simultaneously satisfied.

This whitepaper focuses on the following themes:

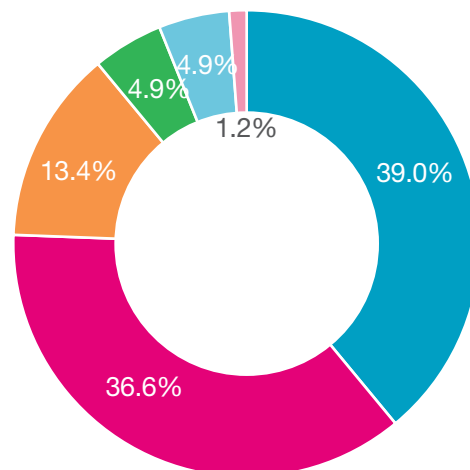
- The current state of play across the financial services industry regarding firms’ use of data analytics tools, the effectiveness of those tools and where firms look to source them from (in effect, whether they are developed in-house, in partnership with a specialist provider or implemented off the shelf).
- The challenges respondents face with regard to developing their own proprietary data analytics tools, the primary business processes supported by such tools and their delivery mechanisms (in-house deployed versus hosted and delivered via the cloud).
- Firms’ data consumption preferences, including their ideal delivery frequencies and increased demand for datasets with prepackaged analytics.

1 Where is your organization based?



- Asia-Pacific
- Europe
- North America

2 What type of organization do you represent?



- Traditional investment manager
- Hedge fund
- Market-maker
- Broker-dealer
- Exchange/clearing house/market infrastructure provider
- Technology vendor

This whitepaper at a glance

- Three-quarters of respondents to this survey hail from the buy side—39% come from traditional asset management firms, while 36.6% are from hedge funds.
- 53.7% of respondents are generally unhappy with the quality and effectiveness of their data analytics tools, while a further 31.7% believe theirs could be better.
- In terms of where respondents source their data analytics from, 41.5% use third-party developed tools, while 20.7% use proprietary tools, which they report allow them to derive maximum value from their data. Significantly, almost 20% of respondents use propriety tools that they acknowledge have their limitations.
- When it comes to the challenges associated with developing analytics tools in-house, just under one-third of respondents (31.7%) reported that they do not have the technical skills to do so, while budgetary constraints and the lack of support from their firm's executive committee (both 18.3%) also featured prominently.
- Analytics tools that support the management of market risk (35.6%) were seen as being the most impactful in the next two to three years, while those supporting strategy simulations (24.4%) and liquidity sourcing (22.2%) also featured prominently.
- Unsurprisingly, almost two-thirds (61%) of respondents would prefer to receive prepackaged and analyzed datasets from providers, compared with 39% who would prefer to receive raw data from providers and undertake the analysis themselves.
- For the majority of respondents, what they value most from third-party analytics providers is technological considerations, and reputation and/or reliability, which both received 20.7% of the vote. Respondents are clearly also looking for cloud-based tools, selected by 18.3% of respondents.
- When it comes to the timeliness of data delivery, most respondents (37.8%) are looking for real-time delivery of data, while a marginally smaller number (35.4%) are looking for delivery at regular intervals during the day.
- Just under half of respondents (47.5%) reported that it is critical for them to understand how analytics are derived, implying that 'black-box' systems offering limited transparency will not suffice going forward.
- Performance and improved scalability were cited by 35.4% of respondents as the primary benefits of utilizing cloud-based data management and warehousing services, while just over one-quarter (26.8%) see cloud-based services as providing greater functionality than they would be able to develop in-house.
- When it comes to the factors impinging on respondents' abilities to embrace cloud-based data and analytics services, 28% cited finding the right partner, while 22% indicated that they are wary of vendor tie-in (partnering with a vendor and becoming locked in to that relationship).

Percentages in some tables and graphs may not total 100 due to rounding.

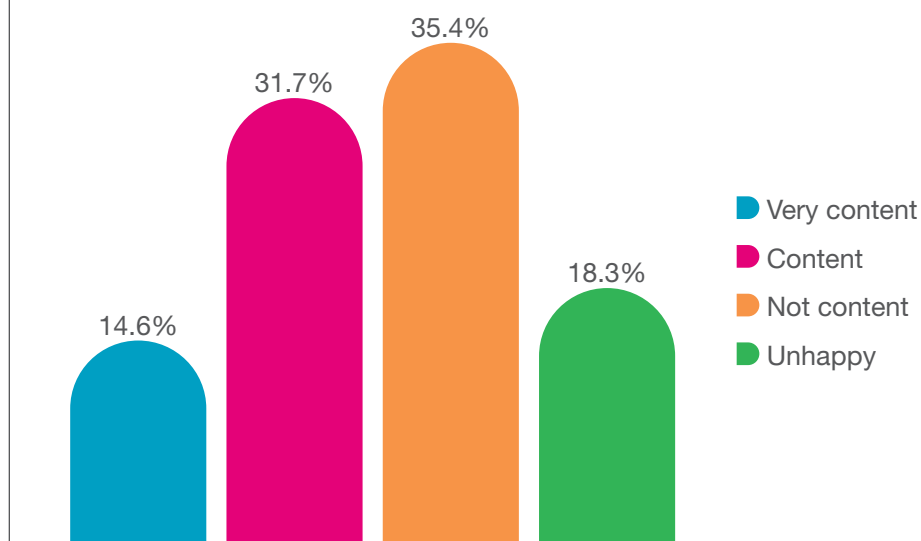
About this survey

The findings from this 13-question survey are based on responses from 82 buy- and sell-side respondents split near evenly across the Asia-Pacific (35.4%), European (32.9%) and North American (31.7%) financial services industries (see question 1). The survey did not target any specific constituents, although the results of question 2 reveal a heavy buy-side bias: just over 75% of respondents work on the buy side (39% represent traditional asset managers and 36.6% represent hedge funds). These results are noteworthy because of the significant buy-side slant, all the more so because of the number of hedge funds that chose to complete the survey—by far the largest alternative asset management sector participation in any whitepapers created by *WatersTechnology* in recent years.

It is impossible to discern with any confidence why there was such a high percentage of hedge fund participants; however, it might be down to the fact that buy-side firms generally—and hedge funds in particular—see data analytics tools as critical to underpinning and enabling their *raison d'être*: their ability to make the most judicious, timely and transparent business and investment decisions by way of interrogating the data residing within the business. That, and the fact that sell-side firms have traditionally had greater resources available to them to develop and deploy their own data analytics tools.

According to Anya van den Berg, vice-president, data and analytics at Deutsche Börse, the buy side has been catching up to the sell side in recent years when it comes to deploying data analytics tools and analyzing their data, which might go some way to explaining the heavy buy-side bias of this survey's respondents. "There used to be a heavy reliance on the sell side for data analysis; however, in the past few years the buy side has regained control," she explains. "The large number of buy-side respondents participating in this survey is a testament to this trend." Respondents from *WatersTechnology's* database were invited to participate in this study and were not targeted with the view to confirming any biases.

3 How content are you with your organization's current data analytics tools?



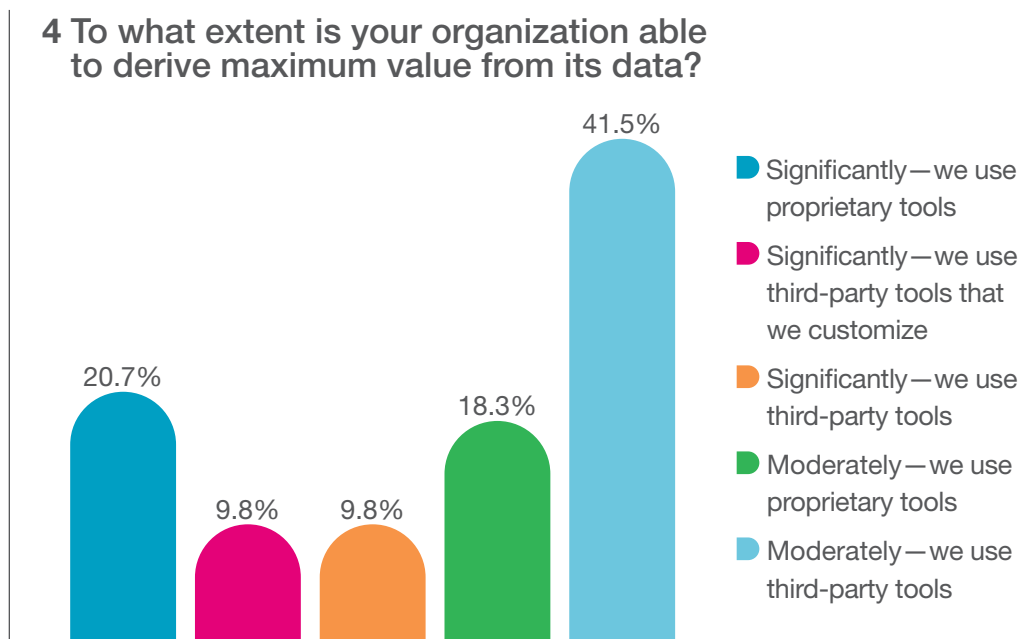
Status Quo

Question 3 of the survey sought to gauge respondents' satisfaction with regard to their current data analytics tools. The most significant finding from the question was that only a modest portion of respondents (14.6%) were very content with the efficacy of their tools, believing them to be reliable, accurate and fit for purpose. Conversely, more than 85% reported that their tools could be better: 35.4% felt that their incumbent tools suffice, even though they need to be replaced at some point, while 31.7% are somewhat happy, although they also acknowledged that they could be improved.

Significantly, a sizable minority—just under one-fifth of respondents (18.3%)—are unhappy with their current tools, believing them to be inadequate for supporting the business functions they were designed for: supporting key decision-makers within the business so that they can make the most judicious, timely and transparent business and investment decisions by way of interrogating their data with the view to identifying hidden trends within it.

Question 4 focused on the extent to which firms are currently able to derive maximum value from their data—the ultimate objective for developing and deploying data analytics tools. The majority of respondents to this question (41.5%) reported that they currently use third-party developed analytics tools—which, while generally fit for purpose, have limitations. Just over one-fifth (20.7%) use in-house developed (proprietary) tools that allow them to interrogate their data quickly and efficiently—prerequisites of any competent data analytics tool.

Significantly, however, almost the same percentage (18.3%) that use proprietary tools also reported that they have limitations, suggesting that, even for firms with the budgets, in-house expertise and resources to build their own tools, the anticipated benefits are often not fully realized.



Skills Shortage

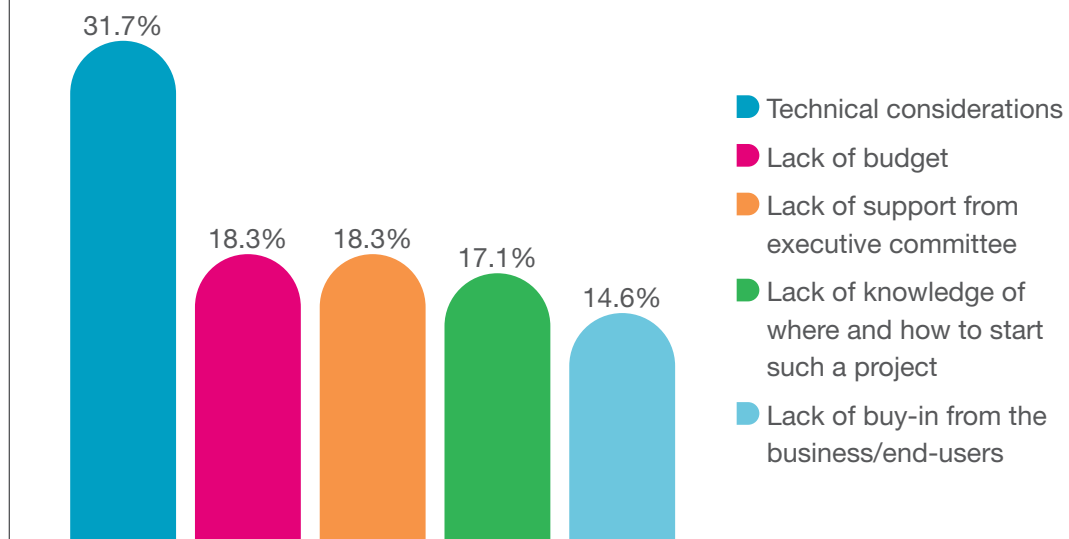
Question 5 polled respondents on their most acute challenges to developing competent analytics tools to support the front office. Just under one-third (31.7%) felt that they do not have the internal skills and resources to develop such tools—a somewhat unsurprising finding given the number of buy-side firms participating in the survey underpinning this paper.

Traditionally, buy-side firms have tended to have smaller technology teams and budgets relative to their sell-side counterparts, which might go some way to explaining why so many respondents selected the technical considerations/skills shortage option in response to this question. Had the sell-side constituent in this survey been greater, then perhaps the proportion of respondents citing skills and resources as their primary challenge would have been significantly smaller.

“The outlay for buy-side firms to build their own scalable infrastructure and tools internally is difficult for them to justify, and many do not have the data science expertise in-house to ingest, normalize and interpret the data,” Van den Berg says. “So, if they can ‘plug and play’, the faster time to market and a more palatable monthly fee are much more agreeable outcomes compared with the large expenditure required to invest in in-house technology and head count.”

“
The outlay for buy-side firms to build their own scalable infrastructure and tools internally is difficult for them to justify, and many do not have the data science expertise in-house to ingest, normalize and interpret the data
Anya van den Berg, Deutsche Börse

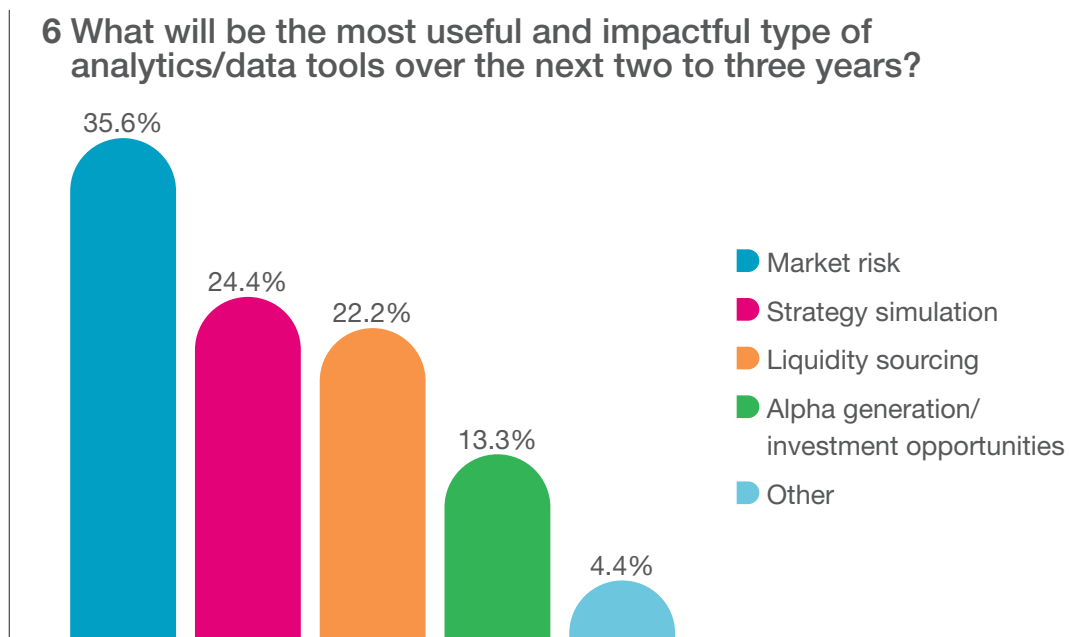
5 What is the greatest challenge to developing requisite analytics tools to support the front office?



Budgetary constraints and a lack of support from the firm’s executive committee both accounted for just less than one-fifth of responses (18.3% each). Budgetary considerations are always a challenge for capital markets firms—a fact of life that is unlikely to change anytime soon given the ongoing challenges of squeezed margins, lacklustre returns across the buy side (not to mention the growing threat posed by passive managers) and the inexorable drive across the industry to do more with less. This is especially true when it comes to finding internal sponsors with the clout to influence technology spending decisions. This is arguably even more difficult when it comes to the buy side, where every spending proposal is scrutinized—especially ones where executive committee members are unconvinced of their necessity.

Question 6 drilled down into the specific functions/business processes where data analytics tools are likely to be applied in the next two to three years, with market risk management (35.6%), strategy simulation (24.4%) and liquidity sourcing (22.2%) the three most popular options. Surprisingly, alpha generation and/or investment opportunities—functions traditionally associated with data analytics tools and their ability to identify patterns and investment opportunities in large and often complex datasets—received only 13.3% of the vote. This finding is all the more surprising considering the number of buy-side firms that participated in the survey. That said, there is little doubt that advanced data analytics tools are well suited to the complex and computationally intensive realm of market risk management, while strategy simulation and liquidity sourcing functions offer similar opportunities for such tools.

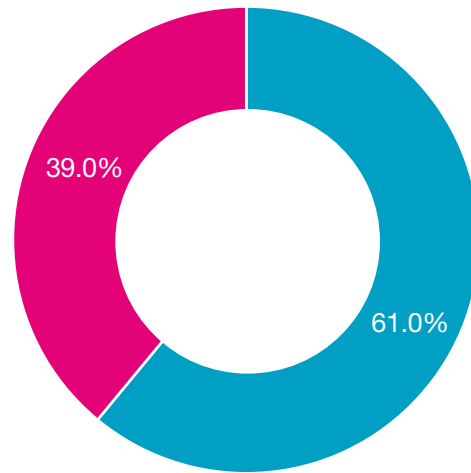
Advanced data analytics tools are an integral part of Deutsche Börse’s buy-side and sell-side services, supporting firms on both sides of the industry to make more informed, more accurate and more repeatable decisions, both internally and externally. “The data and analytics offerings we provide our clients are unique, utilizing proprietary datasets from behind our exchange networks,” explains Van den Berg. “Some clients utilize these products for increased transparency and market sentiment so that they can have deeper, more informed conversations with their



underlying investors. Another popular use-case is that of quant strategies utilizing the deep histories we offer. Not only are the datasets unique but, because they have such depth (20 years) of strategy simulation and backtesting, it's much easier for buy-side firms to find interesting signals. Moving forward, we are constantly improving and enhancing our offerings. A good example of this is the addition of Open Interest to our Eurex flows offering that will be backfilled through the full history (to 2002). This is at the behest of our clients, who have confirmed that it will be gratefully received and adopted as a result."

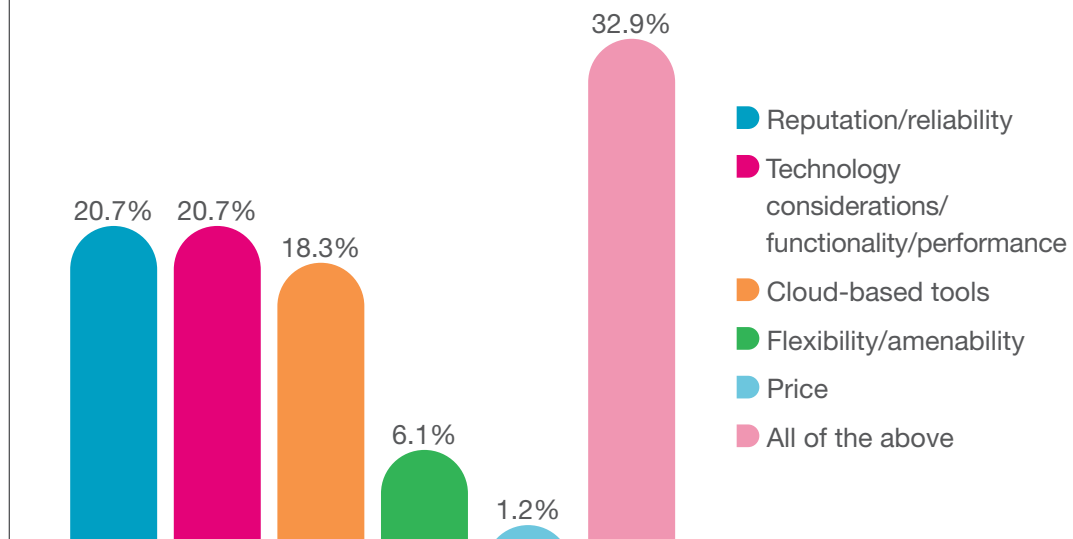
Question 7 sought to gauge respondents' positions regarding their analytics strategies, with just over 60% of respondents looking to receive prepackaged and analyzed datasets from their providers or partners. This is significant because it reveals a clear preference from the overwhelming majority of respondents for 'off-the-shelf' tools, which—while they might lack certain functionality—more than make up for it in terms of time to market, affordability and ongoing support.

7 What is your firm's approach to its analytics strategy?



- We receive prepackaged and analyzed datasets from providers/partners
- We receive raw data from providers/partners and interrogate it with our own proprietary tools

8 What does your organization look for in an externally developed data analytics tools provider?



Premium

Question 8 followed on the theme of internally versus externally developed data analytics tools by asking respondents what they would look for in a provider if they were to opt for the latter. Disregarding the one-third of respondents who opted for the ‘all of the above’ option, the two most significant criteria were the provider’s reputation and reliability and, as one might expect, technology and functionality/performance considerations.

Interestingly, only 1.2% of respondents thought price considerations trumped all others, underlining the notion that firms are willing to pay a premium for the right technology/tools/software if they believe they are reliable and will have a material impact on their day-to-day performance and operational efficiency. “Given that these tools tend to be highly sophisticated, it is hardly surprising the value users place on their functionality,” Van den Berg explains. “They need to be sophisticated and accurate so that users are able to generate alpha from these sources, but they also need to be reliable. From a due-diligence and disaster recovery perspective, they need to be secure, resilient and scalable but, first and foremost, they need to be reliable and timely to ensure optimal signal generation.”

Question 9—the only question of the survey to invite respondents to rank all available options—continued on the theme of functionality by asking respondents to rank the functionality they believe to be most important within their data analytics tools. Two functions—the ability to backtest execution algorithms and the flexibility to customize parameters—were the most popular, each receiving 21 ‘first’ votes—51% of the total vote combined—while pure performance metrics (speed and accuracy) also featured prominently, receiving 15 first votes.

9 What are the most important functionalities in your organization’s data analytics tools?

	1	2	3	4	5
Performance metrics (speed and accuracy)	15	23	7	23	14
Backtesting execution algorithms	21	20	24	8	9
Transparency/auditability	9	28	19	7	19
Flexibility to customize parameters	21	10	13	23	15
Interrogating huge volumes of data and identifying themes/trends	3	15	19	20	25

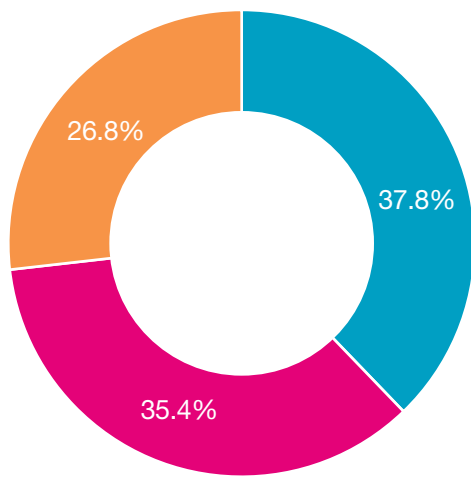
Respondents were invited to rank each option on a scale of 1–5 with 1 indicating the most important and 5 the least

Question 10 of the survey introduced the issue of latency with regard to data delivery timeframes and the extent to which it drives respondents' data consumption preferences and overall buying decisions. Unsurprisingly, just under three-quarters (73.2%) of respondents are looking for either intraday delivery of data—data delivered at regular intervals—every 15 minutes, for example—or real-time delivery of data. The latter slightly outweighed the former (37.8% to 35.4%) but, had this question been put to respondents as little as two years ago (2019), it's unlikely that real-time data delivery would have scored so highly, underlining a general trend across the industry for more immediate access to data with the minimum of latency.

According to Van den Berg, the vast majority of market participants would be happy with intraday delivery, although some of the more sophisticated quant firms expect close to real-time delivery as possible for their data, driven by the demands of their strategies. "The only real exceptions are firms running systematic strategies that require ultra-low latency," she explains. "Even some of the market-makers have said that their data doesn't need to be real time—it can be delivered every 10–15 minutes."

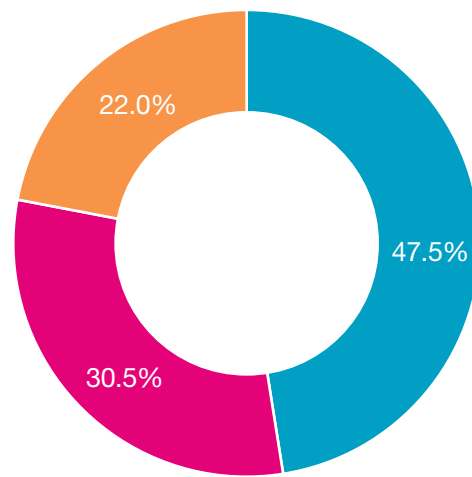
Transparency and reliability of data analytics functions featured in question 11 of the survey, where just under half of respondents (47.5%) consider it critical, given their desire to understand how exactly analytics are derived. Black-box systems might have been *de rigueur* a decade ago, but are largely no longer tolerated by capital markets firms, regulators or end-investors. Perhaps the most surprising finding from this question is that more than one-fifth of respondents (22%) appear to have little interest in how their analytics are derived.

10 How important is latency to your organization for data delivery?



- We require real-time data
- We require intraday data
- We require end-of-day data

11 How important is transparency/reliability for managing data analytics functions?

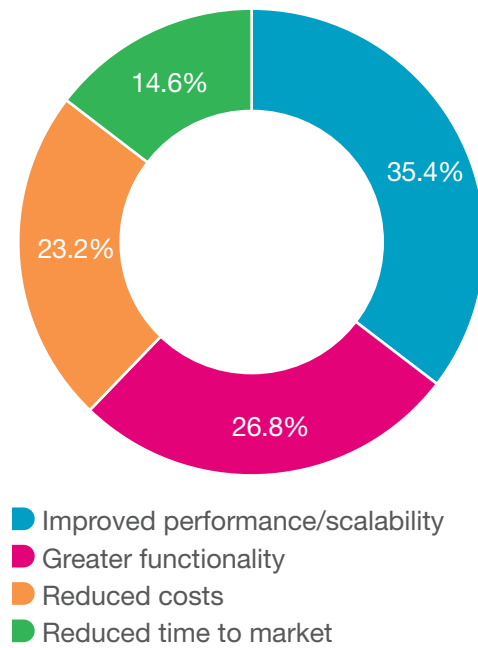


- Critical
- Important but not critical
- Not important

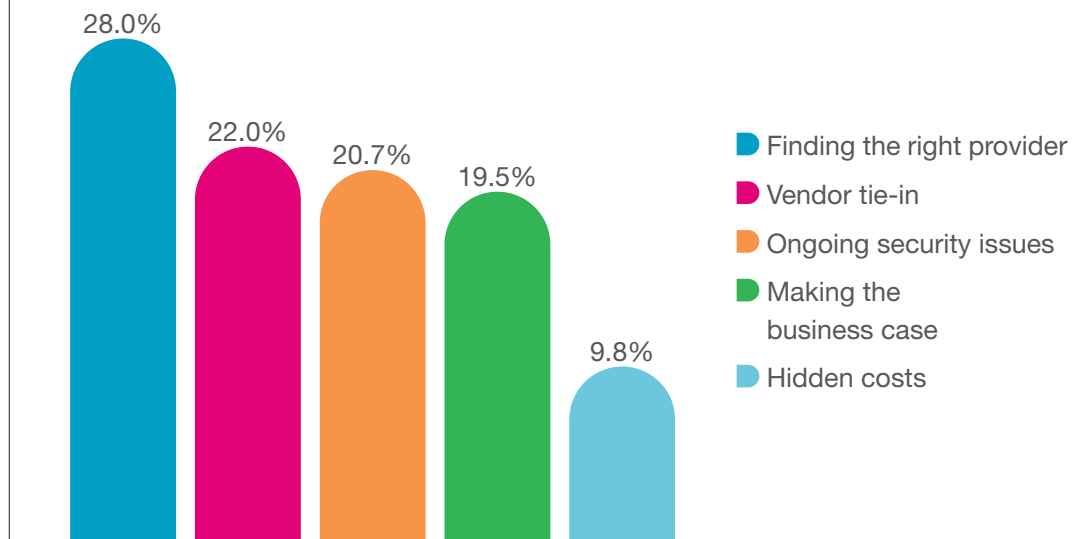
The focus of Question 12 moved to the cloud and what respondents consider the primary benefits of cloud-based data management and warehousing services. Performance and scalability issues emerged top, securing more than one-third (35.4%) of the overall vote, while access to greater functionality than firms would be able to develop internally also featured prominently (26.8%). These results reflect the growing trend across both sides of the industry of opting for cloud-based technologies and services tools due to the well-documented benefits of speed to market, performance, elasticity and access to a range of predeveloped tools that they wouldn't be able to develop in-house. If anything, the Covid-19 pandemic has acted as a catalyst for the industry's acceptance that cloud-based technologies and services are the future and, in many instances, it has accelerated that trend.

The final question of the survey gauged respondents' views on the challenges that need to be negotiated when it comes to firms embracing cloud-based data and analytics services. Finding the right provider proved the most popular of the five options presented, while vendor tie-in—being stuck in an unsatisfactory relationship where extricating the firm from the relationship proves laborious, complex, costly, or all three—was a significant concern for 22% of respondents.

12 What are the primary benefits of cloud-based data management and warehousing services?



13 What is the greatest challenge to your organization in embracing cloud-based data and analytics services?



Conclusion

The results of this survey reveal unequivocally how crucial data analytics tools are for all capital markets firms—although, in this case, the focus is primarily on the buy side. What's also clear is the extent to which respondents believe their tools could be—and indeed need to be—better so that they can realize the full potential of their data by interrogating it and identifying hidden signals within it that can be acted upon to improve investment, business and operational decision-making. While there are appreciable numbers of firms that opt to develop their own internal (proprietary) data analytics tools, the majority of respondents to this survey prefer to source their tools from specialist third parties. Both options have their place in the industry, determined by firms' internal resources and budgets, the speed they are looking to be up to and with their analytics functions, and the quality, reliability and availability of third-party developed tools.

It's fair to assume that, had the sell side been better represented in this survey, the build-versus-buy balance would have been notably different, although all but the largest sell-side firms are now finding it increasingly difficult to justify spending the time, money and human resources on developing tools that are already available on the market. They are invariably cloud-based and delivered and, in many cases, offer greater functionality and intuitiveness than firms would be able to develop in-house. For these reasons, the proposition is fairly straightforward: every capital markets firm, irrespective of size, technology proficiency and level of all-round sophistication, should at least consider the option of deploying third-party developed data analytics tools.

About Deutsche Börse

Financial markets are among the most information-intensive environments worldwide. Market participants such as analysts, algo traders, banks, hedge funds, asset managers, mid- and back-office professionals and data vendors rely on accurate and timely information to make investment and trading decisions, manage risk, safeguard assets and comply with increasing regulation.

Deutsche Börse is a premier provider of proprietary financial information, offering real-time and historical market data as well as a variety of unique analytics.

The Data and Analytics department at Deutsche Börse is uniquely positioned to have access to data from across the Deutsche Börse Group, including Eurex, Xetra, Clearstream and 360T, to derive meaningful insights and optimize trading strategies for its underlying clients. Deutsche Börse's growing offering includes the cloud-based analytics platform A7 or tools such as HHI Insights and Xetra and Eurex Flow Insights, which can be obtained directly from its Data Shop.



DEUTSCHE BÖRSE
GROUP

www.deutsche-boerse.com



waterstechnology

WatersTechnology's portfolio is the market-leading industry brand serving financial trading firms in print, in person and online—through a print magazine, website, email alerts, conferences, research, training, briefings, webcasts, videos, awards, whitepaper lead generation and special reports.

The portfolio focuses its reporting around the topics of market data, reference data and technology for the buy and sell sides. Coverage serves the financial community with independent, expert journalism and has built its reputation by providing analysis and news covering all developments in this fast-moving business in North America, the UK, Europe and the Asia-Pacific region.

waterstechnology.com