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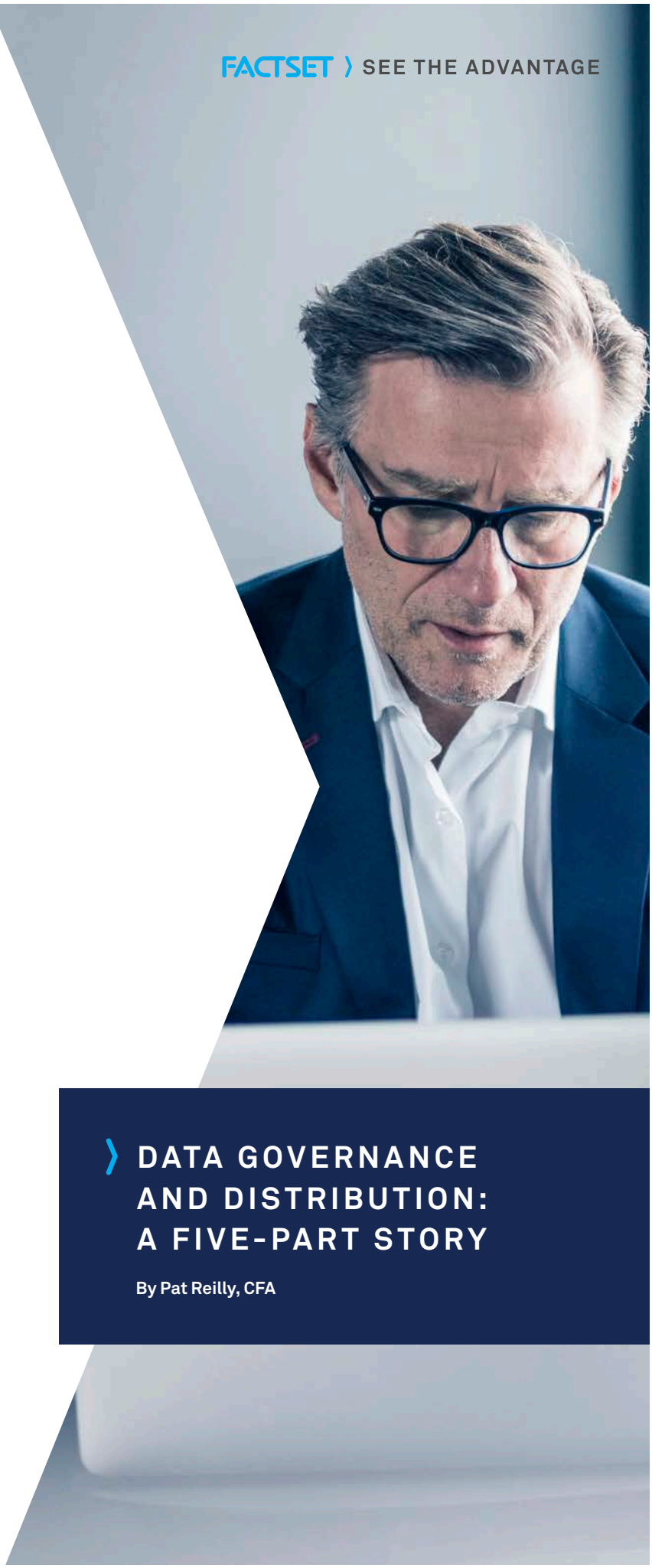

〉 DATA GOVERNANCE AND DISTRIBUTION: A FIVE-PART STORY

By Pat Reilly, CFA

FACTSET 〉 SEE THE ADVANTAGE

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Future Proofing Your Data

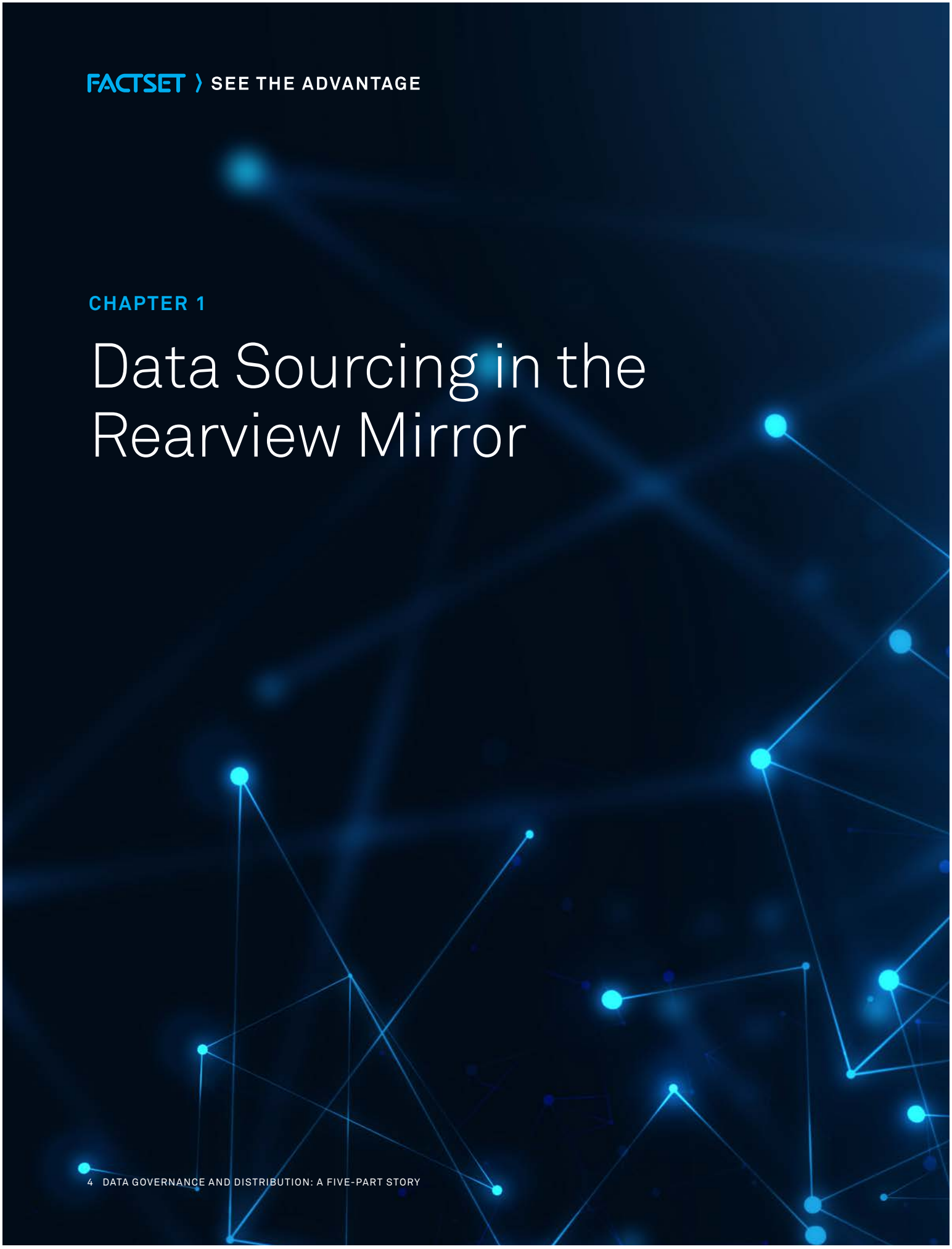
Thematically, data governance and distribution sounds less exciting than watching paint dry. If governance were sentient, you'd guess that its favorite color was beige. While governance and distribution can be nebulous concepts, they remain the building blocks of successful investment processes across firms, locations, and mandates globally. Understanding the firm's present and desired states around these concepts is mission-critical to asset gathering and asset retention.

Active to passive. Fee compression. ESG. Alternative data. Business intelligence. Digital transformation. While the catchphrases and buzzwords are inescapable, there are real governance issues that arise in the pursuit of remaining relevant in a changing industry.

In this eBook, we will examine the theme of data governance and distribution through the lenses of data sourcing, integration, quality, analysis, and distribution across internal and external clients. Combined, these provide an overview of the key elements to be considered when constructing an efficient data governance and distribution process.

CHAPTER 1

Data Sourcing in the Rearview Mirror



In the beginning, there was data. Lots of paper and duplication of efforts. Then punch cards, floppy disks, and room-sized computers. Few graphics and even less flexibility. Eventually, systems developed. Some of them even talked to each other. But most did not.

Security master, reference data, pricing, holdings and transactions, benchmarks, fundamentals, estimates, derived analytics, and alternative data. The list continues to grow with each addition complicating efforts for transparency, accuracy, and usability even further. There is a better way to connect these datasets and it starts with effective sourcing.

FactSet understands this better than most. We're known for industry-leading research and analytics solutions, but our roots stem from delivering company fundamentals around Wall Street via bicycle messenger over 40 years ago. Since then, FactSet has matured into a content machine with symbology and concordance at its core.

Leveraging a robust identifier waterfall built around an Entity ID allows for global, single security terms and conditions across asset classes to align with proprietary and third-party reference data (like sectors, ratings, or ESG data) while connecting downstream with client-provided and/or FactSet-collected portfolio holdings. FactSet does this for our clients by leveraging our proprietary symbology and concordance process, reducing the burden of data management whether on or off platform. This enables users to focus on their core competencies: generating alpha and servicing clients.

That kind of connectivity should be table stakes, even if aspects of it may seem akin to a dream state. However, it also creates a dilemma; where do we go from here?

Taking data downstream for point-in-time analysis, benchmark-relative positioning, performance, attribution, risk management, or client reporting is a natural next step, and one that is made easier with a sound data architecture.

It is also meaningful to think about how to better utilize this singular source of data upstream for idea generation and portfolio construction. Linking to an issuer's fundamentals (financials, filings, third-party research, management information, etc.) and estimates for analysis is critical, while aggregating issuers into industries or regions poses a different challenge.

THE EVOLUTION OF CONTENT REQUIREMENTS

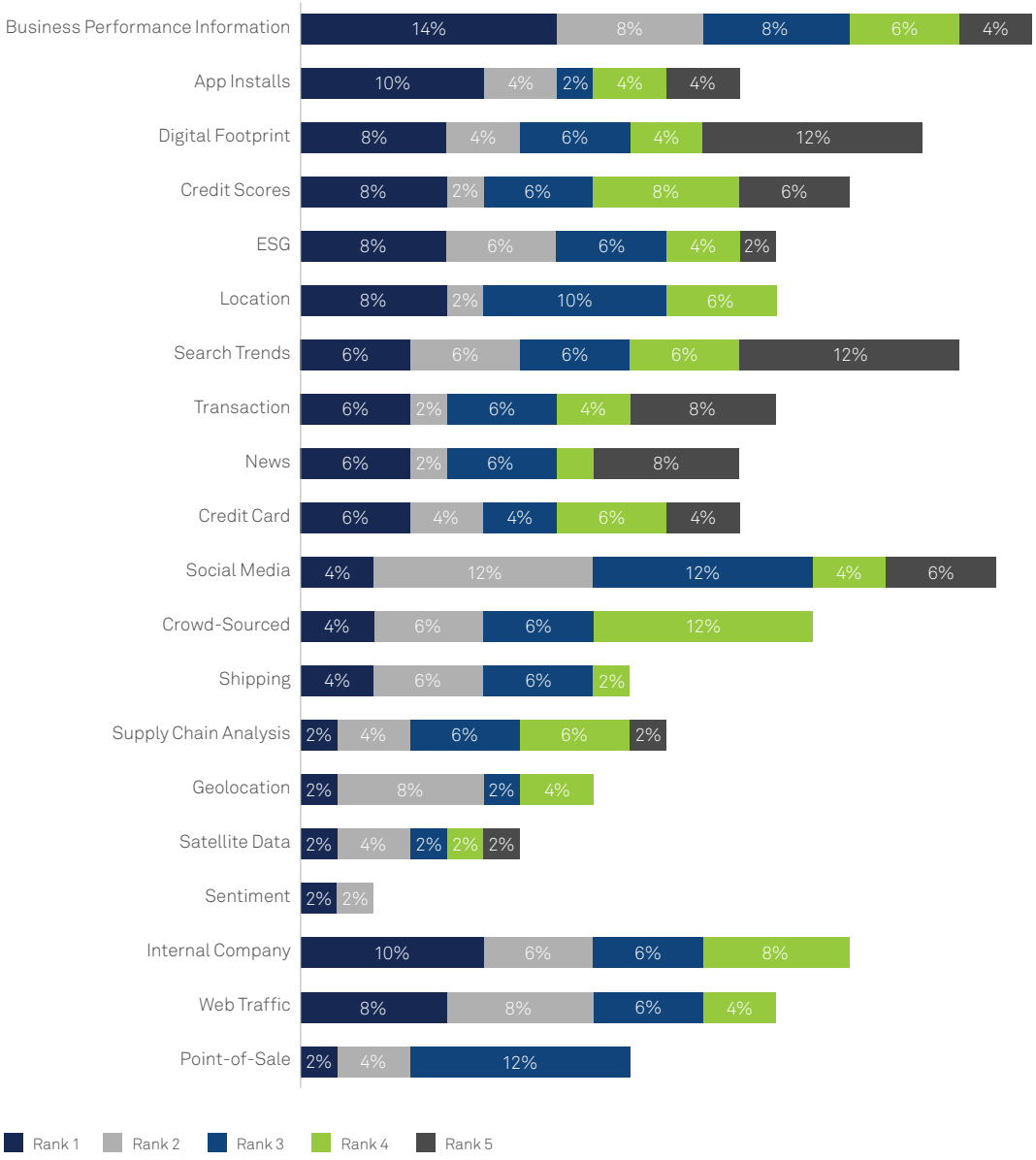
It is one thing to identify a recurring challenge like symbology or concordance that is experienced broadly across the industry, but what about future-proofing against trends such as ESG or alternative data?

To determine which datasets are most valued today and gain insight into where the industry sees future value, FactSet surveyed Quantitative Analysts, Data Scientists, and Chief Data Officers from 50 global institutional asset managers (Figure 1).

Unsurprisingly, benchmarks, prices, and fundamentals lead the way for today's core data sourcing priorities while business performance information, ESG, location, and social media dominated front of mind from an alternative data context.

The future state indicates a change in preference and focus. Significantly, core data like market aggregates, benchmarks, estimates, mergers and acquisitions, and private equity hold less importance in the future relative to present day. They are replaced by datasets such as corporate activism and governance, fixed income, industry and sector classifications, private company, and ownership.

FIGURE 1: ALTERNATIVE CONTENT RANK BY VALUE (TODAY)



Our findings also show that the perceived value of alternative datasets in the future varies considerably from today. Credit scores, location information, and search trends all dropped in perceived value, whereas datasets like ESG, shipping information, supply chain analysis, geolocation, web traffic, and sentiment all saw marked increases in perceived value. Being able to easily explore and validate alternative data without the need to install or integrate will allow for faster development and acceptance in the space. At FactSet, we've solved this need by developing an open platform that allows for this discovery and exploration independent of existing infrastructure.

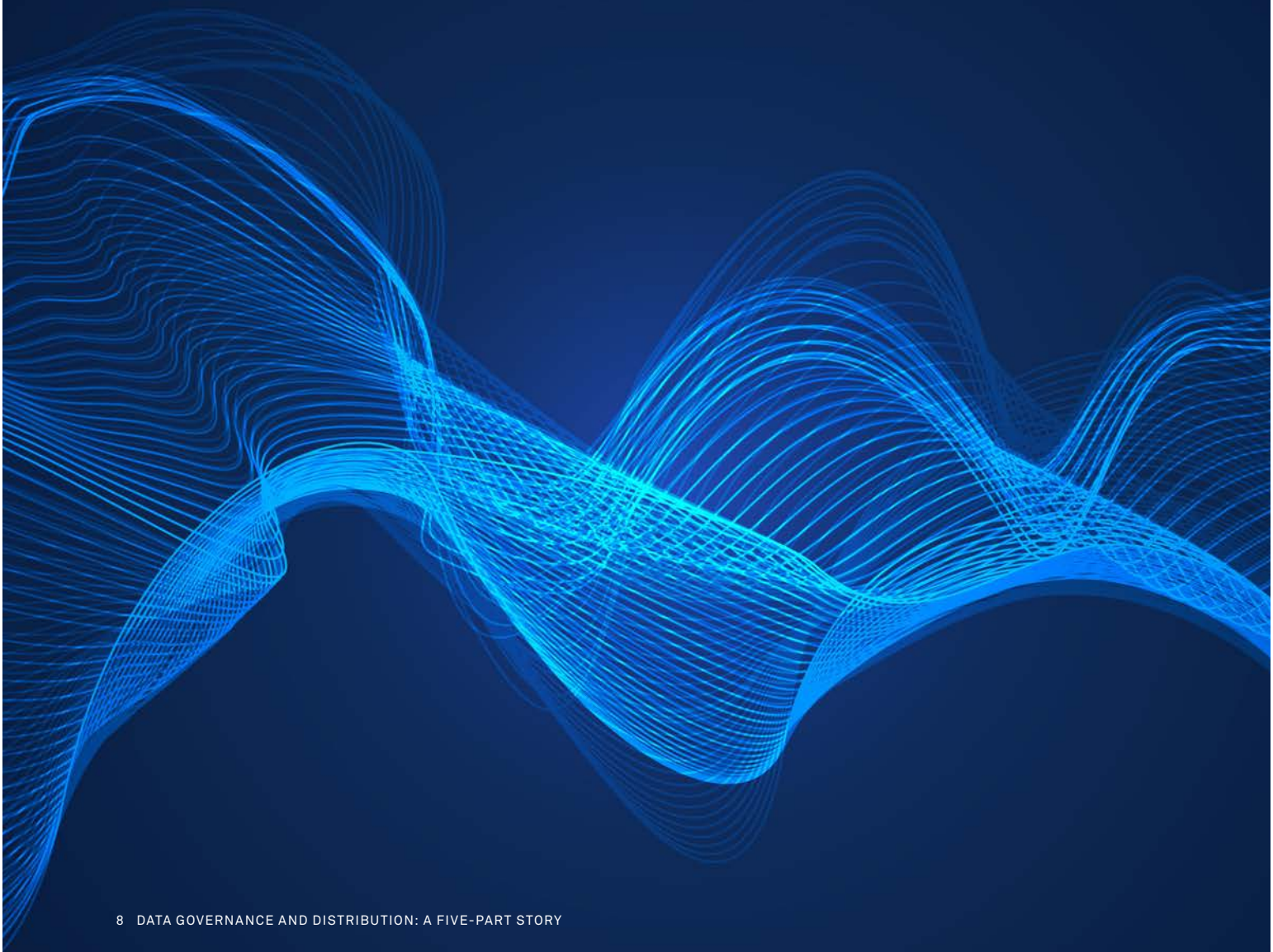
TAKEAWAYS FOR 2020 AND BEYOND

This leaves us with three takeaways as we head into 2020. First, while specific data elements will come in and out of favor, sound architecture that facilitates concordance and connectivity while remaining source-agnostic is imperative. Second, ensuring consistency across third-party platforms and internal solutions reduces business risk and smooths the investment process. Finally, the ability to easily discover and test new content for "fit" in the investment process and/or portfolio will become a prerequisite; the daily data management burden to keep the business operating regularly is too great to add a sandbox for exploration.

As requirements for proper sourcing of data are met, the process of integrating this data into the existing technology landscape and investment processes becomes the next hurdle to clear.

CHAPTER 2

What Does Data Integration Really Mean?



DATA INTEGRATION—THE REAL FUN BEGINS

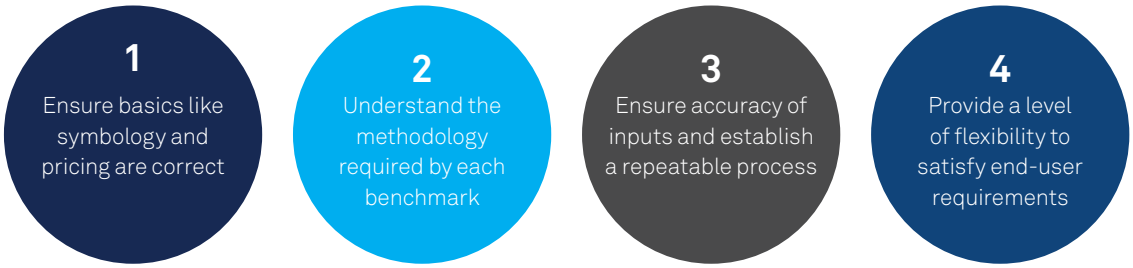
Once data has been properly sourced, the fun of integration begins. How do you combine all these datasets so that they are usable across the investment process? Upon initial review, most would think that separating off-platform uses from on-platform uses would be imperative. However, this is the first mistake that firms make. The fungibility of content between platform delivery is what separates the great aggregators and integrators from the also-rans.

Let's start with the concept of enterprise hosting. Storing and transforming data across primary and regional datacenters allows for immediate scale and more effective operations. This should be considered via market standard content like benchmarks as well as through proprietary data like portfolios or composites.

HOW TO INTEGRATE MARKET DATA IN FOUR STEPS

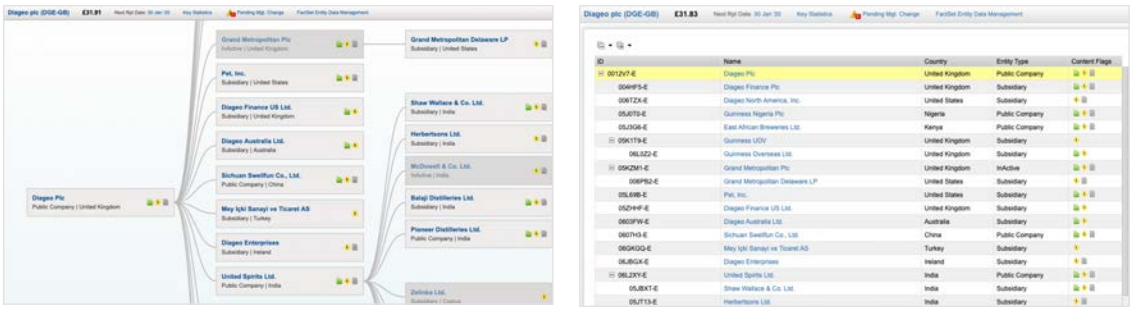
What does it take to integrate a benchmark (or other content set)? One would assume that it's easy. After all, the market is dominated by strategies that follow the likes of the S&P 500, MSCI ACWI, and Bloomberg Barclays Global Aggregate, to name a few. Taken in isolation, integration is easy, especially for top-level index figures. But pursuing holdings-based benchmark relative analysis gets complicated, quickly. Fixed income benchmarks tend to have thousands of constituents. Equity benchmarks need to address corporate actions.

Proper integration requires (at least) four concrete steps:



First, ensure that the basics like symbology and pricing are correct—this is a foundational competency. Expanding this foundation to encompass metadata like classifications, ratings, seniority/share class, and analytics is also essential given downstream use cases. FactSet created a proprietary schema built around an Entity ID that allows for data elements of any type to roll up to an entity and be discoverable across issue or issuer levels (Figure 2). This "smart" data architecture provides for a consistent end-user experience, regardless of role, element, or asset class.

FIGURE 2: SMART DATA ARCHITECTURE



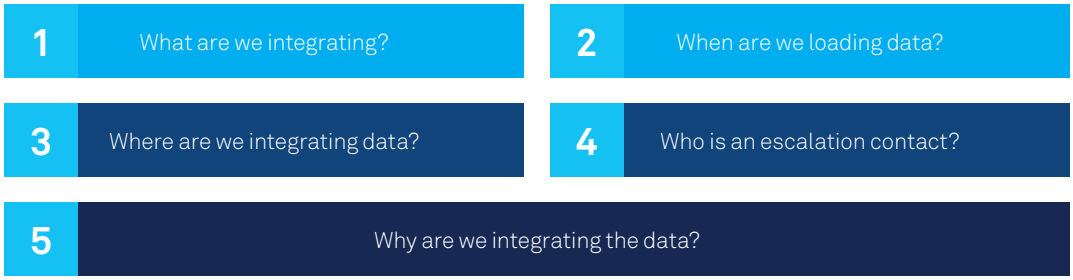
Second, understand the methodology required by each benchmark to create portability of results across platforms or delivery mechanisms. Methodology addresses settings like the market calendar in use, treatment of corporate actions in return calculations, and update frequency.

Third, ensure the accuracy of inputs via quality assurance and reconciliation procedures to establish a repeatable process. This starts with putting guardrails around the technology in use. Focusing on input completeness, consistency, and timing are good starting points for stable and reliable outputs. Quality assurance looks at daily accuracy at a security and index level while reconciliation might be daily deltas or other exception-based reporting. Rules-based exception testing acts as a belts-and-suspenders approach, surfacing potential issues before data elements are ever exposed to end users.

Finally, provide a level of flexibility to satisfy end-user requirements and complete the integration cycle. This may be as simple as the platform delivery decision where success is defined as aligning on- and off-platform results. It could also extend to more complicated actions like performing currency hedging, seamlessly blending benchmark sleeves as is common in the multi-asset space, or creating custom benchmarks via the exclusion of certain groups or securities.

THE FIVE W'S OF PORTFOLIO INTEGRATION

When the focus shifts to proprietary data such as portfolios, composites, OTC modeling terms and conditions, or meta data, it is best to start with the development of standard operating procedures. This can be simplified into the five W's: what, when, where, who, and why.



1: **What are we integrating?** Clearly defining the file set would seem like a "no-brainer," however, needs change. New clients are onboarded, old clients are offloaded, and current clients have shifting demands. Establishing a clear and transparent process map that allows for additions or deletions to be easily signed off and executed can facilitate the integration process in a business-as-usual environment. Understanding the source data and associated gaps are essential. Custodial data is great for many use cases but lacks granularity in others. Likewise, accounting data is prone to restatements (late trades, cancel-corrects, etc.) that can lead to searching for a needle in a haystack during measurement period ends.

2: **When are we loading data?** Timing is more important than one might think, especially if security or portfolio level analytics need to be derived or if there is a complicated transformation process that is a dependency. The best practice is to start with an ideal timeframe for delivery of final outputs to end users and reverse engineer the timing of the various required steps to arrive at a preferred upload time. Of course, the availability of raw inputs is a necessary factor that needs to be accounted for in any process. Global deployments pose an additional complication as time zone requirements come into play.

3: **Where are we integrating data?** This refers to the physical location. Portfolios might be integrated on-platform for use in a third-party tool. However, it is just as likely that enriched data such as returns or analytics are being derived and then integrated back into a local solution (like a data warehouse or OMS). Understanding the connections and potential disruptors here ensures proper monitoring of any process.

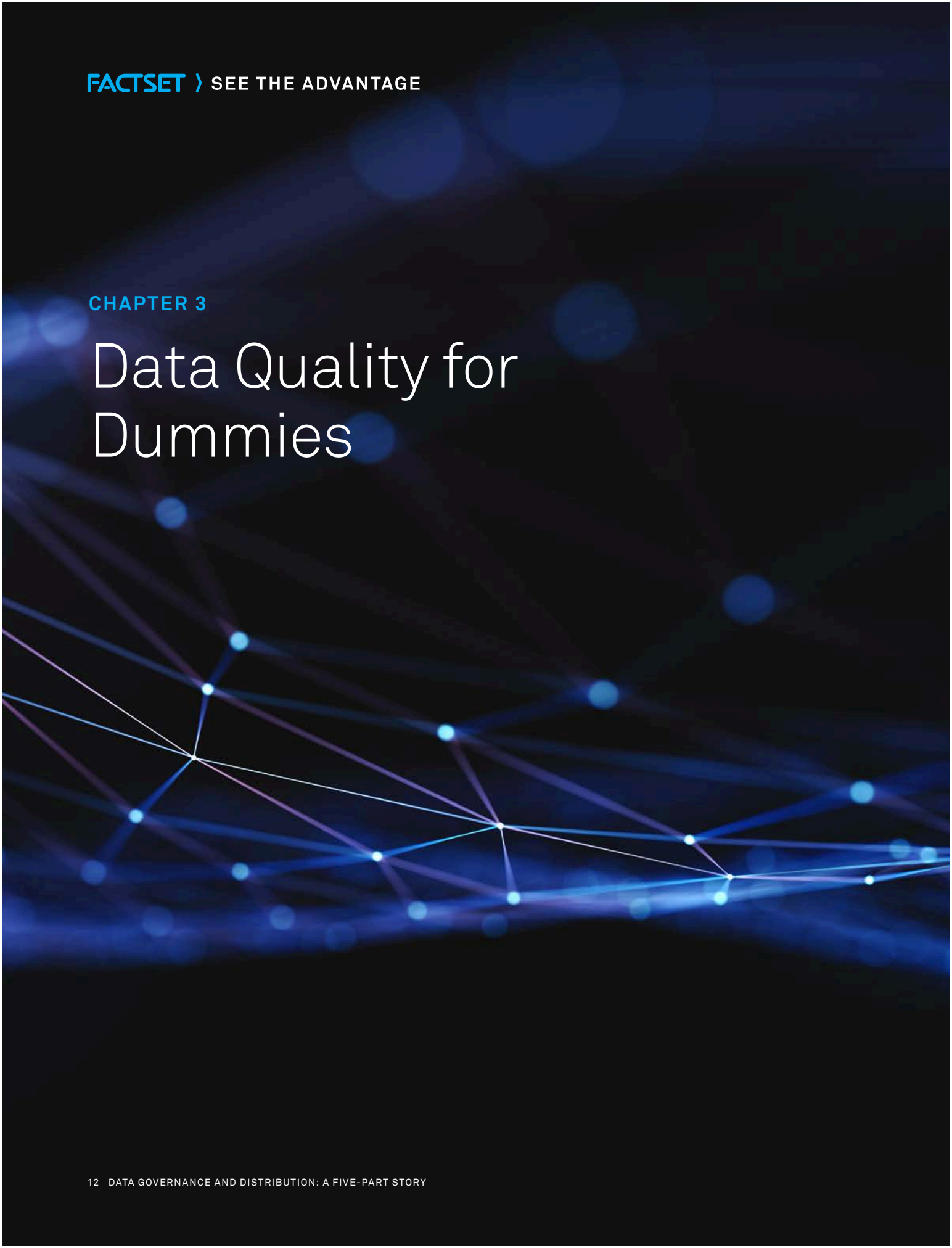
4: **Who is an escalation contact?** Processes break. Files can be malformed or incomplete. Automation is imperfect. Establishing the proper escalation procedures and contacts ensure that issues can be addressed as they arise and that the integration continues with as minimal interference or interruption as possible. The industry has found tremendous scale and cost efficiencies from adopting offshore capabilities. Aligning support escalation with those offshore centers of excellence minimizes (and ideally eliminates) disruption for end users caused by data breaks.

5: **Why are we integrating the data?** This might seem to be common sense, but scope creep and file bloat are very real. Put differently, just because data can be integrated doesn't mean that it should be integrated. Note that this is not meant to sound the alarm on removing "nice to haves" from the equation, rather it references proper data management and stewardship. Avoiding unnecessary integration reduces noise in the associated inputs and outputs. Regularly reviewing what is included in the process is good governance that also benefits the efficiency of all associated processes.

In summary, data integration is simple on paper but can twist, turn, or spiral out of control in real life. Understanding the audience's needs, a target result, and limitations of the source will help to define the best approach and smooth the path to a successful integration. The next step is ensuring the quality of the data so that it's in good shape for downstream analysis.

CHAPTER 3

Data Quality for Dummies



GARBAGE IN, GARBAGE OUT

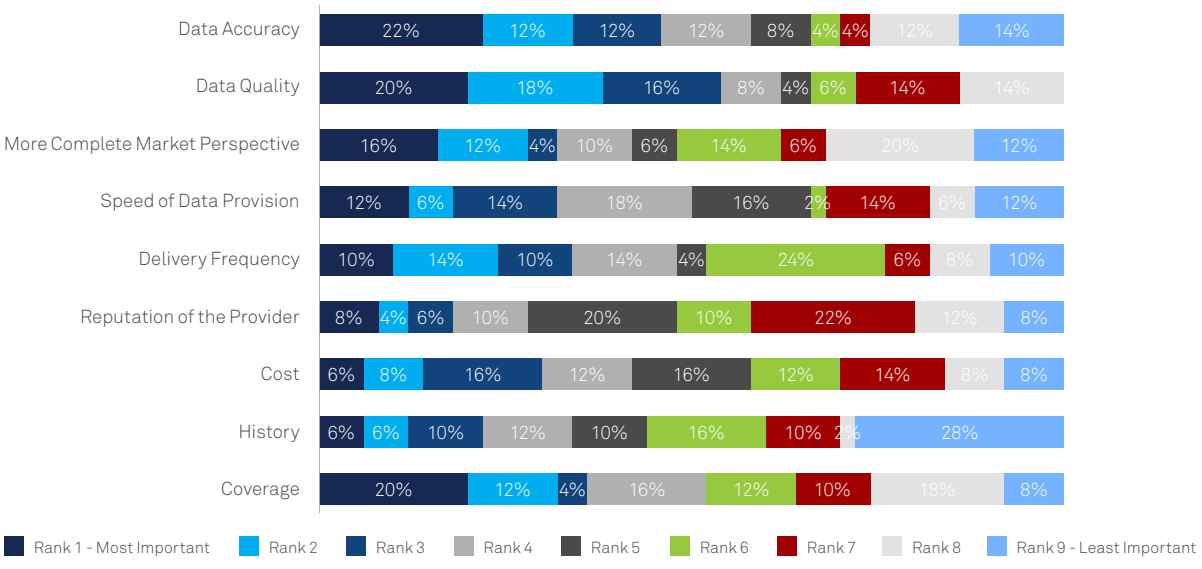
While the old adage applies to so many aspects of life, it is particularly relevant to asset managers and asset owners who are working to integrate and understand ever-increasing amounts of data from a variety of sources in continually evolving contexts and platforms. As an investment professional, it is no longer enough to have a minimal amount of required data to complete a given task. Rather the world has pivoted to new use cases for standard data like fundamentals or portfolio holdings and the application of new content sets like ESG or geographical revenue exposure in the hopes of squeezing alpha (or minimizing risk) across a current book of business.

Quality and accuracy issues are a massive governance headache, on par with data security and access. Where there's smoke around governance, usually there's fire around quality and accuracy.

Failing to properly understand or account for data quality and accuracy after integration is the bugaboo of the industry. Quality and accuracy issues are a massive governance headache, on par with data security and access. Where there's smoke around governance, usually there's fire around quality and accuracy. Missed deadlines, bad data to clients, compliance breaches—these workday fire drills and so many others are caused by poor data quality and accuracy.

In FactSet's survey of Quantitative Analysts, Data Scientists, and Chief Data Officers from 50 global institutional asset managers, quality and accuracy were far and away the leading issues, ranking in the top three concerns for 54% and 46% of respondents, respectively (Figure 3).

FIGURE 3: THE IMPORTANCE OF DATA QUALITY



That begs the question "how do you effectively solve the data quality challenge at scale across different data elements?" Like successfully integrating diverse datasets, the answer is rooted in a robust, transparent process. While proprietary data (such as portfolios) has similarities with third-party content (like fundamentals or benchmarks), there are nuances to each.

I WANT YOU...TO HAVE QUALITY HOLDINGS DATA!

Starting with proprietary data, quality assurance is really an overlay process on top of integration. Understanding the number of portfolios or composites being loaded, the number of securities across the book of business, and the ending market value are all key elements where monitoring can be automated to check for daily deltas above or below a certain threshold. Where a proprietary dataset also includes firm-provided measures like analyst sentiment, inhouse ratings, relative value measures, etc., consistency checks around file format can be implemented. Ideally the process can be built to warn and proceed or fail outright, depending on the mission critical status of an element.

A critical but often overlooked step here involves ascertaining the coverage level, typically in terms of percent of market value or number of securities. While the goal will typically start at 100%, an acceptable level of coverage may vary depending on end user requirements.

Where holdings or composites are concerned, typically a next step involves the generation of analytics of some flavor. This may be single-security fixed income analytics or valuation measures, group-level performance or attribution figures, or portfolio-level risk statistics. A critical but often overlooked step here involves ascertaining the coverage level, typically in terms of percent of market value or number of securities. While the goal will typically start at 100%, an acceptable level of coverage may vary depending on end user requirements. Again, understanding those requirements ahead of time is crucial to establishing a process. This process can be supplemented by automating an initiation of coverage request.

Once the coverage check has been completed, analytics can be derived. This is no small feat. Asset type conventions, client demands, and the composition of the aggregate book all pose challenges. Understanding the quality demands across analytics, returns and attribution, or grouping and partitioning is the first step of the process and can be supplemented via technology and an element of human intervention.

Reconciliation and remediation of analytics are typically best handled via a dual exception approach that takes daily deltas and outliers into account. Take effective duration as an example; as of the previous close, a generic corporate bond may have a duration of 4.0. As of today's close, that same bond may have a duration of 0.5. That is an extreme drop, but it is not necessarily wrong. By applying exception-based checks to capture a 10% move, this security would be flagged for further research. From there, human intervention could confirm the price used in the generation and research whether there are security-specific details such as a call option that make the move valid.

A similar approach applies to return calculations. Starting with a bottom-up decomposition of total return, it becomes easy to automate the review of price action, income, or a return of principal. An example of this at work in practice is where terms indicate a coupon occurred but there is no payment or concurrent drop in accruals. This is a not a complicated breach, but it is the proverbial needle in the haystack that can take hours to find manually. Transactions can also be monitored in this fashion. Put simply, the ending quantity held should equal the beginning quantity held plus purchases or minus sales. Identifying a mismatch immediately improves governance overall and turns reconciliation that may only occur monthly or quarterly into a nightly process.

The final step in the puzzle is around descriptives like sector or industry, rating, or analyst. At first glance, this would seem to be an easy check where identifying securities that fall into an unassigned or other group can be sorted manually. However, think about a book in its entirety. There may be hundreds, if not thousands, of portfolios. Some may follow a GICS definition while others follow a benchmark classification. Still, others may follow a firm-specific definition. Where sector, industry, and sub-industry are used, even more potential gaps exist. Identifying these upfront again pulls forward reconciliation and addresses holes in the underlying security master. Immediate recognition improves governance and enhances client service by reducing the time to client during a reporting cycle.

Where sector, industry, and sub-industry are used, even more potential gaps exist. Identifying these upfront again pulls forward reconciliation and addresses holes in the underlying security master.

But it is not enough to merely surface these gaps in an error log. Increasing transparency about the identification and ultimate resolution of these gaps creates a feedback loop. The ability to automate the detection and notification, while also providing stakeholders real-time access to process performance from integration to analytics generation to production, assures the quality of the data in question and ultimately enhances the end user's usage of the data, regardless of their role in the firm.

ADVENTURES IN MARKET DATA QUALITY ASSURANCE

It would be irresponsible to walk through portfolio quality assurance best practices while ignoring market data such as benchmarks, fundamentals, or estimates. After all, so much of the portfolio construction process assumes a sound market data foundation.

Benchmarks will tend to follow a process similar to portfolio holdings. Constituent coverage, universe consistency, and metadata completeness all come into play. The primary difference relative to a portfolio is in the reconciliation to an official benchmark return. Performing reconciliation over daily, month-to-date, and year-to-date periods with a small threshold for variance will suffice. This allows for matching official benchmark returns either on or off platform.

Other market data such as fundamentals or estimates, follow a rules-based approach, testing completion of data or inputs into a normalized metric before the data element is released downstream. Using FactSet's fundamental dataset as an example, over 1,500 automated checks are performed with results verified by analysts before publication.

Data integration and validation approaches like this seamlessly pave the way for further analysis.

CHAPTER 4

The Intersection of Analysis and Governance

After completing the sourcing, integration, and quality assurance steps of the governance journey, actual analysis can be conducted. But where to begin? That is a rhetorical question; every firm, along with every investment team, has a different process based around asset class, mandate, benchmark, and client demand. There is certainly no one-size-fits-all approach.

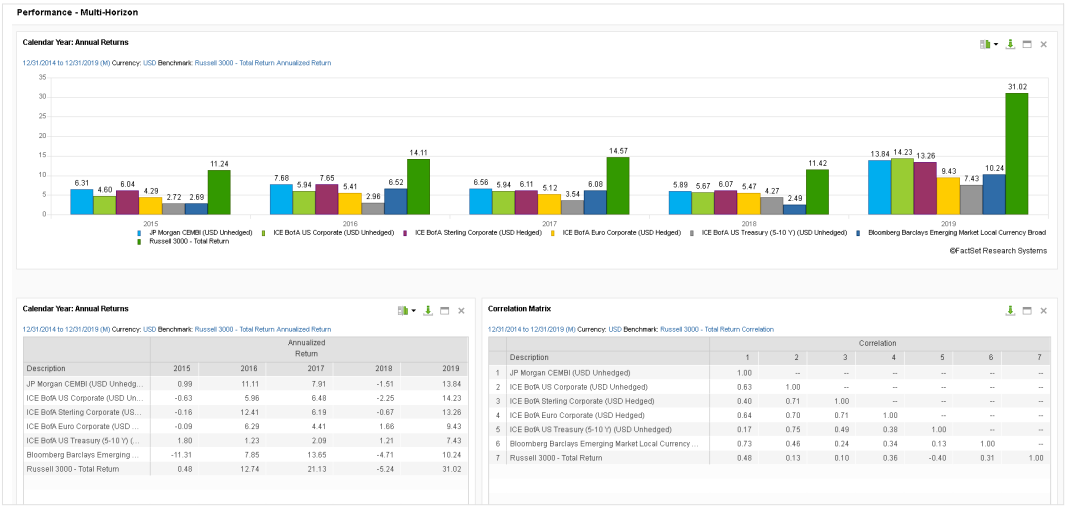
Emerging market corporate debt is a good example of how proper governance can impact analysis. Sourcing appropriate security master data can be difficult, a variety of metadata is involved, generation and quality assurance of analytics require country-specific yield curves and assumptions, and alternative datasets can be additive to the entire investment process. The following analysis illustrates a deep dive into emerging market corporate debt, seeking to understand the attractiveness of the asset class via benchmark return series and returns-based analytics, constituent-level analytics, and issuer-level alternative data via FactSet's geographic revenue content set.

THE EMERGING MARKET DEBT PUZZLE

The attractiveness of emerging market (EM) corporate debt, both hard and local currency, is a topic that has received quite a bit of attention over the years. But does EM corporate debt fit into a broader multi-asset class portfolio? From a relative value perspective, the yield pickup during years of zero interest rate policy and quantitative easing in the U.S. and Eurozone markets was hard to ignore. Similarly, underwriting political risk against headwinds seen in developed markets painted a relatively rosy outlook. A primary takeaway was that worst case, EM corporate debt was a diversification play.

But is it? Like virtually every asset class, 2019 was a risk-on year for hard and local currency EM corporates. As we can see in Figure 4, hard currency corporates underperformed their U.S. counterparts while posting comparable returns to USD-hedged Sterling paper and outpacing Euro corporates, similar duration U.S. Treasuries, and local currency EM corporates. Historical returns also paint a picture of steady outperformance relative to other fixed income asset types.

FIGURE 4: 2019 MULTI-HORIZON PERFORMANCE



However, a return series alone doesn't tell the full story. Looking at the correlation of monthly returns over a five-year period provides additional required detail. First, a little surprisingly, we can observe that U.S. corporate debt has a very low positive correlation (.13) with the broad U.S. equity market. The correlation of U.S. corporates with Treasuries is expectedly high (.75), given that government term structure is an integral component of pricing corporate debt. Second, even more eye-opening, we see that EM corporates as defined by the JP Morgan CEMBI, are relatively highly correlated with U.S. corporate debt (.63) and are slightly less positively correlated with the broad U.S. equity market (.48). It is not surprising to see the diversification benefit of EM corporates relative to U.S. Treasuries (positive correlation of just .17).

There appears to be some diversification benefit to be gained from holding EM corporate debt, but does that alone make the asset type appealing? To answer this question, let's look at country spreads and relative value, term structure compared to U.S. corporates, and the international exposure of the broader U.S. equity market for a greater understanding of how EM corporate debt can help complete the puzzle.

COUNTRY SPREADS AND RELATIVE VALUE

There are two relative value measures to consider when comparing country groupings in the JP Morgan CEMBI. The first is to take some sort of time series measurement (five years of month-end OAS levels in this case) and compare the most recent spread to that country's long run average. The second is to compare the month-end spread to the spread of overall index. From here, the same exercise can be repeated at a security level.

Each of these measures allows for a rich/cheap analysis. One approach would be to compare a country's current valuation relative to its long run average OAS. Another approach would be to compare a country's current valuation to all others present in the index. Of course, countries and credits may be cheap or rich for a variety of reasons, so it's irresponsible to look at this in isolation.

Therefore, the next step would be to underwrite each country in terms of endogenous factors like the macroeconomic environment, political risk or stability, and demographics. Sectors and individual issuers would follow a practical credit analysis.

Referring now to Figure 5 provides several interesting takeaways. First, in terms of EM corporates, little is attractive when credit is first measured historically. Brazil, Mexico, Colombia, and Indonesia all look rich relative to their historical valuations. China appears to be slightly cheap-to-fairly-valued relative to its historical spread levels.

From a relative value perspective, EM corporates are a mixed bag today, regardless of the diversification impact.

FIGURE 5: OAS OVER TIME

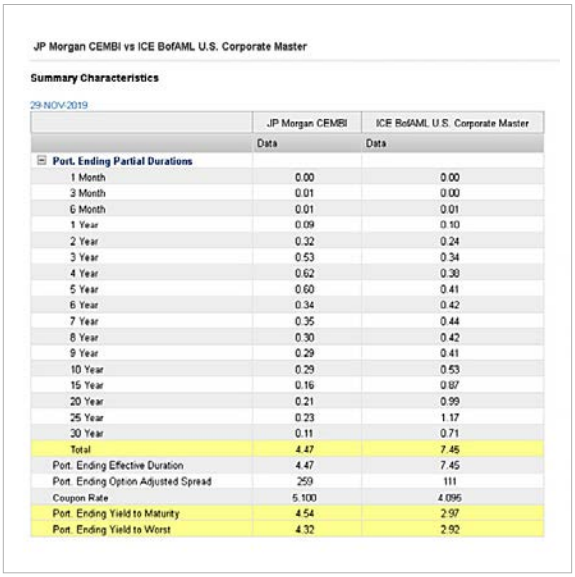
JP Morgan CEMBI vs ICE BofAML U.S. Corporate Master

OAS Over Time

10-DEC-2014 - 29-NOV-2019 Country

	29-NOV-2019		Total	
	Ending OAS	5 Year Average OAS	Ending OAS	5 Year Average OAS
Total	259	259	259	333
Colombia	209	209	209	358
United Arab Emirates	213	213	213	205
Macau	216	216	216	393
Mexico	225	225	225	312
Consumer	146	146	146	173
TMT	202	202	202	248
Metals & Mining	234	234	234	317
Financial	247	247	247	282
Industrial	250	250	250	331
Orbia Advance Corp. Sab De Cv 4.875% 19-sep-2022	140	140	140	216
Alpek, S.a.b. De C.v. 4.5% 20-nov-2022	151	151	151	238
Alfa, S.a.b. De C.v. 5.25% 25-mar-2024	165	165	165	248
Nemak Sab De Cv 4.75% 23-jan-2025	215	215	215	284
Alpek, S.a.b. De C.v. 4.25% 18-sep-2029	248	248	248	248
Cemex Sab De Cv 7.75% 16-apr-2026	280	280	280	301
Cemex Sab De Cv 5.7% 11-jan-2025	292	292	292	397
Alfa, S.a.b. De C.v. 6.875% 25-mar-2044	348	348	348	397
Orbia Advance Corp. Sab De Cv 5.875% 17-sep-2044	355	355	355	373
Cemex Finance Llc 9.375% 12-oct-2022	--	--	--	448
Nemak Sab De Cv 5.5% 28-feb-2023	--	--	--	310
Utilities	312	312	312	306
Real Estate	351	351	351	334
Infrastructure	--	--	--	819
Oil & Gas	--	--	--	2,915
India	231	231	231	258
China	256	256	256	249
Panama	268	268	268	367
Indonesia	268	268	268	391
Brazil	273	273	273	486

FIGURE 6: SUMMARY CHARACTERISTICS



JP Morgan CEMBI vs ICE BofAML U.S. Corporate Master

Summary Characteristics

29-NOV-2019

	JP Morgan CEMBI	ICE BofAML U.S. Corporate Master
	Data	Data
Port. Ending Partial Durations		
1 Month	0.00	0.00
3 Month	0.01	0.00
6 Month	0.01	0.01
1 Year	0.09	0.10
2 Year	0.32	0.24
3 Year	0.53	0.34
4 Year	0.62	0.38
5 Year	0.60	0.41
6 Year	0.34	0.42
7 Year	0.35	0.44
8 Year	0.30	0.42
9 Year	0.29	0.41
10 Year	0.29	0.53
15 Year	0.16	0.87
20 Year	0.21	0.99
25 Year	0.23	1.17
30 Year	0.11	0.71
Total	4.47	7.45
Port. Ending Effective Duration	4.47	7.45
Port. Ending Option Adjusted Spread	259	111
Coupon Rate	5.100	4.095
Port. Ending Yield to Maturity	4.54	2.97
Port. Ending Yield to Worst	4.32	2.92

TERM STRUCTURE

It is also important to understand our exposure across the yield curve to understand if the structure of the market could impact outcomes in varying market environments. What Figure 6 clearly shows is that U.S. corporates have greater interest rate risk relative to EM corporates (the ICE BAML U.S. Corporate index effective duration is 7.49 versus 4.47 for the JP Morgan CEMBI).

By exposing the key rate durations, we can observe that the U.S. index has far greater relative exposure to the long end of the yield curve while EM corporates tend to exhibit clustering around the belly of the curve.

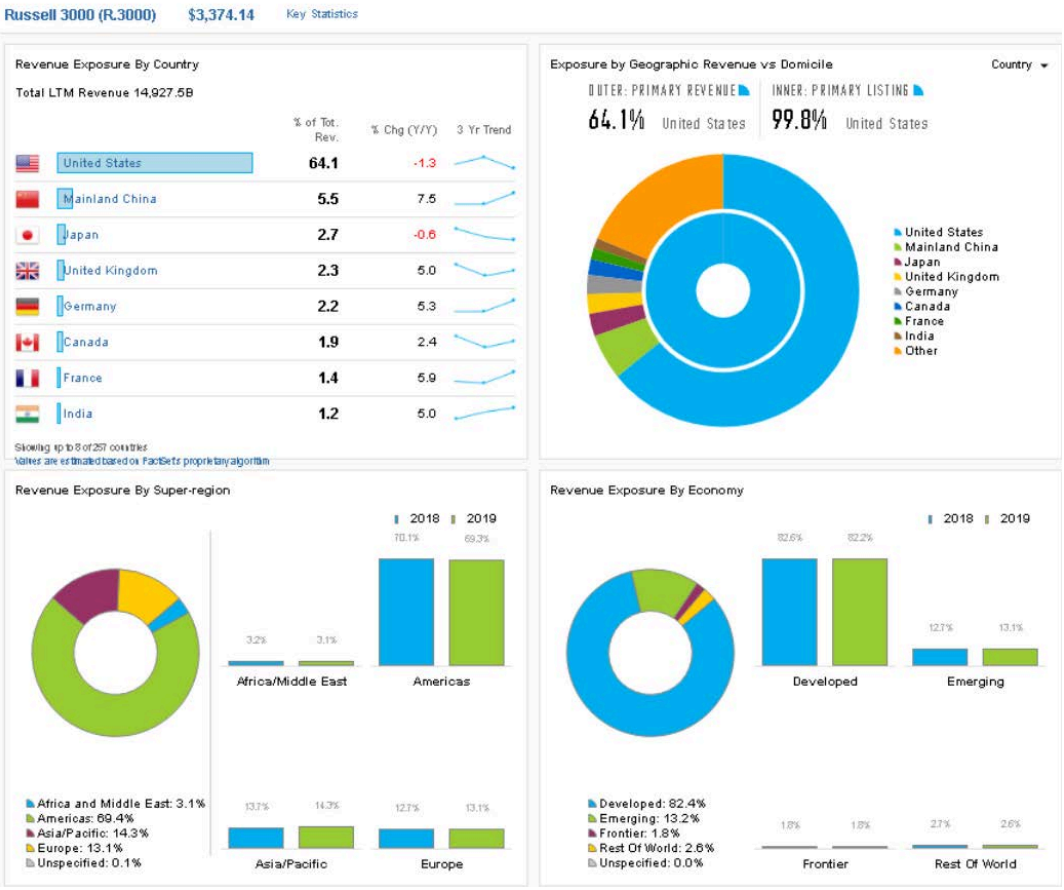
Reviewing other summary characteristics also illustrates another appealing aspect of EM corporate debt: an additional 152 bps of yield. Combining the yield pickup with lower interest rate sensitivity lends credence to the attractiveness of the asset class.

U.S. EQUITY MARKET INTERNATIONAL EXPOSURE

The final angle in the analysis pivots from a quantitative approach to a qualitative approach. On its face, the question of "do EM corporates provide a geographic diversification play relative to developed markets?" would seem easy to answer in the affirmative.

To investigate further, we can look at an alternative dataset such as the geographical revenue exposure of the Russell 3000. GeoRev accounts for primary and secondary disclosures before applying a GDP-weighted algorithm to determine country, region, or economic exposure regardless of company domicile.

FIGURE 7: GEOGRAPHIC REVENUE EXPOSURE



The lower section of Figure 7 indicates the materiality of the geopolitical diversification that EM corporate debt provides. Virtually 100% of the issuers in the Russell 3000 are domiciled in the United States. Over 64% of the Russell 3000 revenue is derived from the United States while 82% is derived from developed markets. Only 15% of revenue is derived from emerging or frontier markets.

COMPLETING THE PUZZLE

Having taken historical returns, valuation, term structure, and geographic exposure into account, what is the conclusion around the attractiveness of emerging market corporate debt? As an asset class, it tends to have some value as a diversification play providing greater income-generating potential with less interest rate risk. The flip side of that argument is that when importing yield, you may also be importing unattractive issues or issuers from a valuation or geopolitical exposure perspective.

There are certainly appealing characteristics of EM corporate debt, however, each use case needs to view the asset class in the context of their risk tolerance; buyer beware.

A sound governance framework incorporating sourcing, integration, and quality provides a format to conduct top down and bottom up analysis across asset classes. While the above example utilizes an on-platform tool kit, the same analysis could be conducted off-platform and then delivered to internal or external clients for consumption via effective distribution mechanisms.

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CHAPTER 5

Showcasing the Secret Sauce

HOW DO WE DEFINE "DISTRIBUTION"?

In asset management, "distribution" tends to be synonymous with sales and fund flows. In that regard, distribution is mission critical. Shift the perspective to a governance lens, however, and distribution becomes far more than the act of asset gathering.

The reality is that distribution is a balancing act between competing parties and priorities. It is a series of activities that begins with the recognition that data is an asset from which each firm and user should seek to generate a return. But how to do this and where to start?

Interestingly, the natural starting point is at the conclusion. For a given context, who is the audience, what is the relevant data, and how does it get there? Internal and external stakeholders all have a say.

Internal stakeholders might be investment teams, risk managers, compliance teams, sales and marketing, or executive committees. The relevant data will be broader in scope than what is typically distributed externally. Multi-horizon performance figures and attribution, risk decomposition, and exposures and characteristics are the tips of the iceberg. Investment committee reporting will typically encompass quantitative as well as qualitative elements. Risk teams will want to tweak stress tests or model portfolios to account for the macroeconomic environment. Compliance groups will require verified source documents for regulatory reporting as well as books and records retention. Sales and marketing will have a standard database template that is business as usual and then follow up with a request for a pitch book for the latest *en vogue* strategy.

Selecting the appropriate delivery mechanism can streamline the sources utilized, improve end user flexibility, and enhance security and access controls across the firm.

External stakeholders include clients and prospects, third parties like consultants or vendors, and regulators. For external audiences, the relevant dataset will contain standard and bespoke elements. Client- and prospect-facing materials will combine portfolio-level analytics, performance, attribution, and risk measures with single security detail and commentary that closes the feedback loop and reiterates the firms' secret sauce. Third parties like consultant databases and data aggregators tend to follow more of a standard operating procedure around content and timing. Regulatory reporting also follows a standard approach with the caveat that the environment is ever-evolving and usually combines a mix of security-, portfolio-, and composite-level detail. Reporting is typically a summary with verified source data retention policies requiring detailed backup of the summary view.

With the above stakeholders and data requirements, it is easy to pause here, scratch your head, and maybe even run for the hills. Forget about data as an asset, it seems like an inescapable liability. But all is not lost dear reader! Selecting the appropriate delivery mechanism can streamline the sources utilized, improve end user flexibility, and enhance security and access controls across the firm. Reframing distribution away from a purely sales construct and towards the final step in an effective governance strategy ties sourcing, integration, quality, and analysis together.

In the good old days, a firm would traditionally approach these disparate needs with a hybrid approach including a market data terminal, basic static output that would then undergo manual aggregation and transformation, and maybe an early API. Today, that approach is akin to a first generation iPod. Sure, it works, but the technology has improved so much that one would be remiss not to at least look at what else is out there. As a starting point, let's break this into interactive and production uses.

INTERACTIVE DISTRIBUTION: REAL TIME AND TACTILE

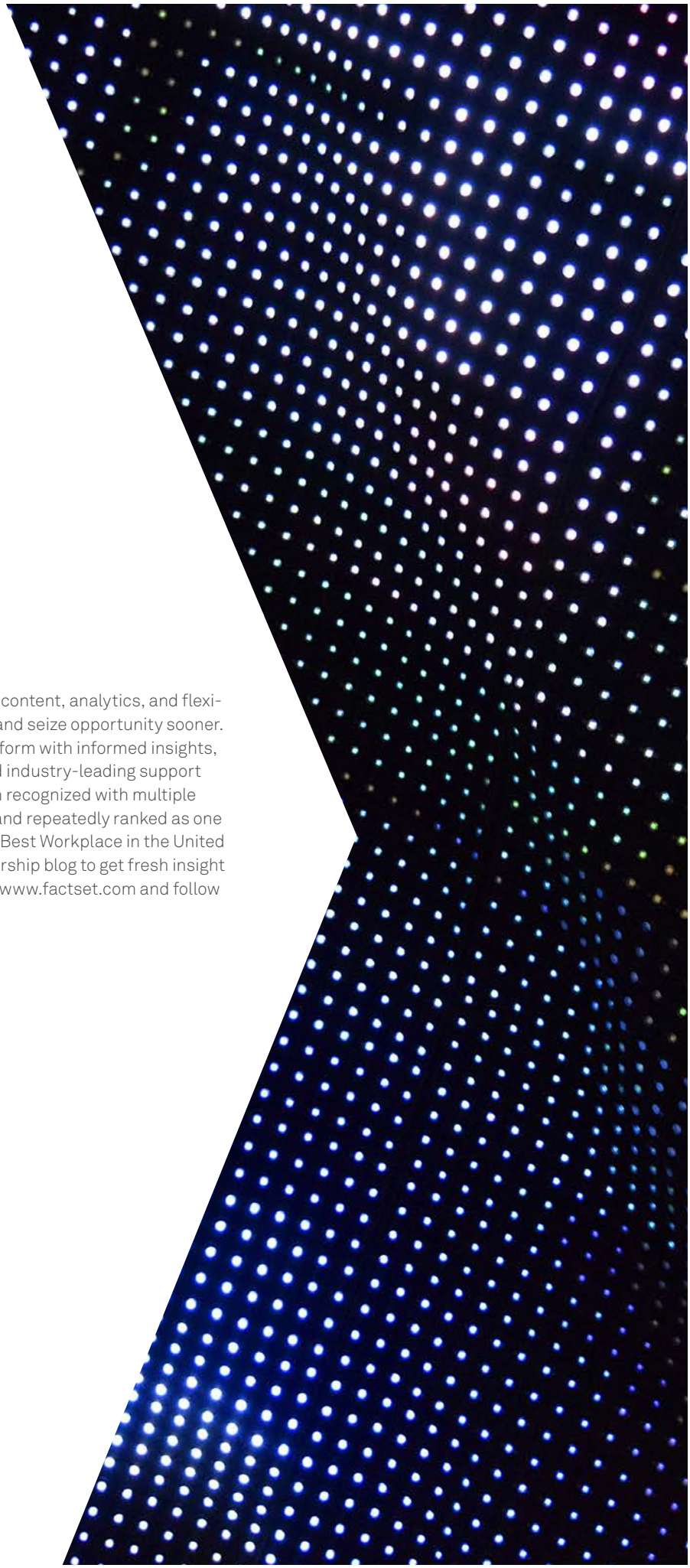
Interactive use cases have grown exponentially as the demand for real-time, or near real-time, data and analytics ramps up. At first glance, this increase is a governance nightmare. But it doesn't have to be. Certainly, the terminal model continues to be a dominant force across investment professionals. But the portability of access via web-based utilities and mobile applications has become paramount. Unlocking professionals, especially client-facing ones, from their desktop is now table stakes. It's not enough to meet the data need, now it must be on-demand, location agnostic, and from one source of truth. This alignment around portability also eases governance concerns, as ostensibly, the content is the same as what would be received on a desktop instance. Firms are also leveraging business intelligence tools to surface data in unique combinations or visualizations. This might be built leveraging APIs or it may source entirely from a data warehouse. The natural extension to this is a bespoke portal. To date, this is most common in the retail space. However, if we inventory reporting needs across audiences, surfacing the most common elements along with basic market data to the firm via a portal makes a lot of sense for other financial institutions. User error is eliminated, access rights can be centralized, and the user experience can be tightly defined. Interactive uses will continue to evolve; however, each firm will have their own timeline. There is no single prescription for all.

THE ABCS OF DISTRIBUTION AUTOMATION

Shifting the discussion from interactive to production uses, some overlap occurs with the concept of a data warehouse. This concept may be used interchangeably with an ABOR or IBOR, however, understanding the warehouse as a singular distribution staging area outside of that functionality is a proper starting point. A data warehouse contains pricing, security master and position data, performance and risk analytics, and other proprietary elements that are utilized downstream in a variety of ways. The warehouse will be populated in several ways, usually via scheduled batched reports or flat files, but more and more via APIs, all of which stem from the same interactive platform provider. By aligning the inputs across use cases, data consistency and quality shift an "either-or" argument to a "like for like" conversation.

The other production use case to explore is publishing. This generally takes one of three approaches. Automation of the process from data population to verification, commentary, compliance signoff, and delivery using an end-to-end reporting solution has seen a tremendous amount of growth recently. Even better is when the solution incorporates API or portal options and is data source agnostic. Tackling reporting needs via a managed service is a viable option for firms that would prefer to utilize headcount and/or spend outside of the middle office. Finally, manual reporting is still very much alive. Although it comes with the historical operational risks previously outlined, those can be somewhat alleviated by source alignment and process documentation.

With the stakeholders identified and the delivery mechanisms selected, the business and process risks of distribution can be mitigated, leaving firms to get back to the basics of asset management and asset gathering.



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