



Times of Change

A Look Back and a Look Ahead at the Biggest Trends in Asset Management Tech and Ops



The immortal words of Bob Dylan rang true in 2016 more than any recent year in memory: The Times They Are a Changin'. Though we covered a number of trends in our [Sweet 16: Sixteen Trends that Are Shaking Up Asset Management Technology and Operations in 2016](#) that persisted over the year, we have to admit that 2016's biggest shake-ups blindsided us. Trump, Brexit, Barclays POINT...what can we learn from the market events that surprised us most? Perhaps the lesson is that nothing is ever certain, but we'll do our best here to derive some wisdom from the tumultuous year and apply it to our industry as we head into 2017. Read on a recap for the top trends from 2016 and our outlook for the new year.

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The New Normal Political Landscape

A Resurgence of Populism

Over the course of 2016, we have seen many democracies face a resurgence in populist sentiment. In Europe, the most notable instance being the vote affirming that Britain should exit from the European Union. This seismic turn of events minted “Brexit” as a household name and has created new pressure on the asset manager to put risk management strategies into place. Firms with a UK presence will need to start to contemplate the most extreme scenario—a hard exit within the shortest timeframe. If firms need more time to change their business and operating model than the most optimistic timeline for Brexit, they will need to consider how to best mitigate the risk. They may need to in part, or fully, implement these plans in advance of knowing the final outcome. If this includes diversifying the business into Continental Europe, they will be potentially looking to execute this in line with many other firms, increasing the time and effort required.

Across the pond, Donald Trump won the race for the White House and Republicans maintained control of both the Senate and the House of Representatives in what many call the biggest election day shock in the history of US politics. Key policy decisions over Obamacare, tax and regulatory reform, trade, and interest rates will have a direct impact on economic growth and the financial markets in general for 2017. Specifically, corporate tax reform is expected to have a significant impact on US companies and lead to the repatriation of billions of dollars of foreign profits to US soil. Trump’s protectionist approach could also have an impact on the global operating model. Firms with a multi-national footprint need to position themselves to address the changes that 2017 could bring.

Uncertainty in the Markets

The Brexit vote reverberated throughout global markets, with the British pound dropping more than 10 percent against the US dollar and UK stocks undergoing their worst fall since the financial crisis. However, value was fairly quick to rise again in the FTSE while commodity prices, which initially rose in the weeks after the vote, softened. The strength of the pound has yet to

recover as Brexit’s course remains uncharted.

In the US, after a brief dip, financial markets have responded positively to Trump’s shocking victory. Stocks in general are up on expected stronger growth and earnings. Banks and financial institutions are soaring on expected increases in interest rates and a potential for a reduction or repeal of significant components of the Dodd-Frank Act. The growing sentiment is that traditional investments can be expected to yield positive returns at a much lower than normal rate.

Asset Managers Are Called to Get Creative

With lower than expected returns forecasted for traditional investments, investment managers will increasingly turn to alternative assets to find pockets of alpha to preserve active investing pools of money. Passive investing will continue to gain market share with more competitive performance returns and cheaper management fees. As a result of this shift, asset managers will need to do a better job of articulating their value proposition. Seeking alpha will become increasingly critical for active investment managers, requiring significant investments in technology and operations to support multi-asset investment strategies.

While asset managers expand their investment models to include more alternative assets, investment operations models will evolve to accommodate growing data volumes. New technology will be required to harness this data for investment decision support, risk management, and client reporting.

The Winds of Change Are Blowing

The outcome of upcoming European elections, the Brexit timeline, changes to US policy decisions, and corporate tax reform leave us with many questions about where asset management is headed this year. However, if there’s one thing we’re confident in assessing, it’s that 2017 will be remembered as a year of change. For those who are uncomfortable with uncertainty, we offer this old Chinese proverb: “When the winds of change are blowing, some people are building shelters and others are building windmills.”



The FinTech Zeitgeist

Much Ado About Disruption

The asset management industry typically takes a “wait and see” approach when it comes to technology. This has been true for decades, long before FinTech was a “thing”; before “Millennials” became a key demographic; and before the term “disruption” was the subject of keynote addresses at industry-wide conferences. The buy-side is a generally reactive pocket of the wider capital markets or financial services industry. While FinTech was arguably the most written about technology-oriented topic over the past year, it is important to read between the lines and understand just how disruptive the various trends will be over the coming years.

At Citisoft, we are consumers of information from a wide swath of industry watchdogs and thought leaders; in 2016, there was nary a day in which FinTech, disruption, machine learning, artificial intelligence, RegTech, blockchain, robotics, and digitization (or digitalization) wasn’t a headline in our respective inboxes each morning. It takes a keen eye to distill all of this information and separate hype from true disruptive potential. Fortunately, given our diverse client base of asset managers, service providers, and plan sponsors, along with our relationships with software vendors, we are in an enviable position to both look back over the past year, as well as opine on what we can look forward to on all things FinTech during the coming year (and beyond).

Blockchain Backlash

Blockchain whitepapers, in particular, haven’t been hard to find given that it was arguably the most hyped technology of 2016. However, as one would suspect, it’s been the sell side and banking community that have led the charge on distributed ledger technology (DLT) applications. With any hyped technology, there are going to be both vociferous naysayers and Pollyanna’s; this can apply to autonomous cars, cloud computing, online shopping, UBER, digital audio, and any other disruptive force that comes along. Blockchain is no different, and with all the attention that it received over the past year, it wasn’t hard to find a bit of backlash already settling in. It wasn’t long after the seemingly

powerful R3CEV blockchain consortium formed that some high-profile members began jumping ship—namely Goldman Sachs, Morgan Stanley, and Santander. We are not suggesting that any of these institutions are necessarily walking away from the promise of DLT, but in this era of cost cutting and regulatory pressures, they may have decided to focus their immediate attention elsewhere.

Citisoft views blockchain’s near-term potential mainly around post-trade processing and settlements, however given that most experts predict that we are still at least 3-5 years out from true disruptive impact, keeping an eye on “blockchain backlash” will be an interesting sidebar for 2017 and beyond.

The Robots Aren’t Coming...Yet

Buy-side asset management is and always will be a data-driven industry, and 2016 saw massive investments by several of our clients in data-centric projects, as we’ll discuss in the next section. FinTech startups, industry stalwarts, and non-traditional entrants to our space (Google, Amazon), are all making an impact as firms grapple with the concepts of implementing data lakes and exploring artificial intelligence (AI) and machine learning as potential game changers.

When it comes to machine learning and AI, it is important to separate hype from reality. Smart machines and Westworld-like robots are not coming to take our jobs any time soon, as this area of disruption is still in its relative infancy; however, it is important to take note of some AI advancements, both internal to our industry and beyond. Much has been written about Google’s triumph over humans when it solved the 2,500 year-old Chinese board game, Go. Go was considered too complex for a computer to master, and much more intricate and difficult to master than a game of checkers, chess or Jeopardy, all “games” in which computer programs had already outperformed people. So, it stands to reason, as several large, established asset managers and hedge funds hire data scientists, build AI and establish deep learning think-tanks that, the next generation investment system could be on the horizon. Whether you

call it artificial intelligence, machine learning, deep learning or predictive analytics, this is an area worth watching over the coming years.

The Future of the FinTech Revolution

What does all of this mean for the future of our industry? In our opinion, the FinTech revolution, while perhaps an overwrought phrase, will be led by the largest service providers (read State Street, BNY Mellon, Northern Trust and the like) in our space, with the top 50 asset managers (AUM-based) riding shotgun. While these big-name players may be known to move slowly, a wave of nimble new entrants will continue to pressure them towards innovation in order to retain their market share. The middle-tier (sub-\$100B AUM) will likely be the laggards as

it pertains to direct adoption of some of these FinTech applications and solutions. The fact is that given margin compression and the costly and schizophrenic nature of the regulatory environment, it is only the blue-chip firms and service providers that can afford to invest in innovation labs and think-tanks in Silicon Valley. For every firm devoting its time, money, and energy in the R3CEV, there are hundreds of firms that are still more concerned with the basic blocking and tackling that are necessities in ensuring that the trade management lifecycle runs efficiently, with the most timely and accurate data informing the front office to ensure decision-making is delivering alpha to its clients.

It's All About the Data

Data Enablement 2.0

We'll save the well-trodden data clichés and come right out and say it: 2016 marked a period in our industry's evolution where value derived by data, the use of data, and the management of data became ubiquitous. We'll call this new era in investment management Data Enablement 2.0. When you say "It's all about the data" today, you are likely to get as many eye rolls as you are head nods. We are no longer on the verge of data disruption; we are there. Data, its value and the activities focused on managing it have changed the way the entire industry is doing business.

Changes to Core Service Offerings

Service providers have invested heavily in new technology, infrastructure, and people to develop more sophisticated data-related service offerings. Data-as-a-Service (DaaS) solutions including aggregation, data governance, predictive analytics, etc., are now at the top of a provider's menu of services.

As a result, asset managers have more options to consider when launching a data management initiative. Some functions can be outsourced, while others retained in-house. Companies that once thought data management was a sacred cow are opening up to services that leverage not only provider's platforms and tools, but data

scientists, data stewards and data operations personnel, as well.

Data-Driven Operating Models and Organizational Design

Service providers weren't alone in their evolution around data. We worked with many buy-side clients to design and implement data-enabled operating models this year. Every client is unique and ambition levels differ, yet there are common threads: each organization is looking to redesign their people and process to align with their vision for data, an area that had been a technology conversation for too long.

In some cases, we see clients with best of breed software but lack coordinated processes across locations in order to maximize the return on their technology investment. Others are leaning on outsourcing providers to carry the bulk of the data management load, but lack the level of oversight needed to ensure data quality standards are defined and measured, leaving them highly vulnerable. Over time, new data tools have also been added to a firm's technology stack without clarity in overall design leading to a fractured platform with overlapping functionality, redundant data, and duplicative processes. To address these issues, data enabled operating models are in demand now to position organizations to think "data first."

Evolution of Data Governance Methods and Tools

Data governance, while still not completely mature, reached a level of awareness in 2016 where it was recognized as a key piece of the data-enablement puzzle. Those who embrace the challenge and understand that we are operating in a data driven industry are more apt to take an honest assessment of where they are and use that information to help figure out where they need to go. With help from industry experts like the EDM Council, more quantitative evaluation tools are helping to take out historical subjectivity when measuring core data management and provide a basis for honest reflection. The impact of the resulting changes generally aims to improve awareness of data issues, improve data quality, substantiate data as an asset, and introduce more efficient technology platforms to support current and future business needs.

Along with increased visibility has come more compelling and mature metadata and dictionary tools to support governance efforts. Some of these tools have taken cues from social technologies to provide transparency and real time connections relative to data definition and quality across organizations. Though these new

technologies certainly have merit, it's worth cautioning that data governance and data management require two very different skillsets and asset managers should seek leadership and expertise for both.

Data in 2017 and Beyond

Investment management is not alone in its trajectory: The combination of increasing automation, industry-wide fee pressure, and the rise of passive investing show *a future where data is not only a key part of the industry, but becomes the industry itself.*

The days of new entrants such as Google, Amazon, and others playing a larger role in our industry can now be seen more clearly. Convergence and "coopetition" with data vendors and service providers is a reality in 2017 (as it is throughout the industry). Lines blurred between traditional service providers and leading FinTech companies will continue to get muddled, and business models will continue to evolve in response.

Tech and Ops Investment Trends

Front Office Takes Center Stage

At Citisoft, we previously utilized a diagram that separated the front, middle, and back office into three boxes with discreet functions in each. As consultants, the simple logic of this visual made it a mainstay in our various PowerPoint decks for years, but it slowly began to fall by the wayside. While the industry hasn't completely abandoned this categorization, it is now an extreme oversimplification, particularly in the front and middle office. The lines have blurred between these functions and this shift is evident in the investments that asset managers, service providers, and vendors have made over the last year in technology supporting new hybrid operating models.

Over the past year or so, high volatility in traditional investments has increasingly been accepted as the 'new normal,' rather than a prolonged market lull. The reality of this new landscape has invoked asset managers to overhaul their investment strategies with increasing reliance on a complex web of multi-asset class portfolios. The complexity of data supporting alternative investments is simply too complicated for legacy technologies, especially when the new name of the game is real-time decision support. Portfolio managers are now demanding intraday risk and attribution information to manage these strategies; formerly the sole province of the middle office.

As these walls continue to break down, many asset managers are allocating a large portion of



their budgets to front office technologies. And in turn, service providers who have historically focused on middle and back office technologies have shifted their R&D dollars to front office decision support. Several of the biggest players in this space are now focusing on a new wave of applications for the front office that utilize big data concepts, predictive analytics, and machine learning. If these investments mean anything for the future, it's that the wall between the front and middle office will soon be a distant memory. In the meantime, it's worth keeping in mind that there is no point in evolving the front office if downstream systems are still running on steam powered technology. Innovation needs to be made from the ground up, which brings us to our next point...

Legacy Gets Shown the Door

To say that legacy technology and aging infrastructure is dead may be a bit premature, so let's just say that it's finally being shown the door. The fact is that there are still countless asset management firms that are running mission-critical functions on enterprise software packages and applications that are, at best, struggling to keep up with today's operational challenges, and at worst, borderline obsolete. Citisoft often encounters this situation with clients and prospects; firms that have 'kicked the can' down the road for several years due to a focus on other areas of their business, namely the front office, regulatory challenges, and the introduction of new products to their investment product lineup (e.g., multi-asset class strategies, OTC derivatives, private equity and real estate, ETF's, etc.). The longer firms wait to address their legacy platform challenges, the more difficult, time-consuming and expensive these projects become.

It's no secret that legacy, sub-optimal technology stacks, especially in the middle and back office, can hamstring firms in their ability to stay nimble and respond quickly to the demands of the front office. So, the question remains; why are so many buy-side firms tied to these platforms? The reality is that many large, buy-side firms implemented their enterprise operating platforms over a decade ago, and in some cases, more than 20 years back. This was before IBOR was "a thing", data warehouses and marts being prevalent, and the advent of true middle office outsourcing. What was a diversified asset manager to do? They customized and in many

cases, bastardized (forgive our language) their platforms, thus making it difficult or impossible to upgrade or transition to something else. Given the complexities of moving to another platform, firms avoided these projects due to the disruption of transitioning off a platform that they've been utilizing for years. De-constructing these ecosystems is akin to open-heart surgery and not for the faint of heart.

Citisoft's current project slate and business pipeline indicates that the buy-side asset management community is acknowledging the inherent risk running daily mission critical functions on technology that simply can't keep up with their evolving needs. Band-aids or swapping out system A for system B is a short-sighted approach; it is imperative that firms step back and take a strategic view of their business. It is only through an honest and thorough documentation of a firm's current state technology and operational infrastructure (system by system; function by function) that you can properly assess your pain points, challenges, and most importantly, opportunities for improvement.

Once this current state picture is complete and signed off, you can then start working through the various options (Best-of-breed vs. Single platform; ASP vs. Install; Outsource) that makes sense for your future state. Once the future state options are exhaustively evaluated and ultimately selected, a Roadmap must be created comprising the various projects (both strategic and tactical) that enable the realization of your optimal target state environment. Ridding yourself of your legacy and aging infrastructure is not a 'like for like' replacement. Embrace the journey, do the due diligence, and reap the rewards.

The Cloud Breaks Through

The adoption of cloud computing and the various deployment options that fit under its umbrella is not a new thing in the asset management industry. In fact, per a 2014 CEB TowerGroup study, more than 70% of firms intended to either adopt cloud computing or increase its usage by 2017. For years, we've been reading about the need for asset managers to focus on their core competency; driving performance returns for their clients. We would all agree that running data centers, employing countless DBA's, and upgrading software packages is not what any of us have

in mind when entrusting pension funds, 401K investments, or institutional accounts to our selected money managers. Despite this acknowledgment, our industry has been predictably slow in adopting the cloud and entrusting critical IT services to third-party providers. The reasons are obvious; data security, lack of control, business continuity risk, and a perceived inability of the providers to adapt to shifting requirements around scalability and system performance.

However, the barriers to cloud-based adoption are finally coming down. Software vendors and service providers in our industry are rapidly aligning themselves with premier cloud

providers, and offering the benefits that are making it difficult to ignore; rapid deployment, standardization, scalability, data insulation in multi-tenant environments, information security certification, and lower total cost of ownership. Providers that dominate our space (read State Street, BNY Mellon, Northern Trust, CRD, Eagle, Markit, SimCorp, Bloomberg) are making big bets with their cloud strategies, and in many cases pushing their existing clients to adopt these deployment options. We don't doubt that there will still be firms that insist on going with the tried and true (i.e. installed, on-premise deployment models) but that will be the exception and not the rule.

A Hard Lesson in Vendor Risk Management

POINT's Retirement Shakes Up the Industry

Barclays POINT is a widely-used platform in the fixed income market, and many view it as the gold standard when it comes to risk and attribution. POINT is deployed across the industry in a wide array of applications, from an ancillary desk specific toolset to a core enterprise platform, taking advantage of capabilities such as scenario analysis, stress testing, asset allocation, and benchmark management.

When it was announced that POINT was slated for retirement, the industry was caught off guard; not because Barclays sold its Risk Analytics and Index Solutions ("BRAIS"), but because the deal brought with it a hasty end for a long-standing staple within the fixed income managers' toolkit. By August 2016, the ink on the deal with Bloomberg was dry, and many firms were uncertain about their ability to mitigate the impact of POINT's retirement from a functional, integration, and data perspective.

Shortly after Barclays announced it would be selling the BRAIS unit to Bloomberg, Citisoft issued [a survey](#) to POINT users. Our survey was primarily focused on quantifying the disruption to the fixed income investment process, while helping to inform a consensus on next steps. The survey was clear on several key points which still hold true; the transaction is viewed negatively, there will be a critical impact on risk analysis and attribution, the cost impact is

unknown, the timeframe is short to implement a replacement, and there are concerns about migrating or losing historical data.

Re-Assessing Vendor Risk Management

Virtually every aspect of investment management has seen supporting solutions retired due to FinTech evolution and innovation or merger and acquisition activity, including the business process and technical outsourcing spaces. Barclays POINT users aren't the first to have the rug pulled out from under them, and they won't be the last. Examples exist across client reporting, trading, analytics, investment accounting, data management, fund accounting, performance measurement and beyond, with solutions and services that have lost viability or gone away and caused significant disruption. This trend of disruption has accelerated in the past decade, and we feel confident that it will continue in the future as the pace of technology innovation accelerates.

What's an investment manager to do? Upfront and ongoing due diligence is the key to managing vendor risk. Citisoft outlined in detail the steps that firms can take to mitigate vendor risk in our [Systems and Vendors: A Joint Choice IP](#). If there is anything we learned from POINT's retirement this year, it's the importance of proactively identifying your mission-critical applications, and instilling a comprehensive vendor risk management and oversight program.

Next Steps for Fixed Income Community

The lesson from the Barclays POINT retirement hits on all the key reasons to re-assess vendor risk. Regulatory pressure on banks to get out of the benchmark pricing business, and an opportunistic acquisition by Bloomberg (who controlled sourcing of significant chunks of the underlying data and had a competing solution) led to POINTS demise, but not many identified it as a risk.

We do believe, however, that the impact on fixed income managers will give way to long

term benefit, as providers seek to evolve existing platforms and introduce new platforms to fill the void. The near-term focus for fixed income managers must be on mitigation, which may include some acceptance of capability below what is currently provided through POINT. A few excellent options for fixed income managers do exist in the market, so the near-term choice is really a question of cost and time to implement before POINT goes away.

Conclusion

As chaotic as the last year has been, there is a key lesson we can take away from these themes. We recommend that asset managers perform a forward-looking assessment of the market, a survey of how trends and innovations may impact solution providers, and a look at changing geopolitical and regulatory landscapes. It's too

risky to adopt a 'wait and see' approach—these considerations must be a core part of your technology and operations plan going forward. We doubt the dust of 2016 will be settled any time soon, and asset managers cannot afford to live in a bubble.

