CalALTs

California Alternative Investments Association

2019 Operational Insights in Alternative Funds

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About CalALTs

The California Alternative Investments Association (CalALTs) is a not-for-profit membership organization whose members include alternative asset managers, investors and service providers who are dedicated to the continuing evolution of the alternative asset management industry in California. Originally founded in 2010 as the California Hedge Fund Association (CHFA), CalALTs continues the mission of fostering meaningful connections among its members and a vast network of thought leaders, influencers and peers who share investment ideas, best practices and industry intelligence that drive tomorrow's success. The organization hosts education and networking events for members and its digital and social platforms provide members with the relationships, information, and opportunities to generate better outcomes.

Prioritizing Corporate Culture

In 2018 we saw an increased focus from allocators on corporate culture, governance and employee relations and we expect this focus only to increase. Moreover, there has been recently introduced, and in some cases enacted, federal and state laws regarding sexual harassment prevention. Private fund managers would be remiss not to ensure they have appropriate human resources policies and procedures. This starts with addressing the minimum requirements and staying abreast of legal and regulatory requirements.

At a minimum, private fund managers need to take note of recently enacted legislation in California and in New York as it relates to non-harassment policies and procedures.

California

A new law in California expands the circumstances in which hostile work environment harassment may be found to exist. Harassment is now redefined to encompass a broad spectrum of conduct, specifically:

"Harassment creates a hostile, offensive, oppressive, or intimidating work environment and deprives victims of their statutory right to work in a place free of discrimination when the harassing conduct sufficiently offends, humiliates, distresses, or intrudes upon its victim, so as to disrupt the victim's emotional tranquility in the workplace, affect the victim's ability to perform the job as usual, or otherwise interfere with and undermine the victim's personal sense of well-being."

While anti-harassment training of supervisors has been required in California for employers with 50 or more employees, a new law requires that by January 1, 2020, employers with at least five employees must provide at least two hours of sexual harassment prevention training to all supervisory employees and at least one hour of sexual harassment prevention training to all non-supervisory employees in California within six months of hire or promotion and every two years after that. Temporary and seasonal employees will be required to be trained within 30 days of hire or 100 hours worked, whichever is earlier.

New York

In New York, every employer in New York State is required to establish a sexual harassment prevention policy. The Department of Labor along with the Division of Human Rights established a model sexual harassment prevention policy for employers to adopt and employers may adopt a policy that meets or exceeds this model policy. Additionally, every employer in New York State is required to provide employees with sexual harassment prevention training. Sexual harassment prevention training is required to be completed at least once per year. All full-time and part-time employees, seasonal employees and temporary employees must receive the training.

Similar legislation in other states and at the federal level, has either been introduced or can be reasonably expected to be introduced.

Moreover, as allocators are taking an increased interest in culture, governance and employee relations, private fund managers should ensure they strive for best practices. Many allocators and consultants are sending out lengthy questionnaires to gain a better understanding of a manager's culture and their initiatives for diversity and inclusion. They are also focusing on Environmental, Social and Governance (ESG) criteria, not only on whether ESG factors play a role in the investment process and the portfolio of investment holdings, but also in the management of the private fund managers' own firm. They are looking to understand what the manager is doing to focus on their impact on the environment, how they are serving their communities and how they are strengthening their own governance policies.

"Allocators are taking an increased interest in culture, governance and employee relations."

Examples can include initiatives related to recycling, reducing the use of paper products, treatment of employees, focus on diversity and inclusion, management structure, compensation policies and recruiting philosophies. Some allocators are even sending out specialists to spend time in a manager's offices to experience the culture of the organization. Private fund managers should expect this area of focus to increase in the upcoming year.

This increased focus can be challenging for private fund managers that are often small organizations and where human resources falls under the responsibility of the CFO or COO. It is important to ensure appropriate resources are devoted in-house or the appropriate outsourced solution is utilized with proper oversight. Many payroll providers or professional employer organizations (PEO) offer human resource generalist services and can be of assistance to ensure you are updated on all employment requirements and even provide in-person or web based training. Alternatively, legal counsel is a great resource and can also be valuable in providing required training and provide guidance on requirements.

Regardless of the size of the firm or the geographic location, private fund managers should prioritize their human resource program with an eye towards implementing best practices that accentuate their corporate culture.

What to Expect During an Institutional ODD Review

Today, operational due diligence ("ODD") on private fund managers is a standard part of the institutional allocation process. ODD addressed the fund's operational and business risk only, although there are areas and times where investment or portfolio risk converge and overlap into operational risks. While significant qualitative due diligence is performed upfront by investment teams, the ODD component is a formal underwriting, where operations are inspected and facts and figures are verified by specialists in operational risk and fraud.

In terms of what to expect if you are a manager, an operational due diligence review is typically performed in the last phase of an institutional investor's due diligence process. The timing is approximately 30-60 days prior to the date an investment allocation is made. An operational due diligence review is typically conducted by specialists with deep experience performing operational risk assessments on asset managers. These reviews are often completed by an outside firm who employs CPAs, lawyers, and MBAs. The operational due diligence review can also be performed in-house, by a separate ODD dedicated team, in the case of larger FOFs or institutions, or by the investment staff themselves, often in the case of smaller firms. These specialized ODD teams are led by managing director level staff, typically with more than 20 years of relevant operational due diligence experience.

> **"In terms of what to expect if you are a manager, an operational due diligence review is typically performed in the last phase of an institutional investor's due diligence process."**

An industry standard ODD process includes performing a documentation review, undergoing a service provider confirmation process, conducting a site visit with the manager and perhaps key service providers, and producing a written report with findings. A typical process usually takes a month to complete, with the number of hours ranging from 30-60, depending on the experience of the team.

The **documentation review** consists of manager and fund corporate documents, offering memorandums, manager policies and procedures, fund and firm financials, manager marketing materials, manager DDQs, regulatory filings, proof of insurance, etc.

Service provider confirmations take between 24 hours and 3 weeks to be fully submitted, depending on each service provider and the fund manager. The timing is largely dependent on the service providers, as they are usually asked to speak with the ODD team or fill out a due diligence questionnaire that often goes through layers of compliance within the service provider to ensure accuracy.

Site visits are typically a half day in length. The agenda of an ODD site visit includes areas such as organizational infrastructure, terms and conditions, fees and expenses, disaster recovery, cybersecurity, regulatory, legal, insurance, human resources, investor base, software, trading, financing, middle office, fund accounting, corporate accounting, wire transfer controls, audit, tax, AML, etc. The site visits include members of the manager including IR, marketing, COO, CFO, CCO, Controller, Risk, CTO, and other infrastructure staff. Portfolio managers typically do not attend these meetings, unless there are no operations staff on the team. The site visit is meant to assess and confirm the manager's business and operations and fill in the information not already provided in the manager's written documents (e.g. DDQ, marketing material).

Within the **ODD report**, one will find a description of the fund and its operational infrastructure, an outline of its operational risks, various financial and operational metrics, and an assurance opinion. Most in-house heads of ODD have veto power on their investment committee and most independent ODD providers provide an assurance report (i.e. an approval or some type of rating).

At the end of the review, managers are typically funded if they are approved. If there are operational concerns resulting in a non-approval, the investor may hold off on making the investment until they can discuss the concerns with the fund manager and work on a solution to reduce the operational risk. Some common findings that can be corrected include wire transfer controls, a CFO listed as backup trader, lack of a regulatory consultant or experienced CCO on staff. Other larger issues that need more time to correct include limited oversight from a fund administrator, lack of in-house systems, or lack of back office staff. Areas that may stall an investment indefinitely include regulatory findings, litigation, lack of independent oversight, qualified audit opinions, transparency, or a pattern of operational risks.

> **"If there are operational concerns resulting in a non-approval, the investor may hold off on making the investment until they can discuss the concerns with the fund manager and work on a solution to reduce the operational risk."**

The Convergence of Operations and ODD in "Alternative Investments"

The operational standards and the investor due diligence methodologies at hedge funds and private equity managers has been converging. Although different asset classes, within the category of alternative investments, from an operational perspective many investors are beginning to view all private placement funds from the same lens regardless of whether the fund is a closed end private equity fund or an open end hedge fund. The two sectors have different histories but are considered two of the key allocations in a more comprehensive "alternatives" asset class allocation.

Over time many investors have been increasing their allocation to alternatives. Both Private Equity and Hedge Funds have reached their all-time high in total capital over the past couple of years. It is believed that allocations to the overall alternatives asset class will continue to increase. As alternative investment allocations grow they have both become more institutional and the standards they are held to have continued to improve.

> **"Both Private Equity and Hedge Funds have reached their all-time high in total capital over the past couple of years."**

Private equity historically has not been held to the same operational standards as the hedge fund industry. The standards are being raised for private equity and investors will soon begin to expect these managers to be at the same standard that they hold their hedge fund allocations to. This is happening across the entire business and operational infrastructure at investment managers but in this article we highlight three areas where the standards are converging and private equity is being held to a higher standard: Valuation, Third Party Administration, and Fund Governance.

Investors often make statements that trust is one of the key attributes that determine whether they will invest with a manager. Of course, investors should only invest with an investment manager that they trust. But regardless of how much an investor trusts an investment manager they should ensure that the manager has an adequate control environment in place. The old statement of trust but verify remains true in operations. The one piece of the fraud triangle (Pressure, Rationalization, Opportunity) that the investor is best able to asses and influence is that of "opportunity". "Pressure" and "rationalization" are dynamic and outside the investor's control. Evaluating the "opportunity" is something the investor is in a good place to gauge. The way investment managers limit the "opportunity" is by implementing a best practice control environment. The investor has the ability to assess the control environment or they should hire a professional organization to do this on their behalf.

The Convergence of Operations and ODD in "Alternative Investments"

> **"Regardless of how much an investor trusts an investment manager they should ensure that the manager has an adequate control environment in place."**

The three areas discussed in this paper are some of the most effective pieces of implementing an effective control environment at an alternatives investment manager which highlight areas that are converging.

Valuation

Even though a private equity firm shouldn't receive their compensation until the investments are fully realized, valuation in the interim remains important. Private positions held by investment funds should be fair valued. Although subscriptions and redemptions aren't an issue as with hedge funds, fair value provides for the manager to have a correct fund track record and for investors to report their own performance accurately. The same best practice principles of valuation in hedge funds should be in place at private equity managers as well. There are many best practice papers discussing valuation but in summary the four overarching principles are documentation (documented valuation policy and documented price support), consistency, independence (involvement of a valuation committee, third party administrator, valuation service), and accounting standards (fair value under US GAAP or IFRS).

Third-Party Administration

Each fund should have an independent third-party administrator. The administrator is the official books and records of the fund thus performing the official fund accounting which gives the investor a greater level of confidence surrounding performance and fee calculations. Administrators confirm assets and they confirm the valuation of the assets. Administrators are also involved with the cash movements of the fund providing an extra layer in addition to the manager's controls that assets are safeguarded. In addition in many cases administrators help the PE manager to scale their operations team and become more robust.

Fund Governance

Fund governance is the area where private equity managers are the furthest behind and need to improve and embrace best practices. The same standards should exist for private equity that exist for hedge fund managers. The majority of the fund governance should be independent from the investment manager regardless of whether the fund is structured as a limited partnership or a corporation. The easiest solution to this may be to give LPACs (Limited Partner Advisory Committees) the actual ultimate governance authority over the fund removing it from the GP or investment manager. In addition the fund should have the majority of the committee independent from the investment manager and other investors or limited partners. LPACs that don't have teeth but are simply advisers are poor governance. In addition, limited partners serving on the LPAC are clearly conflicted as they represent their own interests and not that of the overall fund or other investors. Improved fund governance can also be accomplished in ways similar to how the hedge fund industry has been structured and improved (through the use of independent director boards) but regardless ultimate responsibility should be with individuals that are independent from the investment manager and the investors.

Private Equity operational standards and investor operational due diligence requirements are at an inflection point and in the future all alternative funds might be held by investors to a consistent standard.

Recent Developments in Investment Adviser Advertising

Within the past year, a number of regulatory developments pertaining to investment adviser advertising have both clarified existing guidance and signaled the potential for future changes that may affect alternative managers. Below is an overview of the key developments, including updates to the Global Investment Performance Standards ("GIPS" or the "GIPS Standards"); recent Securities and Exchange Commission ("SEC") staff guidance and enforcement actions; and anticipated amendments to the Advertising Rule (as defined below).

I. GIPS 2020 Exposure Draft

On August 30, 2018, the CFA Institute released for public comment the GIPS 2020 Exposure Draft (the "Exposure Draft"), representing the first significant overhaul of the GIPS Standards since 2010. The GIPS Standards are voluntary ethical standards intended to ensure fair representation and full disclosure in the presentation of investment performance. The objective of GIPS is to establish a single set of standards that facilitate the calculation and presentation of investment performance in a manner that is readily comparable among investment firms, regardless of geographic location and local conventions. With the comment period for the Exposure Draft now closed, a final version of the revised GIPS Standards is anticipated in mid-2019, with an effective date of January 1, 2020.

The CFA Institute has stated that an express goal of the Exposure Draft is to facilitate broader adoption among alternative investment managers. Although a majority of the largest asset managers in the world currently claim compliance with GIPS, the GIPS Standards have not been widely adopted among managers of private equity, hedge, real estate, private credit, and other private funds. While broader adoption of the GIPS Standards will likely be driven by the institutional investor community, the Exposure Draft does address many issues that have historically made compliance with prior versions of the GIPS Standards difficult for alternative managers.

The most prominent changes proposed in the Exposure Draft include: (i) the introduction of pooled fund reports, which require specific pooled-fund-level performance measurements and eliminate the burden of creating single-fund composites; (ii) new flexible return calculation methodology that allows firms that control external cash flows into a pooled fund or the portfolios within a composite to present money-weighted returns (i.e., internal rate of return) rather than time-weighted returns, if certain criteria are met; (iii) elimination of the requirement to link the prior performance of an acquired firm or investment team to performance at the new firm, aligning with industry practice and the current guidance of SEC staff; and (iv) the reversal of prior guidance to permit firms to prepare GIPS-compliant performance presentations for "carve-out" strategies, even if the carve-out strategy is not managed separately with its own cash balance.

II. Staff Guidance and Enforcement Actions

1. Social Media and Testimonials

On July 10, 2018, the SEC reaffirmed the application of the securities laws to social media use, publishing five settlement orders (the "Settlements") arising from alleged violations of the Investment Advisers Act of 1940, as amended ("Advisers Act"), and Rule 206(4)-1(a)(1) thereunder (the "Testimonial Rule"). The Settlements involved the solicitation and publication of client testimonials on social media and other websites, such as YouTube.com, by two SEC-registered investment advisers, three investment adviser representatives, and one marketing consultant. These settlements serve as a reminder that website videos and other media such as podcasts are considered "advertisements" and, to the extent they contain client testimonials, may violate the Testimonial Rule. In addition, the Settlements indicate a growing level of attention to social media and the active application of the SEC staff's 2014 Guidance on the Testimonial Rule ("2014 Guidance"). The 2014 Guidance acknowledges that not all public commentary on social media constitutes a prohibited testimonial, but that such commentary or endorsement could be a testimonial if an adviser plays a direct or indirect role in obtaining it. Advisers should review the 2014 Guidance to ensure that they do not take actions that may render otherwise independent social media commentary suspect in the eyes of the SEC staff, such as removing unfavorable comments.

"These settlements serve as a reminder that website videos and other media such as podcasts are considered "advertisements" and, to the extent they contain client testimonials, may violate the Testimonial Rule."

The settlements are only one indication of an increased focus by the SEC staff on advisers' social media use. For example, recent amendments to Form ADV require advisers to disclose all websites and social media accounts used for business purposes. In addition, the Office of Compliance Inspections and Examinations ("OCIE") undertook a series of nearly 70 sweep examinations focused on certain advertising issues, including the use of testimonials, beginning in 2016. The results from this initiative confirmed that advisers frequently include client statements describing advisory services and/or endorsements in advertisements, including firm websites and social media pages.

2. Hypothetical Back-Tested Performance

On August 31, 2018, the SEC staff entered into a $1.9 million settlement agreement with a registered investment adviser, stating that the adviser materially misled investors by failing to disclose that certain ratings used to create its hypothetical stock returns were determined using a retroactive, back-tested application of the adviser's quantitative model. The adviser also failed to disclose that the back-tested period contributed to the superior performance of the hypothetical blended portfolio. This action, among others, indicates that the SEC staff continues to view hypothetical performance as highly suspect and that advisers should take great care when presenting back-tested returns.

3. Portability

On May 8, 2018, the SEC staff granted no-action relief that clarifies that, subject to certain conditions, the surviving investment adviser after an internal restructuring may continue to use the performance track record of a predecessor advisory affiliate to the same extent as if the restructuring had not occurred.

The SEC staff has long accepted the principle that an adviser's management and investment teams may change over time, in the ordinary course, and these changes do not require the discontinuation of a performance track record. In fact, advisers generally must continue to present a strategy's historical track record—notwithstanding the fact that there have been changes to personnel responsible for achieving the historical performance—to avoid "cherry-picking" performance periods that could give potential clients a misleading impression of the adviser's past performance. The SEC staff's statements in prior no-action letters suggest that a successor adviser could only use a predecessor adviser's performance track record if the personnel primarily responsible for the predecessor's performance results remained at the successor adviser, not just immediately following the restructuring, but for so long as the successor adviser used the track record. The recent relief clarifies that this more restrictive standard is not applicable to an internal restructuring that does not result in a change in actual control or management.

III. Advertising Rule Amendments

At the annual Compliance Outreach Program National Seminar on April 12, 2018, Deputy Director of the SEC Division of Investment Management Paul Cellupica announced plans to consider revisions to Advisers Act Rule 206(4)-1 (the "Advertising Rule" or the "Rule"). Potential revisions under consideration include: (i) changes to the proscriptive provisions in Rule 206(4)-1(a)(1)-(a)(4), which currently result in certain communications that are not misleading (e.g., past specific recommendations) being deemed per se fraudulent; (ii) the bifurcation of the current Rule into separate standards for retail clients and sophisticated clients; (iii) the codification of social media and electronic communication guidance, including potential revisions to the Testimonial Rule to address these issues; and (iv) changes to the scope of "advertisements" covered by the Rule, including clarification of the distinction between research reports (which would not be covered by an amended Rule) and advertising materials (covered by the Rule).

The Advertising Rule appeared on the SEC's regulatory agenda as a potential "Long-Term Action" in December 2017, advanced to the short-term agenda or "Proposed Rule Stage" on March 14, 2018, and now, new proposed rules could be expected as early as April 2019. Although the SEC staff has for decades provided guidance regarding its interpretations of the Advertising Rule in the form of no-action letters, enforcement actions, and other guidance updates, the Advertising Rule is ripe for modernization given the rise of the internet and social media. Given that the Advertising Rule has not been substantively amended since its adoption in 1961, any such modernization could have a major impact on the marketing activities of investment advisers, which have operated for decades based on the current Rule and related staff guidance.

IV. Practical Considerations

The adoption of GIPS 2020 and expected amendments to the SEC's Advertising Rule will have a significant impact on the marketing activities of global asset managers in the coming years. With respect to the GIPS Standards, alternative managers may receive inquiries from institutional clients and investors regarding GIPS and should begin to consider whether to pursue a claim of compliance based on the revisions reflected in the Exposure Draft. With respect to the Advertising Rule, firms should continue to monitor for regulatory developments and keep compliance policies and procedures up-to-date as SEC guidance is released. In light of the SEC's focus and the expansion of the use of social media in the investment management industry, advisers should prepare for more frequent and detailed reviews of their websites and social media pages as part of the OCIE examination process. Finally, with respect to back-tested returns, advisers should ensure that (i) backtested performance data is not based on assumptions when actual historical data is available; (ii) disclosure that performance data is hypothetical and back-tested is complete and prominently displayed with the performance data; and (iii) the back-test description is thorough and accurate.

Trending: #Co-Investments

Over the past 15 years, there has been tremendous growth in the availability and participation in co-investments by institutional investors. Multiple surveys indicate that over half of all Limited Partners ("LPs") are seeking to co-invest alongside managers to increase private equity exposure, augment returns, reduce overall fees, and build stronger General Partner ("GP") relationships. Co-investment benefits are well documented and easily touted in a rising market, but as with all investments there are idiosyncratic risks associated with co-investing that LP's should consider.

Benefits of Co-Investment

Institutional LP appetite for co-investment opportunities has continued to increase as investors look to increase their exposure to private asset classes. For LPs, co-investments provide the following benefits:

- **Increased exposure: Co-investment opportunities allow LPs to increase their exposure with their higher quality GPs that may have capital constraints in their comingled vehicles. Additionally, co-investments provide LPs an opportunity to have their capital invested quickly rather than over a typical 4 to 5-year investment period.**
- **Tilting portfolio: Co-investments allow LPs to tilt their portfolio to more desirable regional or sector exposures.**
- **J-Curve mitigation: Most co-investments are offered to LPs on a no fee or reduced fee basis. since capital is typically invested shortly after closing, there tends to be some J-curve mitigation in the early years of the investment.**
- **Augmented performance: Measuring the net performance of a co-investment opportunity that is offered on a no fee or reduced fee basis will outperform the net performance of that same investment held in a private equity fund; therefore, making the right co-investments can notably strengthen overall net returns.**
- **Strengthened relationship: When LPs co-invest alongside GPs, they enhance their understanding of their managers' underwriting practices and generally strengthen those relationships.**

Due Diligence Implications

Co-investments are unique investment opportunities offered to LPs that typically have a very short turnaround time from the moment the investment is proposed to the final closing date. Turnaround times could be as short as a couple of weeks. LPs should consider the following when pursuing co-investments:

- **Internal Resources: Conducting diligence on a co-investment opportunity can be time and resource intensive. LPs should have a process in place to filter co-investment opportunities to avoid allocating resources unnecessarily. Additionally, LPs should develop a methodical, systematic decision-making process to avoid adverse selection pitfalls.**
- **Level of Diligence: A successful co-investment program requires specialized diligence skills. LPs should decide if they will solely rely on the GPs diligence work or conduct their own deal analysis, which may include speaking with the portfolio company management team and conducting reference and background checks.**

Other Considerations

As with any investment, co-investments are not without their challenges. Co-investments provide the opportunity to overweight deals, but generally LPs are unable to co-invest in every deal of a fund leading to potential selection biases. In addition, co-investments are commonly offered on the largest deals of the fund which could overweight the LPs portfolio to larger cap opportunities, and not necessarily the higher quality deals. Other factors to consider include:

"Multiple surveys indicate over half of all Limited Partners are seeking to co-invest alongside managers to increase private equity exposure, augment returns, reduce overall fees and build stronger General Partner relationships."

Trending: #Co-Investments

- Allocation decisions: Some LPs have incorporated into their side letters the desire to invest in co-investments. While regulators would likely encourage GPs to offer co-investment opportunities to all LPs, the reality is that GPs are not required to offer co-investments to its LPs on a pro rata basis. GPs maintain the right to offer co-investments to strategic LPs that have expressed an interest and are able to expeditiously complete their diligence. Given the limited window for closing on a transaction, the ability for the LP to make its commitment is paramount to being offered an allocation.
- Avoid the allure of no fee/no carry: The standard no-fee, no-carry terms can provide 200-500 bps of return accretion versus a fund structure assuming the same return profile. While this can be accretive to a portfolio, it is hardly the sole driver of co-investment returns. The key to a successful outcome is always the quality of the underlying asset and the prospects for the GPs to drive value.
- Broken deal expenses: It remains industry standard that the main fund structure absorb any expenses associated with a co-investment opportunity that is not completed. The SEC appears to have taken issue with this practice as it has argued that there are insufficient disclosures in the fund documents regarding how broken deal expenses are allocated. It is best practices for expenses to be allocated on a pro rata basis across all participating vehicles; however, the issue remains that most potential co-investment deals die before interested co-investors have legally committed to the investment or before any co-investment vehicle is created. Therefore, requiring LPs interested in co-investments to absorb broken deal expenses does not seem practical and would likely deter LPs from potentially participating in such deals.
- Best practices for co-investment reporting: It is best practice for LPs to request that each co-investment vehicle go through an annual audit and that the co-investment undergo a quarterly fair value analysis.
- No netting: Co-investment performance does not net against the performance of the sponsor private equity fund. Therefore, a poor performing co-investment deal would not provide relief against any potential carry that LPs would have to pay in the sponsor fund.

Because co-investments offer increased exposure to quality GPs and accretive return opportunities, LPs have continued to request more co-investment opportunities from GPs. Co-investing has become a core component of institutional LP portfolios and LP appetite for co-investments should continue to grow.

Evaluating Your Firm's Trading and Portfolio Management Solution

The hedge fund system landscape has changed tremendously over the last decade. Historically, hedge fund managers chose "best of breed" technology for order management, execution, portfolio management and accounting as four distinct and separate systems. In order to implement and fully leverage all of the systems, managers would build additional processes to integrate the systems and allow data to flow between them in an end of day or real time process. This technology architecture was costly and expensive to maintain. It not only required a large upfront investment in technology infrastructure and hardware to run the applications but also a large expense to integrate the applications together. Over time, infrastructure, hardware and the applications had to be upgraded requiring more time and money.

In 2019, the technology landscape has evolved to solve many of these issues. There has been remarkable change in the industry with new entrants, mergers and acquisitions, as well as new ways to deploy technology. As part of this progress, it is important to understand two fundamental paradigm shifts that have occurred.

First, many service providers now offer a truly integrated front to back technology solution, inclusive of EMS, OMS, PMS and sometimes even a true general ledger. Even vendors that do not offer the entire stack have more diversified systems that include functions across the spectrum of the trade workflow.

Second, service providers have moved away from onsite server solutions to hosted solutions that are deployed in the private or public cloud and many times offer software as a service. This means there is essentially no client technology infrastructure/hardware required (e.g., no installation, no version management and no upgrade cost). Clients can just connect and upgrades are pushed out on a regular basis and more transparent to managers.

Simultaneously, hedge fund managers have been coming under increased fee pressure year over year. According to the Goldman Sachs 2019 Areas of Focus study, the number one area hedge funds are focusing on this year will be identifying specific opportunities to reduce operating expenses.[1] Given the system landscape change, coupled with the pressure on expenses, established hedge fund managers should take the opportunity to reevaluate their existing trading and portfolio management solution. The potential to consolidate systems and decrease the infrastructure footprint could potentially lead to meaningful savings.

> **"A recent study showed, the number one area hedge funds are focusing on this year will be identifying specific opportunities to reduce operating expenses."**

To begin the evaluation process, managers can use the below framework:

1. **Functional / business requirements evaluation**
2. **Analysis of deployment**
   - **Infrastructure evaluation**
   - **Cyber due diligence**
3. **Vendor due diligence**

Functional / business requirements evaluation

The core of any analysis has to start with the business requirements and functional evaluation. Managers should no longer think about specific systems, but consider the functions in four major categories:

1. **Workflow around order processing; (often referred to as the Order Management System – OMS)**
2. **The execution of the order; (historically part of the Execution Management System – EMS)**
3. **Portfolio management and analytics, such as performance and exposure; (typically found in Portfolio Management Systems – PMS)**
4. **Accounting, generation of trial balance and NAV (the Portfolio Accounting System – PAS)**

[1]Consulting Services Weekly Survey 12.7.18 – 2019 Areas of Focus, Goldman Sachs

Evaluating Your Firm's Trading and Portfolio Management Solution

Below is a representative list of high level functions by category type:

OMS	EMS	PMS	PAS
Order processing & marking	Execution of orders	Portfolio management & monitoring	EOD pricing & valuation
Pre-trade compliance	Broker algo support	Performance measurement	Corporate action processing
EMS routing & receipt	DMA access	Investment selection	Instrument lifecycle management
Trade capture	Receipt of fills	Contribution / attribution analysis	Reconciliation to counterparties
Intra-day position and Profit/ Loss	Depth of market data	Exposure analysis	Reconciliation to administrator
Trade affirmation & confirmation		Risk reporting	General Ledger / Tax lot accounting
Post trade compliance		Strategy support	NAV Production
Post trade Communication			

Based on the above functional considerations, managers can begin to build a matrix around the most important features for their firm from a high level and then drill down into specific sub-functions. This matrix should account for requirements that are must-haves and nice-to-haves. In addition to current needs, managers must consider scalability (e.g., trading volume and trading vehicles) as well as potentially trading new asset classes in the future.

Next, managers can compare the matrix back to the various service provider offerings:

- **Does the framework allow the manager to leverage one system to cover all or the most critical needs?**
- **Does the vendor already integrate with all of the manager's third party providers?**
- **How flexible is the technology? Can custom calculations and workflow be created without development? Are there APIs that can be leveraged?**
- **How much custom development would be necessary?**

[2]https://www.nist.gov/cyberframework

Ultimately, managers should narrow the service provider list to those that would allow for the maximum functionality while having minimal number of systems/complexity.

Analysis of deployment

Once managers have verified the vendor can meet most business requirements, the next step is understanding how the system is deployed. Vendors have a variety of deployment methods: private cloud, public cloud, and software as a service. The deployment configuration creates differences in how business continuity, disaster recovery and cyber security are implemented. Given that, managers need to carefully evaluate all of these aspects for each deployment type. The NIST framework[2] can be leveraged to better understand the cyber security due diligence that should be performed. Some basic questions should include: How is data in transit protected? How is data backed up? Who needs access to critical data?

Vendor due diligence

The final step in the framework is to perform due diligence on the vendors that fit both functionality and infrastructure needs. When assessing the service providers, it is critical for managers to obtain feedback from multiple sources, including clients that have experienced a migration versus clients that started from day one with the service provider. What has been their experience with responsiveness and creative solutions to problems? In addition to reference checks, managers should delve into quality of support as well as research and development:

- **How many resources and what percent of revenue is put towards research and development?**
- **How many resources are allocated to support and what is the client to support personnel ratio? How is the support team structured? What is the level of experience on the team?**
- **What service level agreements can be put in place?**

Finally, managers should consider the ownership structure of the company. Is it private equity owned or privately owned? Will they need a cash inflow in the near future? What are the short and long term goals of the owner and how will those goals impact the future of the product?

> **"A manager should select a product that meets the vast majority of their business requirements and have viable ways to bridge any potential gaps in functionality."**

In the end, a manager should select a product that meets the vast majority of their business requirements and have viable ways to bridge any potential gaps in functionality. Beyond the system functionality, the deployment method must fit into a manager's current infrastructure requirements and there needs to be an emphasis on cyber security given the sensitive nature of the data flowing through these systems. Ultimately, the vendor will be a critical partner for years to come so the long term goals should be aligned with those of the manager.

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