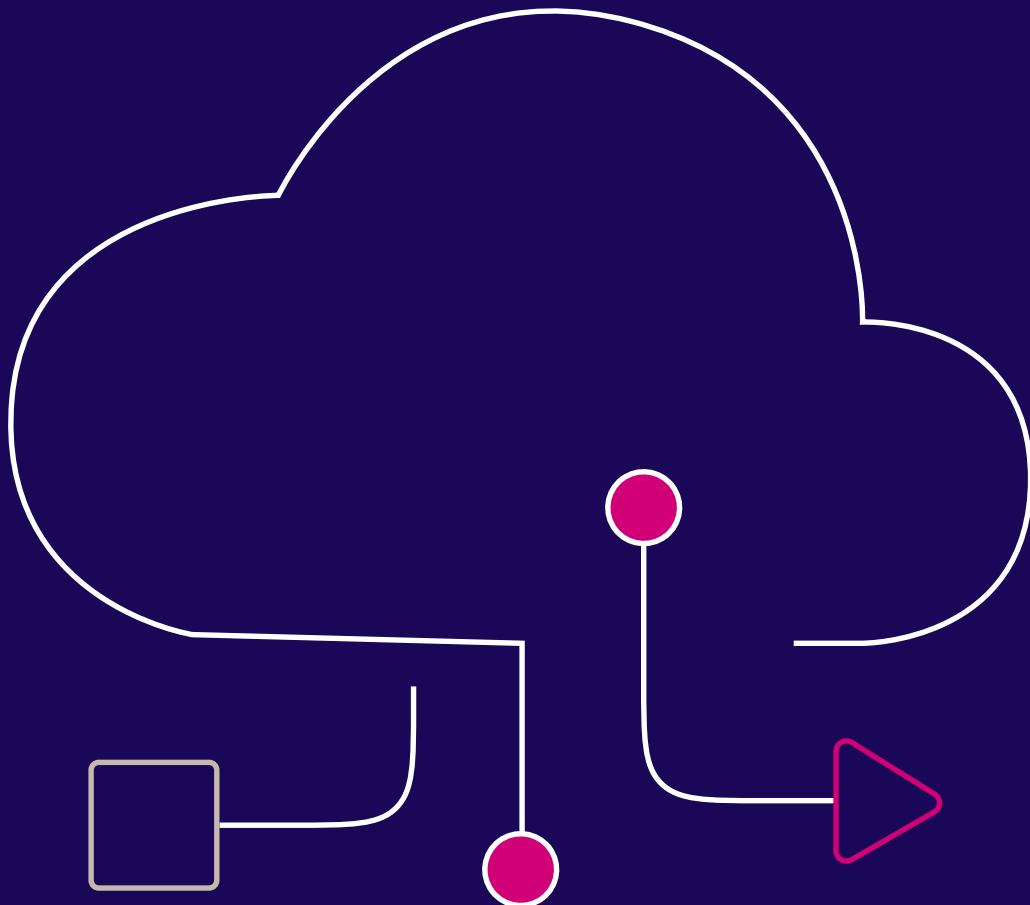


# In-house software vs. Operational & technology partner

| White paper



# Contents

<b>3</b>	<b>Introduction</b>
<b>4</b>	<b>Risk factors</b>
4	Cost
4	Value added
4	Lock-in
5	Continuous improvements
5	The mirage of full in-house
5	Organic growth
6	Sunk cost fallacy
6	Change in markets and regulations
<b>7</b>	<b>Colmore's experience</b>
<b>7</b>	<b>Infrastructure</b>
7	Security
<b>7</b>	<b>Development</b>
7	Access level
8	Data models for private markets
8	Data model
9	Reporting
10	Continuous improvements
<b>10</b>	<b>People</b>
10	Education
11	Third-party management
11	Data collation
<b>12</b>	<b>Colmore example IT spend by project</b>
<b>13</b>	<b>Conclusions</b>
<b>14</b>	<b>References</b>

# Introduction

Colmore has over 15 years of experience building private market services and platforms for the LP community. We are often asked our opinion on whether it is better to build one's solution with 3rd party software or to trust an integrated service and technology provider such as Colmore. When building complex software solutions and IT infrastructure, we often see that the risks are underestimated.

The purpose of this document is to offer insights into the key factors that clients should consider when deciding whether to buy and maintain or to procure a solution.



# Risk factors

The risk factors outlined below apply to the scenario of procuring a 3rd party software to manage internally and customizing it to meet your internal business requirements. It is not assumed that in the scenario below, you are coding the platform from scratch.

## | Cost

“ Can your organization afford the project, build a team and correctly estimate its costs? ”

If you do choose to go down the route of buying, implementing and maintaining software, you will need to:

- Manage the project
- Build a team
- Estimate the cost

These activities can involve a mix of internal and external personnel. IT projects are known for experiencing major problems and costing far more than the estimated amount. In a research conducted with the University of Oxford, McKinsey (Bloch, Blumberg, & Laartz, 2012) found that:

“ On average, large IT projects run 45 percent over budget and 7 percent over time, while delivering 56 percent less value than predicted. Software projects run the highest risk of cost and schedule overruns ”

This element can be exacerbated in a niche sector such as Private Equity (and even more niche, Fund-of-Funds and Secondaries) with unique client-specific requirements.

## | Value added

“ Are you certain that an internal solution exceeds the value of an external vendor’s one? ”

The appeal of building a tailored solution through licensing software, is the belief that, by doing so, all of your organisation’s requirements can be met. However, constraints – budget, resource, time – lead to corners being cut and to a solution that is not entirely as originally envisioned.

The value added might not be dissimilar to a specialised vendor solution that fits the majority of your needs out of the box.

To meet internal demands, working with the right partner will give you flexibility and a much higher level of customer involvement in the product design and enhancement process.

“ Not afraid of being locked-in forever? ”

## | Lock-in

A bespoke solution means you will be reliant on the developers who built it for maintenance, bug fixes, improvements, etc.

Documentation might be scarce or non-existent and the organisation will be dependent on a few main players whether external or internal.

“ Will you be able to constantly improve your solution? ”

## | Continuous improvements

A compelling element of a bespoke solution is that the organisation will not have to struggle for a vendor's attention. However, an excessive degree of customisation becomes a limitation when the software needs upgrading or the incorporation of new features.

Building an internal solution poses the question as to whether the organisation will have the ongoing resources available to improve it.

With Colmore's Operational and Technology Partner approach, on the other hand, the buyer will readily benefit from improvements and seamlessly access features that might not have been previously considered.

“ Can you build everything in-house? ”

## | The mirage of full in-house

Even with a highly bespoke solution, there might be situations during the software's life, where you will have to rely on external providers because they solve a unique problem (i.e. accountancy, waterfall, etc.), offer an optimised solution, are cheaper, etc.

The risk is to be entangled with a myriad of different pieces of software that will have to be integrated, understood, maintained and whose licence fees could exceed that of the service provider originally dismissed.

Worse, the company will now have to liaise with multiple providers, increasing communication costs, consultancy fees, etc.

“ Would you be able to scale and grow the platform organically? ”

## | Organic growth

Ensuring the organic growth of a software platform is another challenge that needs to be addressed. Different project managers, different developers, competing stakeholders, integration of third-party components, evolving technologies, deadlines, etc. all undermine the integrity and scalability of an IT system.

The risk is to create a patchwork of modules that solve specific issues but are largely inconsistent from a usability perspective. User rejection could be one of the consequences.

“ Should the project fail, will you be willing to shut it down? ”

## | Sunk cost fallacy

While the decision to walk away from an existing vendor might be taken straightforwardly, it is harder to abandon an internal project once you have invested much of your time, money and resources into the cause. And as the business and the project scale, the sunk cost fallacy will only become more dangerous.

As a result of previously invested resources, the risk is to keep investing in a project that would otherwise be abandoned.

“ Can you meet the changes in regulations and norms? ”

## | Change in markets and regulations

In a sector where regulations and reporting requirements are increasing, another aspect to consider should be the ability to quickly adapt to changes in the regulatory space.

Core business resources might have to be diverted from their main activity to support the implementation of the required software changes.

Besides, regulations – such as GDPR, CE Certification, etc. – can introduce extra workload for user experience design, data storage, security and development practices.

# Colmore's experience

For a more practical approach, we also want to present some of the experiences that Colmore has faced and Clients will have to consider.

## Infrastructure

### | Security

Security is an organization-wide concern that involves personnel, processes and software. Increasing the number of applications and solutions a company need to maintain and users need to operate also increases security concerns. Security is an organization-wide concern that involves personnel, processes and software.

From an operational standpoint, Colmore has mitigated these risks through multiple avenues, including (but not only) ISO 27001 certification and ISAE 3402 Type II audit. In fact, Colmore has achieved the industry's first ISO 27001 & ISAE 3402 Type II Certifications focused on LP Data Services and Fund Administration.

## Development

### | Access level

Overlaying user access level to functionality, data and document onto all components is a hefty challenge.

#### **HELIOS enables:**

- Customization to functionality at a role level
- Custom user account from the site default
- Data access control at the site and/or organization unit level
- Data access ringfencing to investment managers
- Investor association level for contact/consultants
- Record level data locking

Embedding the same granular nature into a new system will add complexity and cost.

## | Data models for private markets

Clients are experts at private markets. However, it is important to recognise that when you build systems and processes for private markets, regression testing, change management and auditability is paramount.

### **Consider, for instance:**

- Change Management of Data – reclassifying previous transactions/overrides/ data enrichment
- Data Locking
- Integrating evolving industry standards into the platform

These are complex workflows with high cost-of-failure if not implemented correctly.

## | Data model

Colmore's current data warehouse has been built, refined and tuned with experiences learnt from over 50 customers. It takes years of perfecting the system to get to such a level of refinement.

A key aspect to consider is the degree of flexibility that the data model of the solution natively offers. The data model will be a key element to accommodate for changes due to modified internal or market conditions.

Colmore has decades of experience in data modelling for the PE market and understands its complexity.



## Reporting

Businesses and users consume data through reports and ad-hoc queries.

**Two main factors contribute to building an effective reporting suite:**

- People
- Technology

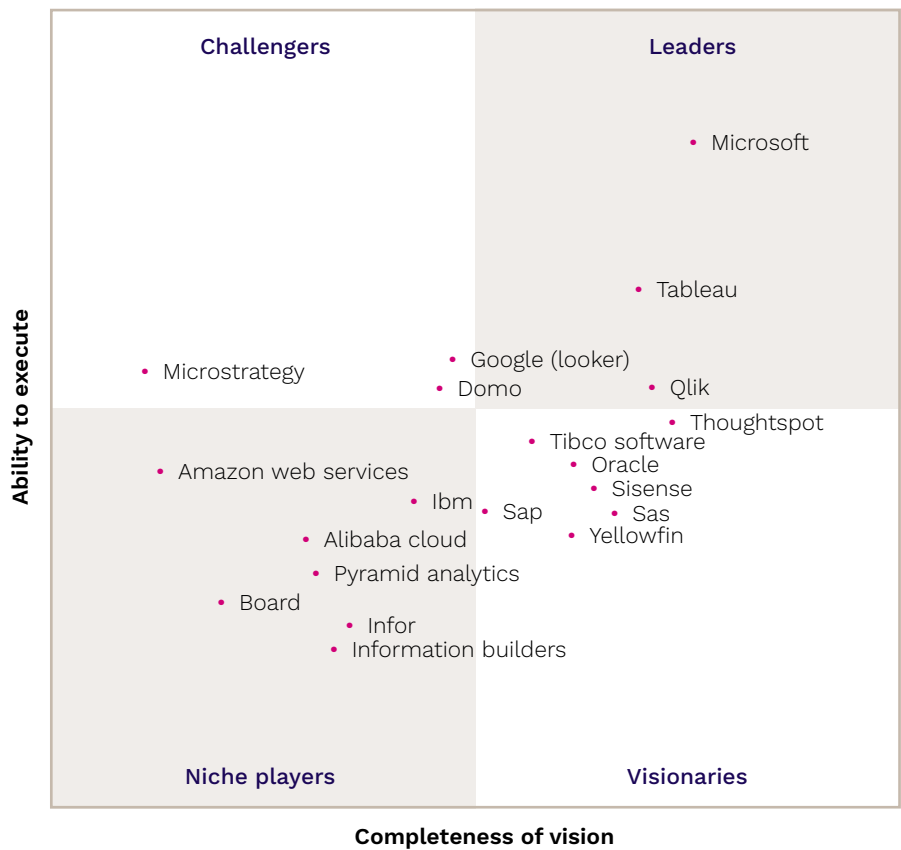
If not adequate staff availability is guaranteed even the best technology will not be effective. Similarly, the most capable developers will not be able to deliver with poor and outdated technologies.

Colmore now has a dedicated development team in BA/DS that deal with numerous requests and are supported by one of the leading BI platforms in the market (see Figure 1).

For the 14th consecutive year, Microsoft has been positioned as a Leader in the 2021 Gartner Magic Quadrant for Analytics and Business Intelligence Platforms (Arun Ulag, 2021).

Figure 1 - Gartner magic quadrant for analytics and BI platforms 2021

As of February 2021 © Gartner



Source: Gartner (February 2021)



## | Continuous improvements

The development of a system never ends. Ongoing change requests from its users, changing market conditions, regulations, etc. means that the initial implementation is only the beginning of a journey.

### **Clients will have to appoint:**

- A product and data support team that oversees and owns the development of the platform and the product feature definitions
- A product owner in the business who owns the product and ensure its continuous improvements

### **To stay ahead of the trends it will be required to:**

- Closely monitor the product roadmap
- Establish a dedicated program to update the product
- Mitigate key-person-leave risk with extensive overlapping functional support

Colmore invests in a full engineering team to continually improve its products and it is in its DNA to stay ahead of the trends. Clients will have to consider a comparable effort for a successful implementation.

# People

## | Education

### **Two aspects need to be considered when introducing a new platform:**

- A. Learning how to use the interface – this can be resolved by creating a meaningful user guide, system documentation, video tutorial, etc.
- B. Educating on how to normalize and format the data that goes into the platform – this is a key part of ensuring that the software returns usable and meaningful results and likely the most complex

### **Users and developers will have to consider:**

- The differences in reporting granularity and style
- The discrepancies in data point aggregations

### **It becomes challenging to find a balance between:**

- Being flexible enough to accommodate new/differing data
- Or adding sufficient control to ensure data integrity is maintained

Either way, these can only be learned and built on through usage, resulting in significant development and analysis overheads throughout the life of the platform.

By using a provider like Colmore you have access to a system that has been designed already with these questions in mind. You have access to a team who knows how to best extract and present data and you have a platform being continuously maintained and improved.

## | Third-party management

### **Vendors need input on:**

- Requirements
- Design
- Acceptance testing
- Maintenance
- Support interactions

People will have to spend time managing a third-party vendor, leaving them less time to focus on core business tasks. There is a real opportunity cost of having to manage a third-party software development team when you have to take time away from running your core business to do it.

Colmore takes on the full management of the software.

## | Data collation

Collating portfolio data and populating the front end interface of the chosen tool can be a time consuming and complex task. The fact that all GPs report to varying levels of detail adds a layer of complexity.

Colmore has in place procedures, guidelines and training materials to ensure all colleagues are appropriately skilled. Besides, the checks and balances that Colmore has built-in, ensure that there are few, if any, errors.

Colmore adopts a proactive approach to Portfolio Management, identifying issues in the early stages to limit rework. The time saved through the processes we have in place has a consequential cost-saving impact for all of our clients specifically.

# Colmore example IT spend by project

**Note:** For sensitivity reasons, we have banded the budget spend so we are not revealing exact spend and people costs. These costs exclude ongoing support. For avoidance of doubt \$1,000k = \$1M.

Project	Description	Duration [Months]	Size [No. of People]	Budget [€]
STRIDE	Machine Learning Data Extraction	18	10	\$2,000k – \$2,500k
Ethos	Fee Data Ingestion Tool	7	3	\$200k – \$500k
HELIOS	Long term strategic project, supported by 20+ developers for initial release and infrastructure	-	-	-
Schedule of Investments	-	9	Team of 25 made up of: Front End / Back End Devs, System Architects, Business Analysts, UX, Project Management, QA, Infrastructure/ Networking	\$2,000k – \$2,500k
PCO Exposure	-	12		
Managed Funds Page	-	3		
Entity Modeling	-	6		
Security & Integration	-	6		
Mobility	-	12		
Clocktower	Design, Rebuild, Migration, Upgrade	9		
Pharos (Risk Analytics Module)	-	3	3	\$100k – \$200k
HELIOS for GP Module	-	15	15	\$3,000k – \$3,500k

# Conclusions

The cost of third-party vendor software tends to shadow the inherent risks that come from implementing a custom solution.

When these threats are exposed, then an off-the-shelf operational and technological partner presents itself as a more appealing solution because it shields the organisation from having to face those perils.

In a “build vs. buy IT” decision, as an integrated technology and service provider, Colmore unsurprisingly would always recommend buying and investing in a partner that supports what the client does best: it is a cost-effective approach that gives you access to our specialist software, expertise and know-how. At Colmore, we work as an extension of our client’s teams.

# References

Arun Ulag. (2021, February 18). Microsoft named a Leader in the 2021 Gartner Magic Quadrant for Analytics and BI Platforms. Retrieved from Microsoft Power BI Blog: <https://powerbi.microsoft.com/en-us/blog/microsoft-named-a-leader-in-2021-gartner-magic-quadrant-for-analytics-and-bi-platforms/>

Bloch, M., Blumberg, S., & Laartz, J. (2012). Delivering large-scale IT projects on time, on budget, and on value. Retrieved from McKinsey Digital: <https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/delivering-large-scale-it-projects-on-time-on-budget-and-on-value#>

**COLMORE**  
From **PREQIN**