Implementing Performance Solutions: A Best Practice Guide

The approach taken to implementing vendor systems is the main factor in determining the success or failure of the project. To ensure success, it is vital certain best practice principles are followed.

Typically, two teams – one within the client organisation and another at the vendor – will be involved in any vendor system implementation. While the vendor team will play a significant role, overall accountability for the project must lie with the **client** team. Therefore, the best practice principles detailed in this paper are designed for the client implementation team, supported where necessary by the vendor.

System Implementation Challenges

All too often, across all industry sectors, system implementations simply do not meet all their success criteria. Table 1 contains some typical success criteria for the implementation of vendor systems. Note that the success criteria may not be exactly the same for the two implementation teams.

Table 1 – typical project success criteria

Client	Vendor
All functionality and features operate in line with expectations set during the sales process.	All functionality and features operate in line with commitments made during the sales process.
Business teams transition to production use of the new system in line with the approved implementation timeline.	All additional system components (functional enhancements, customised developments, etc.) are delivered in line with committed deadlines.
The project is completed within the approved budget.	Implementation resources are used efficiently to achieve target levels of productive utilisation.
No serious production issues are encountered immediately after the implementation project is completed.	Effective transition from implementation project team to production support team to allow the project team to move on to the next project.

In the worst cases, projects may even be abandoned before any system component goes into production. But even when an implementation project is completed, there may be some residual dissatisfaction. Typical examples of residual dissatisfaction from the client's perspective are:

- Elements of the functionality may not meet the business users' expectations.
- Aspects of the system's performance may prove sub-optimal.
- Manual workarounds may be necessary to address problems with interfaces to upstream and downstream systems.

From the vendor's perspective, residual dissatisfaction takes a different form, for example:

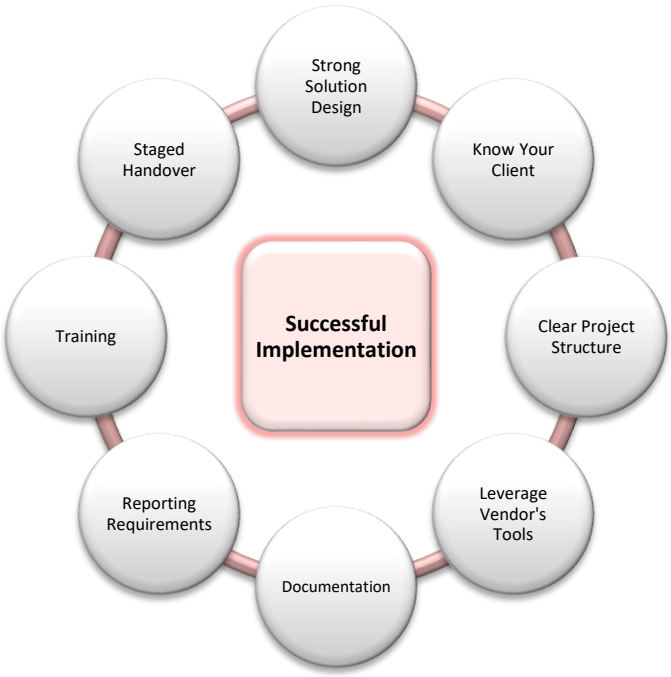
- Implementation resources continue to support the client in production, preventing them from moving on to the next project.

Sometimes the scale of the project is the major reason it is unsuccessful. Implementing a bespoke system, involving hundreds of people and extending over several years, is clearly a significant challenge with a high risk of failure.

A mature vendor system – that has already been built and is in production use elsewhere – should present a much lower risk profile. But even then implementations can still prove problematic and, in extreme cases, fail completely.

Best Practice Principles for System Implementation

Successful system implementations are based on eight generic best practice principles.



1) Create a strong solution design

First step, before deciding whether to buy a new system and which system to buy, is to create a **solution design**. The solution design should contain the following main components:

Solution Design Component	Detail
Define the Target Operating Model	▪ Identify business functions that will be Users, Clients and Providers to the system. (Clients and Providers may have access to the system, but do not complete business processing.) ▪ Which business processes will be completed by Users? ▪ What services will be supplied to Clients? ▪ What system inputs will be supplied by Providers?
Design Target System Model	▪ High-level system design that will support the operating model. ▪ High-level descriptions for all key components of the target system platform. ▪ Define functional modules utilised by Users; upstream systems; downstream systems; upstream/downstream interfaces; workflows supporting business processes; data model; etc.
Construct BPR Outline	▪ High-level description of any significant changes to the business processes that will be supported by the new system. ▪ When a new system is implemented, there is always a need to re-engineer some of the business processes that will be supported by the new system. Failure to factor business process re-engineering into the implementation could mean important changes to working practices will not be identified until the final stages of the project, when the system goes into user acceptance testing.
Produce System Platform Impact Analysis	▪ High-level descriptions of any significant changes needed to upstream and downstream systems that interface to the new system (e.g. reconfigurations, redevelopments, modifications, etc.). A System Platform Impact Analysis will ensure all necessary changes are identified as soon as possible in the implementation project.

Once a vendor system has been selected, the solution design should be reviewed and revised to align it with the specific features, functions and characteristics of the chosen system.

2) Know your client

The implementation team must establish a deep understanding of the client's business, the business case for a new system and the solution design.

3) Create a clear project structure

It is important to clearly identify what client and vendor resources will be involved. This includes identifying key individuals, along with their allocation/availability for the duration of the project.

One key point here is for the vendor to advise the client on the skill sets and experience levels that will be required to implement the system. This is an area where the vendor has a much better understanding than the client, and needs to provide guidance. If there are gaps in skill sets and experience levels within the client's implementation team, then the vendor and client will need to determine the best way to address them and the timeline for achieving this.

In addition, a clear project management hierarchy should be established. If there are project managers on both the client and vendor sides, overall responsibility must be clearly defined, along with escalation procedures.

4) Leverage the vendor's implementation toolkit

The vendor's implementation team should have a toolkit that leverages their experience from previous implementations to produce an industrialised approach that streamlines the implementation and reduces risk. The toolkit will typically consist of:

- Pre-project questionnaire.
- Project initiation document.
- Import data mapping matrix.
- Project plan template.
- Commonly used scripts.
- Standardised import formats.

5) Produce the right documentation at the right point in the project

a. Project Initiation Document – At the outset of the project, both the client and vendor implementation teams should produce a Project Initiation Document that sets out:
   - Project background.
   - High level objectives and Target Operating Model.
   - Detailed description of scope and project phases.
   - Implementation approach
   - High Level estimates of project schedule and costs
   - Roles and responsibilities
   - Risk, Communication, and Change Management Strategies
   - Technical specification of environment(s), reflecting database sizing and growth estimation.
   - Project closure procedure.

b. Analysis & Design Document – The client and vendor implementation teams should produce an Analysis & Design Document that specifies:
   - Business requirements.
   - As-is and to-be data and reporting workflows.

c. Test Plan – The client implementation team should create and execute a Test Plan, with support from the vendor implementation team. The Test Plan should include detailed sign-off criteria for accepting the system into production use. The test cases should be traceable back to the requirements defined in the Analysis & Design Document to ensure complete coverage of all key functions and features.

d. Configuration Document – The vendor implementation team should produce a Configuration Document as part of the project closure process. This summarises and explains the configuration of the production, development and test environments of the system.

e. Support Handover Document – The vendor implementation team should also produce a Support Handover Document as part of the project closure process. This represents the formal handover from the implementation team to the vendor's Client Support function, and includes:
   - A summary of processing and data volumes.
   - Overall summary of modules and components implemented.
   - Bespoke solution components implemented during the project.
   - Technical architecture.
   - Data flows.

6) Define reporting requirements early and revise as necessary

Reporting requirements should be clearly specified at the start of the project and revised where required as the project progresses:

- Reporting aggregation levels.
- Number and scope of reports.
- Split between standard and bespoke reports.
- Audience – internal, client, consultant, etc.
- Data requirements.
- Development effort required from vendor and client.

7) Identify training needs early and revise as necessary

A training plan should be designed at the start of the project and revised as necessary during the project:

- Who needs training?
- What format will the training take?
- Delivery timeframe (typically immediately before acceptance testing).

8) Complete staged handover to Client Support and post implementation review

The transition from the client and vendor implementation teams to the respective support teams should be staged, not sudden.

Serious problems can arise if the implementation teams are immediately disbanded once a new system goes into production. Rather, many of the issues and questions that arise in the early stages of system production can be best addressed by the implementation teams. This can be thought of as a "Special Care" phase or service.

It is also best practice for the vendor to complete a review of the system implementation 12 to 18 months after going into production. A Post Implementation Review Document should summarise the vendor's findings and recommendations:

- Re-assessment of the operating model and how it has changed since implementation.
- Changes to configuration to accommodate business changes, or to take advantage of software improvements and enhancements.
- Review of database growth, comparison with forecast and re-estimation of database growth.
- Technical review of architecture and system performance.
- Assess all of the above relative to business growth plans.
- Identify possible product enhancements that could increase the platform's value and mitigate any expected issues.

Special Considerations for Performance Systems

Since different types of systems have different characteristics, the generic implementation approach detailed above needs to be modified to take account of the individual features of the system being implemented.

Implementing performance systems poses far greater challenges than for many other types of asset management systems. Failure to factor in performance systems' particular characteristics when planning their implementation can significantly increase the risk the project will not achieve all its success criteria.

Three main characteristics need special consideration:

i. Data integrity

Performance systems require a very high level of data integrity in terms of the completeness, correctness and internal consistency of the source data used in performance calculations.

This can be illustrated by comparing performance systems with portfolio management systems. There is considerable overlap in their data requirements, as both require holdings, price and index data. But while a portfolio management system can function to some extent with incomplete or even incorrect data, a performance system cannot.

For instance, if an asset price is missing or incorrect a portfolio manager can still use the portfolio management system, simply by working around the issue, for a period of time, until it has been fixed. By contrast, a performance system will be unable to calculate performance returns and attribution results for any portfolios that hold the asset for which the price issue exists.

Even small inaccuracies and inconsistencies in source data can produce large errors in performance results. For example, the constituent-level information (asset-level weights and returns) for an index is not always consistent with the top-level index return. This would not have a major impact on a portfolio management system, but could mean a performance system calculates incorrect attribution results.

ii) Data volumes

Performance systems can require huge volumes of data. Depending on the model being used, when calculating attribution it may be necessary to load all the weights (the proportion of the total portfolio) and returns for all the individual assets held in all the portfolios and corresponding indices. When this extends into hundreds of portfolios and indices, it means a very substantial volume of data must be loaded every time the attribution calculations are performed.

iii) Methodologies

A wide range of methods and techniques can be used to calculate performance results, including different ways to calculate returns, different attribution methods and different ex-post risk metrics. No definitive right or wrong answers exist for which methods and techniques should be employed, just different opinions on when and how to use them.

For this reason, a performance system often has to support different methods and techniques to meet the needs of different investment teams, investment strategies and clients.

Best Practice Principles for Performance System Implementation

In light of these special characteristics, let us now revisit the eight best practice principles to identify the additional points that need to be taken into account when implementing performance systems.

1) Create a strong solution design

A number of special factors must be considered in the solution design.

- Methodology changes – Will there be any changes to the calculation methods and techniques used in the Target Operating Model? When performance systems are implemented it is common to introduce new calculation methods, which in turn require changes to business processes.

  Methodology changes can also impact upstream systems. For example, a shift from a DAM fixed income attribution model to a KRD model will require substantial changes to the nature, volume and integrity of the source data provided by upstream systems.

  There can be potential impacts on the system platform even in the case of 'simple' processes such as calculating a performance return. If the new system is going to calculate daily time-weighted returns and the current system calculates monthly Modified-Dietz returns, that will require a substantial change in the nature, volume and integrity of the source data provided by upstream systems.

- Automation impacts – Implementing a performance system usually results in some, and possibly many, manual processes involving spreadsheets being replaced. This always involves a certain loss of flexibility, which will almost certainly require changes to current working practices.

- Outsourced back office – If the back office has been outsourced to a third party, then the Solution Design will need to identify the implications for the service provider. The service provider will almost certainly need to re-engineer some business processes and make various system changes.

- Downstream systems – If the performance system has enhanced features for distributing performance information to internal clients, this may have an impact on the downstream systems, which will need to be modified accordingly.

2) Know your client

Individual performance teams' requirements can vary significantly according to:

- The vertical sector in which the team operates (institutional, wealth, asset owner, etc.).
- The country or region in which the team operates.
- The size and scale of the business.

Key questions to be answered during a KYC exercise are:

- In which vertical sectors does the business operate?
- What investment strategies and styles are followed?
- Who are the internal and external clients of the performance team, and what are their expectations?
- Is the performance function GIPS compliant? If not, is the intention to become compliant? Will the compliance project run prior to, in parallel with, or after the system implementation?
- How much performance history exists? How much of it will be loaded into the new system?

3) Create a clear project structure

Many performance teams have to deliver services to different investment teams, following different investment strategies, for different types of investors. Will the system support a wide range of different calculation techniques and methods, or will compromises have to be made? If there is a major impact on upstream processes and systems, who will authorise the necessary changes?

The project structure is likely to require a Stakeholder Committee, containing representatives from investment teams, client management teams and operational teams. Although not responsible for the delivery of the project in the way a Project Steering Committee would be, the Stakeholder Committee would be the overall business authority when making decisions about calculation methods and techniques, and the impact on upstream and downstream business functions.

4) Leverage the vendor's implementation toolkit

A key component of a performance system vendor's implementation toolkit should be a Pilot Project. This needs to be a full end-to-end implementation involving a representative cross-section of the services that must be delivered by the production system.

The primary aims of the Pilot Project are to ensure that:

- All source data can be provided in the right format, by the required deadline and in an internally consistent manner.
- Performance analysts can develop a full understanding of calculated results to explain differences between old and new methods to investment managers and client managers.
- Any changes that must be made to the Solution Design are identified before the full implementation project begins.

5) Produce the right documentation at the right point in the project

No special considerations need to be factored in.

6) Define reporting requirements early and revise as necessary

No special considerations need to be factored in.

7) Identify training needs early and revise as necessary

No special considerations need to be factored in.

8) Complete staged handover to Client Support and post implementation review

When staging the transition from implementation teams to the support teams, it is important to recognise that reporting processes at quarter-end are often different and more complex than at

month-end. Therefore, the "Special Care" phase for a performance service should extend across a month-end, and then across the following quarter-end.

Conclusion

In this paper we have described a set of best practice principles that should be followed by implementation teams within the client organisation when implementing a vendor performance system. Since the challenges associated with implementing performance systems are much greater than for many other types of asset management platforms, the best practice principles need to be tailored to take account of performance systems' special characteristics.

There is one final point to bear in mind. A successful performance system vendor will implement its platform several times a year. Each new client will be implementing a performance system for the first time in five to ten years, possibly longer. Although accountability for success of the implementation project must lie with the client, vendors can contribute valuable guidance and leadership. Although the guidance may sometimes be difficult to accept, clients should not dismiss it or overrule it lightly.

About Todd Loeb – Todd is the founder and President of the Mascar Group, a Boston-based consulting firm specializing in the optimization of the project start-up and execution process in the financial services industry. Mascar focuses on the importance of rigorously preparing for project success before a project begins, and has used this philosophy to assist many of the largest financial institutions in the world successfully deliver projects worth millions of dollars. For more information, visit mascargroup.com or email toddloeb@mascargroup.com.